

Berwickshire
BSBI
Botanical Site Register

Provisional edition 2011

Michael E Braithwaite

**As Vice-county Recorder for the Botanical
Society of the British Isles**

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About BSBI

The Botanical Society of the British Isles

- Has a membership of about 3,000 amateur and professional botanists
- Is the leading charitable society promoting the study and enjoyment of British and Irish wild plants
- Maintains a network of 152 Vice-county recorders, a panel of referees for difficult plants and a plant distribution database
- Maintains a taxonomic database that enables the list of British and Irish plants to be kept up to date
- Carries out national surveys and publishes the results, notably the *New Atlas of the British and Irish Flora*, 2002, and *Change in the British Flora, 1987-2004*
- Publishes authoritative identification handbooks on difficult plants such as grasses, sedges and roses
- Promotes the publication of local floras and county rare plant registers
- Holds field meetings and conferences to bring botanists together, whether amateur or professional
- Publishes journals to enable members to share their observations and the results of their studies
- Encourages the training of botanists of all ages

More information will be found on the BSBI web site at www.bsbi.org.uk

Membership and other enquiries may be sent to BSBI
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Natural History Museum, Cromwell Road, London, SW7 5BD.

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Acknowledgements

Access

The writer acknowledges with deep gratitude the remarkable tolerance he has enjoyed in his recording activities from landowners and land managers. Permission for access has been sought and granted for in-by-land away from footpaths but has been enjoyed as a privilege on more open land. The inclusion of records from a site must not be taken as an open invitation to visit.

Recorders

This botanical site register would not have been possible without the contributions of generations of fellow botanists. Those who have helped in recent years include my wife Paddy, Luke Gaskell and Dr David Long. Neighbouring vice-county recorders who have contributed include Dr Roderick Corner and David McCosh. Jackie Muscott has often been accompanied on her visits by fellow members of the Edinburgh Natural History Society. The Berwickshire Naturalists' Club has also given valuable support. A number of visiting botanists have studied the aquatic flora of the river Tweed. The most recent of these have been Richard Lansdown and Timothy Pankhurst with Jane Croft and Dr Christopher Preston slightly earlier and before them Dr Nigel Holmes. Christopher Badenoch was very active across Berwickshire as a whole in the 1970's and 1980's as was Dr Albert Long as vice-county recorder in the 1950's and 1960's. This is not the place to celebrate earlier botanists except to record the outstanding contribution of Dr George Johnston in his two nineteenth century Floras and by inspiring so many fellow naturalists.

Introduction

The circulation of this County Botanical Site Register (CBSR) for the Vice-county of Berwickshire VC 81 is part of a national initiative by BSBI to disseminate key plant data for conservation purposes.

The concept of a County Rare Plant Register (CRPR) has been widely accepted and a sizable minority of vice-counties now have one. All known populations of rare or scarce species are listed by species. A printed CRPR is very useful to Vice-county Recorders and other active recorders but rather less so for conservation as so many queries are site-related rather than species-related. So the next step is to supplement the CRPR with an Excel table of the data. This can be used in various ways. The table itself can be sorted by site as well as by species but the table can also be linked to Google Earth so that markers for all populations of rare or scarce species at a site are displayed against an air photograph. That makes the CRPR a more accessible resource, especially if the user supplements what is seen on the computer screen with the relevant species accounts in a printed version.

Such a project is enough for many of us BSBI Vice-county Recorders for the present, but I have had a CRPR for a few years, have started a new cycle of recording in Berwickshire and have felt myself short-changed. What I need before I revisit a site of known botanical interest is a table of what I should be looking out for, so I can re-record the rare or scarce species populations in as much detail as before, or in greater detail. So each year I have decided which hectads (10km squares) to resurvey in the coming season and have prepared the tables I need for each site. The tables for each hectad have been updated at the end of the recording season. I have developed a system to do this and have liked the result, refining the concept by stages. Although the resurvey was only a little over half complete at the end of 2010, I felt a need to push through the project to completion on a provisional basis while I had momentum and this CBSR is the result.

I have added various extras to make the hectad descriptions and site register more interesting and plan to add more overall analysis for the vice-county as a whole in a later edition when the resurvey cycle is complete. I detail the contents of the CBSR in the explanatory notes that follow. A CD with a PDF of this CBSR is supplied with this book. It excludes the Ordnance Survey maps for copyright reasons. The CD also contains an Excel table of the underlying data in the tables of rare or scarce species. Although I retain the copyright of the text, I encourage the use of this resource on paper or electronically for conservation and research purposes as long as its source is acknowledged as '*Berwickshire BSBI Botanical Site Register*, M E Braithwaite, 2011'.

It is hoped that this CBSR taken together with the *Berwickshire Rare Plant Register 2004* will also be of scientific value as contributions to our knowledge of the flora of Berwickshire.

Michael Braithwaite

March 2011

Explanatory Notes

Hectad descriptions and Site register for each hectad (index at back of book) contain

- Descriptive account
- Table of sites of botanical interest, with those of significant interest highlighted in bold
- Site accounts (see below) with species tables and species lists
- Accounts for populations of rare or scarce species that do not fall within sites of botanical interest, divided between arable habitats and others.
- Map of sites (**all hectad maps are grouped together**).

Site accounts contain

- Monad GRs to define the site roughly
- Site rating, based on botanical interest only (see below)
- Summary of habitats. The habitats are described informally without adhering to any prescribed classification
- Table of populations of rare or scarce species (see below)
- List of charophytes with similar detail
- List of selected axiophytes (habitat indicator species) with 6 fig GRs
- List of other axiophytes
- List of intrusive neophytes
- List of former rare or scarce species with GR, date of last record and recorder
- List of former charophytes with GR, date of last record and recorder.

Tables of populations of rare or scarce species contain

- Column 'S' indicates by an asterisk * where a population falls in a SSSI. As site boundaries do not necessarily coincide with SSSI boundaries this category may apply to some populations within a site but not to others
- Species. Introduced populations are shown by enclosing the species name in square brackets []. Archaeophytes are shown as introduced if strongly associated with gardens
- Population size, where known
- All 6 fig GRs are listed for each rare or scarce species to define populations at 100m scale. All grid references in Berwickshire fall within the 100km square NT, so NT is omitted
- 10m scale detail, where known, is added using a 2-digit 10m cell convention. Thus the grid reference NT63264259 is listed as 632425, cell 69. Up to three cells are listed per 6 fig GR. If there are more than three, the number of cells is given in the population column
- Year last recorded
- Recorder (see below)
- Comment

Arable Weeds

Arable species do not fall neatly into sites, not least because they may only flower and fruit when cropping is suitable. They are dealt with as a separate group for each hectad.

Coverage

Coverage is far from complete. No attempt has been made at any period in time to record a species list for every monad (1km square) in Berwickshire. Instead a sample approach has been adopted, focussing particularly on sites that appeared likely to hold habitats of interest. The 1987-1999 survey was much less intensive than the yet-incomplete resurvey in 2007-2010. One of the consequences of sample coverage is that the lists of axiophytes for some sites may be very incomplete, giving a false impression of low botanical interest. Such bias is countered to some extent by enhancing the site rating to reflect a best guess of their true botanical interest.

Site boundaries

No attempt has been made to define site boundaries rigorously as they are difficult and potentially contentious, not least because many sites are a series of good habitat patches within much less favourable habitat.

Some consistency has been sought in dividing the more open parts of the countryside into sites of botanical interest. Most sites are less than 1km² in area and the more or less linear sites are often around 2km in length. The coast and riversides may be divided into 1km or 2km sections bounded by 1km grid lines. Large sites, such as St Abbs Head and Dogden Moss, are divided into sections. Where a site spans two hectads the hectad boundary is respected, so the site will be listed in both hectads. Some sites are left as two sections, one for each hectad, but where this would be absurd the detail is brought together in one of the hectads leaving just a cross reference in the other hectad.

Towns and villages are listed as sites, though their botanical interest is almost always rated as fragmentary, as they may be refugia for scarce arable weeds and other archaeophytes.

Site ratings

Sites are rated between 0 and 5 as follows:

- Habitat outstanding ♥♥♥♥♥
- Habitat excellent ♥♥♥♥
- Habitat fine ♥♥♥
- Habitat good ♥♥
- Habitat moderately good ♥
- Habitat fragmentary
- Habitat lost

The site ratings can only be a rough guide. It can be invidious to try to compare a very species-rich site that is so small that it is intrinsically difficult to conserve with a relatively species-poor site that contains a large area of habitat in good condition. Species-richness, size and cohesion as a landscape feature are some of the factors that have been taken into account in the ratings.

Species selection

- Rare or scarce species are as defined in the CRPR. Subspecies are distinguished but not varieties. Hybrids are only included where they disperse vegetatively to such an extent that they behave much as species do. All nationally rare or scarce species are included together with locally rare or scarce species, defined as occurring in ten or fewer sites in Berwickshire or likely to decline to that frequency in the near future
- Some rare or scarce species are now known from many more sites than when they were classified as such in the CRPR. *Euphrasia micrantha* is one of these, as it has been found to have recently become abundant alongside some forestry tracks. As this is an ongoing survey, no revisions to status have yet been made, but a summary table is supplied of the number of sites in which each species is now known
- Microspecies of the genera *Hieracium*, *Rubus* and *Taraxacum* are excluded. The hectad descriptions mention some of the sites that are rich in *Hieracia*
- All charophytes (stoneworts) present in Berwickshire qualify as rare or scarce. They are listed separately from the vascular plants
- Axiophytes are those species that are good indicators of individual habitats of conservation concern, rather than generalists present in a variety of habitats. Very widespread species such as *Calluna vulgaris* are excluded
- Selected axiophytes are those axiophytes that I and fellow botanists have recorded mainly at 100m scale rather than 1km scale because they seem to us to be notable for various reasons, usually because they are relatively scarce both in Berwickshire and nationally. These include the species treated in full in the CRPR but classified as Not Berwickshire Scarce or as Berwickshire Fine
- The selection of the list of intrusive neophytes is subjective. Some intrusive neophytes are only a problem in some sites. For example *Rosa rugosa* is sometimes a problem at the coast but seldom inland.

Nomenclature

Vascular plants follow the *New Atlas of the British Flora*, 2002, which in turn follows Stace's *New Flora of the British Isles*, 2nd edition 1997. Synonyms with Stace's *New Flora of the British Isles*, 3rd edition 2010 are given in the summary tables. Charophytes follow Bryant, Stewart and Stace 2002. Latin names are used throughout as the format adopted makes it impracticable to add English names. English names are listed in the Berwickshire CRPR 2004.

Status

- Native species are included
- Archaeophytes, species thought not to be native in Berwickshire but to have been present in the county before 1500, are included. Many arable weeds fall in this category
- Neophytes, species thought to have only been present in Berwickshire since 1500 or later, are usually excluded, though some are mentioned in the hectad descriptions
- Casual occurrences of qualifying species are included with appropriate comment
- Planted or sown occurrences of qualifying species are included with appropriate comment. These are mainly trees and shrubs with some sowings of wildflower mixes.
- There is no clean division between these classes for individual species. Some species usually or always occur as casuals, for others the former native distribution is almost wholly obscured by introductions. As far as possible, populations with problematic status have appropriate comment added.

Date-classes included in the tables of rare or scarce populations and lists of axiophytes

- For hectads that have been resurveyed in 2007-2010, records before 1987 are generally excluded. For these hectads, populations that were recorded in 1987-1999 but not refound in 2007-2010 are treated subjectively. Some are relegated to former populations while others are retained, being those which are considered likely to have been overlooked or which were not revisited. A few much older records are retained with an explanatory comment
- For hectads last systematically surveyed in 1987-1999 there is much more variation. Records from 1979-1986, or earlier, may be retained where there has not been more recent coverage. However many populations of rare or scarce species were resurveyed across the vice-county as a whole in 2000-2004 in preparation for the CRPR, so the number of older records retained is relatively modest
- The same principles are applied to the lists of axiophytes, but less rigorously.

Recorders

In the tables of rare or scarce species for each site there is a column for initials of the recorders. Those who have contributed large numbers of records are identified below, for all others the surnames are added in the comment column. In the case of field meetings of clubs and societies, the initials of leader is given wherever possible as well as the initials of the club or society. Records attributed to the Scottish Wildlife Trust refer to survey teams contracted by SWT.

Initials	Recorder
AGL	Dr Albert Long
BNC	Berwickshire Naturalists' Club
BSBI	Botanical Society of the British Isles
COB	Christopher Badenoch
DGL	Dr David Long
DJMcC	David McCosh
ENHS	Edinburgh Natural History Society
LWG	Luke Gaskell
MEB	Michael Braithwaite
NTHH	Dr Nigel Holmes
PFB	Patricia Braithwaite
RVL	Richard Lansdown
RWMC	Dr Roderick Corner
SWT	Scottish Wildlife Trust
TJP	Timothy Pankhurst

Definitions of scale

- NT – defines the 100km square in the National Grid in which Berwickshire falls
- Hectad – 10km square in the National Grid
- Monad – 1km square in the National Grid
- 6 fig GR – 100m square in the National Grid
- 8 fig GR – 10m square in the National Grid
- 10m cell – linked to a 6 fig GR, defined by the fourth and eighth numeral in an 8 fig GR

Overview of the Botanical Interest of Berwickshire

The hectad descriptions in this CBSR give very detailed accounts of the scarcer species present in the vice-county but there is only modest landscape-scale description of the countryside. I do not seek to expand on that here as this CBSR is not intended to be a full Flora of Berwickshire, it is a register of the localities of individual species with its objectives limited accordingly. Nevertheless a few words by way of an overview seem desirable (a slightly fuller account was published in *The Botanist in Berwickshire*, 1990, pp 7-12). The maps summarising the data in the site register should be referred to conjunction with this overview.

Berwickshire is not a county with a rich flora by national or international criteria. But it has much countryside that a botanist can find it rewarding to visit and I would argue that it is an excellent study area for those seeking to sample the issues faced by our British flora in the face of man's depredations.

Berwickshire is situated approximately in the centre of Britain in a north-to-south direction, and so escapes the bias implicit in studies of botanically-rich counties in the south of England and in the highlands of Scotland. Moreover it has a good range of broad habitats. The well-represented habitats are arable land; the aquatic and riparian communities of rivers, ponds and reservoirs; sea cliffs and sea braes; improved, neutral and acid grassland; moorland; the ruderal habitats of villages and small towns, roads and railways; the wetland communities of bogs, mires, flushes and wet grassland; and, finally, both broadleaved and conifer woodland. The only under-represented habitats are typical Scottish lochs; saltmarsh and sand dunes; calcareous grassland; the ruderal habitats of cities; and montane communities; though all these have some representation. Some habitats are in such dire condition today in relation to the native flora that they could be thought of as under-represented, but that is where the excellent historical record comes in. The well-chronicled history of change is a most valuable character of Berwickshire's flora. Study of this history is essential if the present day habitats, with their often surprising miscellany of species, are to be understood. The dire state of some habitats is not peculiar to Berwickshire. For that reason the historical records are given prominence in the site accounts of this CBSR. The sources of the historical records are listed in the *Berwickshire Rare Plant Register 2004*.

In some habitats, particularly the riversides, neophytes now make up a significant element in the flora. Only a handful of species are involved in this change and they have been noted in the hectad descriptions. These prominent neophytes are not necessarily the most intrusive neophytes, indeed some of them, such as *Scrophularia umbrosa* and *Symphytum tuberosum*, are often thought of as relatively scarce native species. The most intrusive species have been singled out for individual mention in the site accounts. Their adverse significance varies a good deal in from site to site. Thus the increasingly popular *Rosa rugosa* is seen as a problem species at the coast where it self-seeds into sand, but it is not yet a problem inland as it does not seem to self-seed when planted in hedges.

The most notable botanical features of Berwickshire are its rocky coastline most famous for St Abbs Head, the river Tweed and its tributaries, the grouse moors of the Lammermuirs, a marvellous raised bog at Dogden Moss with its accompanying glacial kaims (or eskers), the sadly declining wet woodland at Gordon Moss, oakwoods at Abbey St Bathans and Gaitheugh and, for the discerning, the skeletal grasslands on the outcrops of the intrusive rocks of the Kelso Traps.

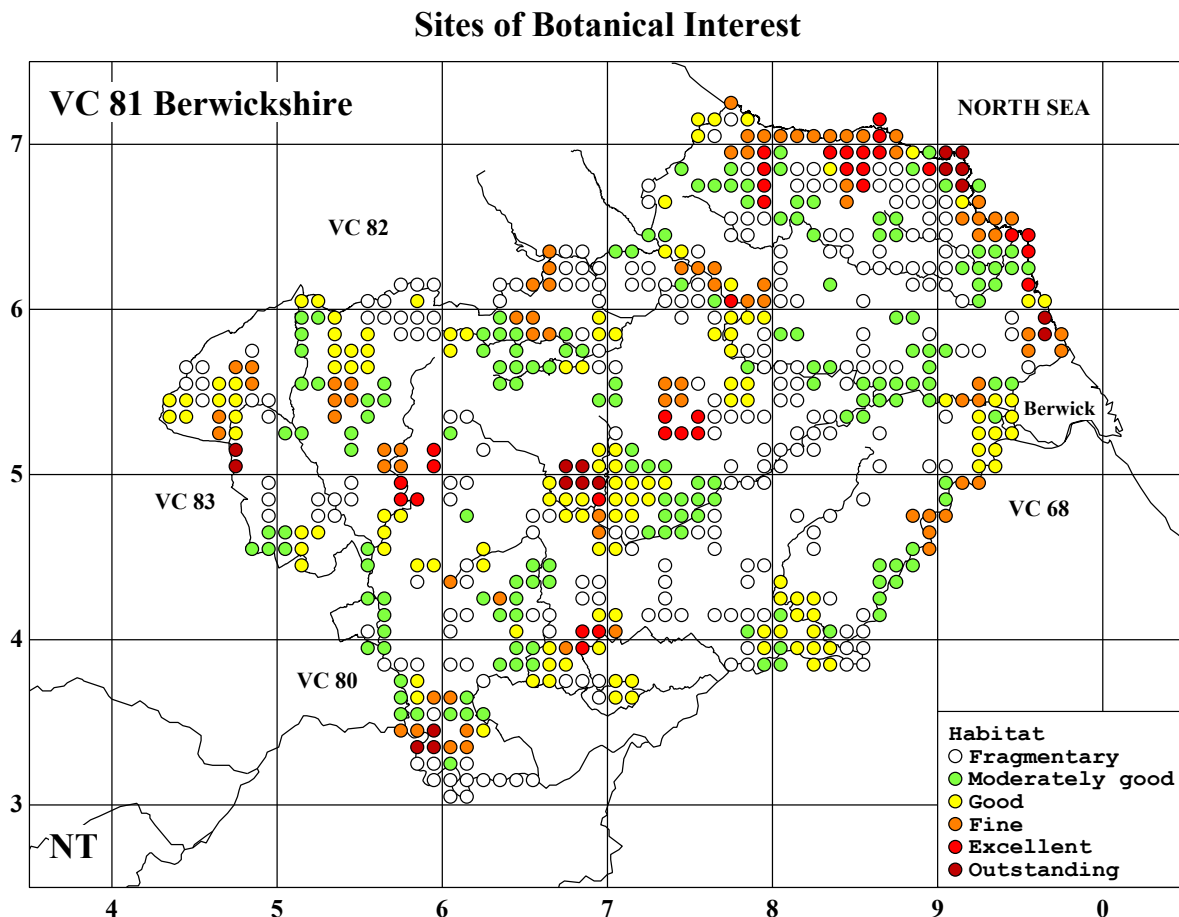
At species level the most notable for me are *Helianthemum nummularium* as the county flower for its abundance on a variety of rock formations, *Astragalus danicus* for its abundance at St Abbs Head, *Potamogeton x bottnicus* and *Ranunculus x kelchoensis* as two specialist components of the rich aquatic flora of the river Tweed, *Sedum villosum* as the highlight of moderately acidic flush communities in the Lammermuirs, *Trichophorum cespitosum subsp. cespitosum* at Dogden Moss, *Corallorhiza trifida* at Gordon Moss, *Sorbus rupicola* and *Convallaria majalis* at Gaitheugh and *Dianthus deltoides* as the declining talisman of the grasslands on the Kelso traps now only impressive at Hareheugh Craigs.

Some excellent botanical features deserve wider recognition, including statutory protection. Hareheugh Craigs has already been mentioned, but I also wish to draw attention to Longmuir Moss with its fen and raised bog, Lumsdaine Dean and Dowlaw Moss with their mosaic of grassland and wetland communities, Cromwells with its wood pasture that is home to *Crepis mollis*, the Wheel Burn as the premier example of the base-rich flush communities in the Lammermuirs and a series of flush communities in Hells Cleugh and adjacent cleughs set in some of the better managed moorland. If arable weeds are thought of as a conservation priority, attention could be directed at the abundance of *Galeopsis speciosa* in the Gordon area, sometimes with a diversity of *Fumaria* species.

Hectad Summary

GR	Hectad	Highest point	Highest point metres	Lowest point metres	Lowest point	Monads in VC	Sites with moderately good habitat at least in part	All sites listed (excluding sundry)
NT44	Whitlaw	Lauder Common	378	236	Whitlaw, burn	10	1	2
NT45	Oxton	Hartside	468	207	Oxton, Leader	45	6	11
NT46	Kelphope Rig	Kelphope Rig	454	437	Kelphope Rig	[0.1]	0	0
NT53	Earlston	Black Hill	314	63	Dryburgh, Tweed	19	8	12
NT54	Lauder	Inchkeith Hill	368	116	Carolside, Leader	78	10	15
NT55	Carfraemill	Seenes Law	513	170	Lauderhaugh, Leader	100	11	13
NT56	Meikle Says Law	Meikle Says Law	532	330	Lammerlaw Burn	7	2	4
NT63	Mertoun	Brotherstone Hill	266	49	Dalcove, Tweed	47	14	22
NT64	Gordon	Knock Hill	272	131	Mark's Bridge, Eden	100	20	32
NT65	Longformacus	Blythe Edge	470	187	Longformacus, Dye	100	13	18
NT66	Cranshaws	Meikle Law	451	174	Smiddyhill, Whiteadder	16	1	7
NT73	Birgham	Newton Don	85	18	Birgham Haugh, Tweed	9	3	6
NT74	Greenlaw	Kyles Hill	285	82	Bogend, Blackadder	99	11	26
NT75	Duns	Hardens Hill	360	75	Cumledge, Whiteadder	100	10	25
NT76	Abbey St Bathans	Heart Law, slopes of	365	45	Pease Bridge, burn	79	18	34
NT77	Cockburnspath	Hoprig	140	0	North Sea	8	5	8
NT83	Coldstream	Homebank	52	8	Coldstream, Tweed at	5	2	7
NT84	Swinton	Hirsel Law	95	3	Blount Bank, Tweed	81	10	19
NT85	Chirnside	Bunkle Edge	233	20	Hutton Hall, Whiteadder	100	9	23
NT86	Grantshouse	Drakemire Strips	268	0	North Sea	99	18	40
NT87	Dowlaw	Telegraph Hill	174	0	North Sea	6	10	10
NT94	Fishwick	Horndean, near	54	2	Fishwick, Tweed	3	3	3
NT95	Paxton	Lamberton Moor	215	0	North Sea	53	12	22
NT96	Eyemouth	Ayton Hill	195	0	North Sea	38	19	23
Total	Berwickshire VC 81	Meikle Says Law	532	0	North Sea	1,202	216	382

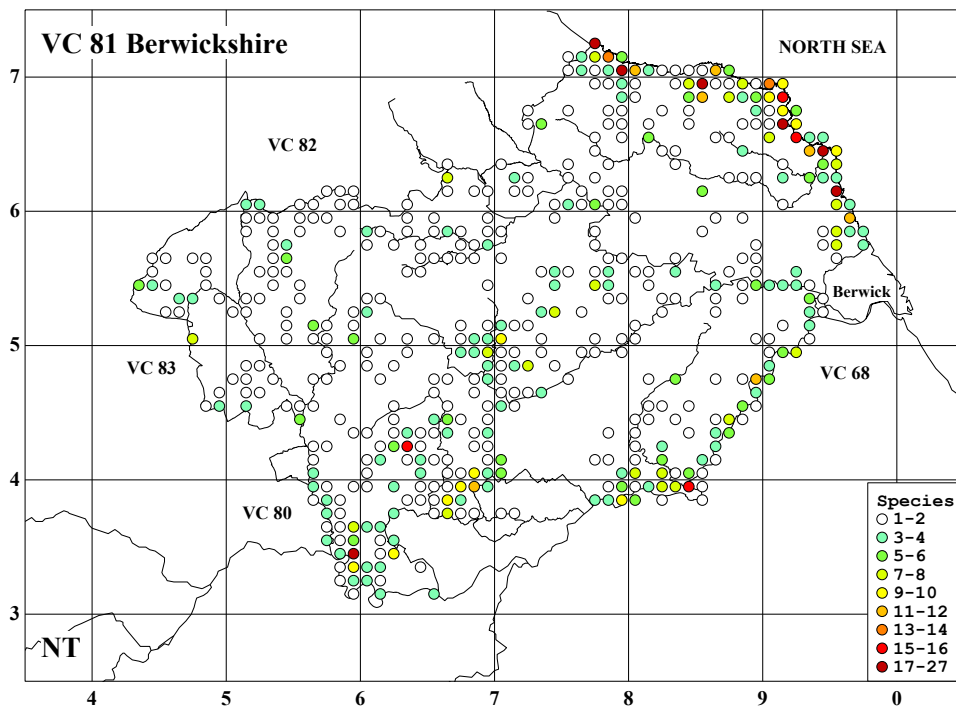
Maps summarising the data in the Site register



The map of sites of botanical interest gives a flattering impression of the extent of good habitat. This is an effect of the 1km recording scale. If even a small corner of a site falls in a monad it is coloured with the grade of the site as a whole.

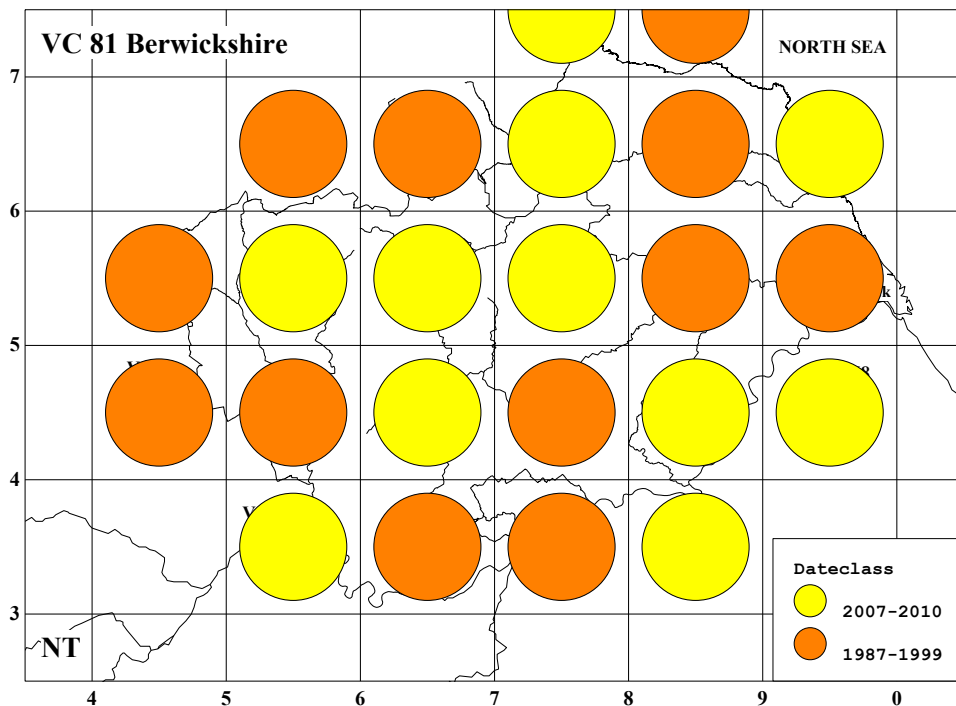
Nevertheless the main areas of botanical interest stand out clearly. From east to west these are: the whole of the coastal strip with adjacent inland habitat at Lumsdaine Dean NT86 and Pease Dean NT76, the oakwoods at Abbey St Bathans NT76, the wetland complex around Hells Cleugh near Duns NT75, Killmade Burn NT66, the grasslands of the Dye Water NT55, Dogden Moss, Fangrist Burn and Greenlaw Dean NT64, Hareheugh Craigs NT63 and NT64, Cromwells, Wheel Burn and the Blythe Water NT54 and NT55, the juniper and *Sedum villosum* flushes of the hill burns in NT55, Gledswood and Gaitheugh NT53, Longmuir Moss NT45. The river corridors also stand out, but their botanical interest is rather dispersed, with notable examples at Fishwick Mains on the Tweed NT94 and Tibbie Fowler's Glen on the Whiteadder NT95.

Rare or Scarce Species Diversity 1987-2010



The map of rare or scarce species diversity gives a good perspective on the paucity of species-rich botanical habitat in Berwickshire. Nevertheless criteria that dismiss species of high conservation interest solely because they are not scarce is bound to lead to contradictions. Compared to the map of sites of botanical interest the river corridors score higher as do the grasslands on the Kelso Traps in NT63 and NT64, but the preeminence of the coastal strip is even more strongly emphasised.

Dateclass Last Survey



This map is fundamental to an understanding of the limitations of this provisional edition of the Berwickshire CBSR. Eleven hectads have been extensively resurveyed in the last four years, while twelve have only been resurveyed since 1999 for a limited number of target species and sites.

Hectad maps with location of botanical sites

Explanatory Note - Copyright

The maps in the paper copies are Crown Copyright: Ordnance Survey and were reproduced there under Licence Number PU 100034184. This licence allows limited use only so these maps are omitted in this electronic copy.

NT44 Whitlaw

[Map omitted for copyright reasons]

NT44 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Lauder Common	4845, 4945, 4946

NT45 Oxton**[Map omitted for copyright reasons]**

NT45 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Clints Hill	4353, 4354, 4453, 4454
3	Threeburnford, nameless burn near	4652, 4653
5	Raughty Burn	4654, 4655, 4754, 4755
6	Longmuir Moss (VC 81 part, also VC 82)	4750, 4751
7	Airhouse Wood and Quarry	4752, 4753
8	Headshaw Haugh	4756, 4855, 4856

NT53 Earlston**[Map omitted for copyright reasons]**

NT53 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Carolside, south section	5539, 5639
2	Leaderfoot to above Redpath, Leader Water	5735, 5736, 5835
3	Cowdenknowes	5737
5	Gledswood	5734, 5834,
6	Gaitheugh (Gateheugh)	5833, 5933, 5934
8	Black Hill	5836, 5837
10	Bemersyde Hill, Scott's View	5933, 5934
12	Redpath Moss (part NT63)	5936, 6036

NT54 Lauder**[Map omitted for copyright reasons]**

NT54 - Sites with at least moderately good habitat (note that Kedslie, west of the Leader Water, is in VC 81)		
Ref	Site	GR - NT
1	Lauder Common, east section, Muircleugh	5045, 5046, 5146
2	Lauder Burn	5144, 5145, 5146, 5246
7	Carolside, north section	5640
8	Chapel on Leader	5542, 5641, 5642
9	Whitslaid	5544
10	Boon Bridge	5545
11	Boondreigh Water, Dod Mill	5645, 5646, 5647, 5747, 5848
12	Blythe Water	5748, 5749, 5848
13	Pyatshaw Meadow, by Brunta Burn, Blythe Water	5848
15	Pickie Moss	5844, 5944

NT55 Carfraemill**[Map omitted for copyright reasons]**

NT55 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Carfraemill, Leader Water near	5052, 5152
2	Addinston Hill, wet meadow north of	5155
3	Kelphope Burn	5157, 5158, 5159
4	Crib Law, south section	5259
5	Soonhope Burn, lower section	5255, 5354, 5355
6	Soonhope Burn, upper section	5356, 5357, 5358, 5359
7	Whalplaw Burn, lower section	5354, 5355, 5454, 5455
8	Whalplaw Burn, upper section	5456, 5457, 5556, 5557, 5558
9	Earnsclough Water	5451, 5452, 5553, 5554, 5654, 5655
11	Wheel Burn, Blythe Water	5650, 5651, 5750, 5751
13	Cromwells, Brunta Burn	5950, 5951

NT56 Meikle Says Law

[Map omitted for copyright reasons]

NT56 - Sites with at least moderately good habitat		
Ref	Site	GR – NT
1	Lammerlaw Burn, Crib Law, north section	5160, 5260
4	Wester Black Burn	5860

NT63 Mertoun**[Map omitted for copyright reasons]**

NT63 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Mertoun Bridge, Tweedside west of	6032
5	Bemersyde Moss	6033, 6133, 6134
6	Whitrig Bog	6234, 6235
7	Butchercote Craigs	6234
8	Brotherstone Hill	6035, 6036, 6135, 6136
9	Brotherstone Moss (VC 81 part, also VC 80)	6136
10	Redpath Moss (see NT53)	6036
13	Mincie Moss	6338
14	Mellerstain Policies, Eden Water	6438, 6439, 6538, 6539, 6639
15	Muckle Thairn, Little Thairn	6537, 6637
17	Girrick, Blinkbonny	6637, 6638, 6639, 6738
18	Lurgie Loch	6739
21	Hareheugh Craigs (see NT64)	6839
22	Hareheugh Craigs, craig near (see NT64)	6939

NT64 Gordon**[Map omitted for copyright reasons]**

NT64 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
2	Everett Moss	6043
6	Sheriffmoor Plantation	6147
8	Gordon Bogs, central section, Gordon Moss SSSI	6342
9	Gordon Bogs, central section, outwith SSSI	6242, 6342, 6442
10	Corsbie Fen	6244, 6245
11	Gordon Bogs, east section, north of Lightfield	6341, 6441
12	Lightfield Moor, south of Lightfield	6440, 6441
13	Bonarparte's Covert	6440
14	Gordon Meadow	6443
17	Gordon Community Woodland, south of old railway	6543, 6544, 6643, 6644
18	Gordon Community Woodland, north of old railway	6544, 6644
22	Halliburton, Blackadder Water near	6648, 6747, 6748, 6847, 6848
23	Dogden Moss, west section	6749, 6849
24	Dogden Moss, east section	6949
25	Hareheugh Craigs (part NT63)	6839, 6840, 6940
26	Hareheugh Craigs, craig near (part NT63)	6939, 6940
29	Hume Craigs, west section	6941
30	Rumbleton Burn (part NT74)	6945, 7045
31	Greenlaw Dean, main section	6946, 6947, 6948
32	Fangrist Burn	6948, 6949

NT65 Longformacus**[Map omitted for copyright reasons]**

NT65 - Sites with at least moderately good habitat		
Ref	Site	GR – NT
1	Boondreigh Burn, upper section	6052
2	Dye Water Cleughs	6057, 6058, 6158
5	Byrecleugh	6257, 6258, 6358, 6359
6	Watch Water, upper section	6355, 6356, 6455, 6456, 6556
7	Trottingshaw, Nuns' Bank	6457, 6458, 6558
8	Horseupcleugh	6459, 6558, 6559, 6658
9	Watch Water Reservoir	6556, 6656
10	Dye Water, Rathburne to Wrunklaw	6658, 6757, 6758, 6857
11	Dogden Moss, north edge	6750, 6850
12	Watch Water, Rathburne to Watch Reservoir	6756, 6856
14	Greenlaw Kaims and Burns, west section	6950, 6951
15	Dirrington Great Law, west section	6954
18	Crook Burn, Dyshaugh, west section	6958, 6959

NT66 Cranshaws

[Map omitted for copyright reasons]

NT66 - Sites with at least moderately good habitat (note that The Bell is not in VC 81)		
Ref	Site	GR - NT
2	Killmade Burn, Rough Cleugh (VC 81 part, also VC 82)	6561, 6661, 6662, 6663

NT73 Birgham

[Map omitted for copyright reasons]

NT73 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Newton Don	7036, 7037, 7136, 7137
4	Birgham Haugh	7938
6	Birgham Wood (part NT74, NT84)	7939, 7940, 8040

NT74 Greenlaw**[Map omitted for copyright reasons]**

NT74 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Hume Mill	7040
2	Hume Castle	7041
3	Hume Craigs, east section	7041
4	Rumbleton Burn (see NT64)	7045
7	Greenlaw Moor, Flourishwalls Burn, Hule Moss, Kyles Hill	7047, 7048, 7049, 7147, 7148, 7149, 7248, 7249, 7349
11	Lintmill Bridge	7246, 7346, 7446, 7447
12	Marchmont, Howe Burn, upper section	7347, 7348, 7448, 7548, 7549, 7649
16	Sisterpath	7547, 7548, 7648
20	Bishop's Bog (FERNYRIG Bog)	7840
23	Birgham Wood (see NT73)	7940
24	Horse Bog	7940

NT75 Duns**[Map omitted for copyright reasons]**

NT75 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Greenlaw Kaims and Burns, east section	7050, 7051
4	Crook Burn, Dyshaugh, east section	7058
6	Greenlaw Moor and Kyles Hill, north section	7050, 7051, 7150, 7151, 7250, 7250, 7350
7	Dirrington Great Law, east section	7054, 7055
8	Langtonlees	7352, 7353, 7452, 7552, 7553
10	Hells Cleugh	7354, 7355, 7454, 7455
17	Duns Castle	7754, 7755, 7854, 7855
18	Cockburn Mill	7658, 7757, 7758, 7759
20	Preston Bridge	7856
22	Hoardweel	7859, 7959

NT76 Abbey St Bathans**[Map omitted for copyright reasons]**

NT76 - Sites with at least moderately good habitat (note that Nether Monynut is in VC 81)		
Ref	Site	GR – NT
1	Blackford Rig, Philip Burn	7063, 7163
5	Little Dod, Eye Water below	7366
6	Hoprigshiels Wood	7468
12	Frampath Burn	7461
15	Ellerburn Wood	7660, 7661
16	Crooked Bank, Laughing Law	7264, 7363, 7364
17	Brush Wood, Godscroft Wood	7363, 7463
18	Bankend Wood	7462, 7562
19	Shannabank Wood	7562, 7661, 7662
21	Butterwell Wood	7661, 7761
22	Retreat Wood	7760
23	Wild Wood	7760
24	Elba Wood	7860
26	Aikyside Wood	7860, 7960, 7961
27	Ecclaw Hill	7567
28	Edmond's Dean, Bowshiel Dean	7667, 7767, 7768, 7866, 7867, 7967
33	Pease Dean, upper section, Penmanshiel Wood	7966, 7967, 7968, 7969
34	Tower Dean, upper section	7769, 7869

NT77 Cockburnspath**[Map omitted for copyright reasons]**

NT77 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Dunglass Dean (VC 81 part, also VC 82)	7570, 7571, 7671, 7772
4	Ramsheugh Bay, Reed Point	7772
5	Cove, Cove Harbour	7871
6	Pease Dean, lower section, Tower Dean, lower section	7870, 7970
8	Pease Bay, Ewelairs	7871, 7970

NT83 Coldstream

[Map omitted for copyright reasons]

NT83 - Sites with at least moderately good habitat (note the small field 'The Scots Acre' south of the Tweed near Lees Haugh that falls in Scotland and VC 81)		
Ref	Site	GR - NT
1	Carham, Tweed opposite	8038, 8039
2	Fireburnmill, Tweed near	8139, 8238, 8239, 8338, 8339

NT84 Swinton**[Map omitted for copyright reasons]**

NT84 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Lithtillum Loch	8040, 8041
3	Birgham Wood (see NT73)	8040
4	Rough Haugh, Wylie Cleugh	8042, 8043, 8142
6	The Hirsell	8240, 8340
7	Hirsell Lake	8240
8	Hirsell Woods	8141, 8241, 8242
16	Tweedmill	8644, 8743, 8744
17	Milne Graden	8644, 8743, 8744
18	Ladykirk House, near	8844, 8845
19	Ladykirk, Blount Bank	8847, 8945, 8946, 8947

NT85 Chirnside**[Map omitted for copyright reasons]**

NT85 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
4	Bunkle Wood	8058, 8158
7	Edrom, Blanerne	8255, 8256, 8356
8	Kelloe, Blackadder Mount, Allanbank	8453, 8553, 8554, 8654
11	Ninewells	8555, 8655
16	Allanton Bridge, Whitehall, Bluestoneford	8654, 8754, 8755, 8855
18	Bite-about Wood	8855
19	Causewaybank Sandpit	8759, 8859
20	Lazybeds Plantation	8857, 8956, 8957
22	Edington Mill	8954, 8955

NT86 Grantshouse**[Map omitted for copyright reasons]**

NT86 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
2	Grantshouse	8065, 8165
3	Redclues Cleugh	8068
4	Old Cambus Townhead	8068, 8069
6	Winding Burn, Howpark Burn	8166, 8266
8	Atton Dean	8264
10	Greenburn Plantation	8361
13	Harly Darlies	8368, 8369
14	Drone Moss	8466, 8467
15	Dowlaw Moss	8369, 8468, 8469
19	Long Moss, Coldingham Common	8567, 8568
20	Lumsdaine Dean	8569, 8669
21	Lowries Knowes	8569
23	Press Castle, Grange Plantation	8664, 8665, 8764, 8765
28	Rough Heugh	8769
32	Westerside	8868, 8968
33	Westerside Dean	8869
39	Coldingham Loch	8968
40	Earnsheugh	8969

NT87 Dowlaw**[Map omitted for copyright reasons]**

NT87 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
1	Old Cambus Quarry	8070
2	St Helen's Church, below	8070
3	Siccar Point	8170
4	Redheugh	8270
5	Lansey Bank, Midden Craig	8370
6	Rammel Cove	8470
7	Telegraph Hill	8570
8	Fast Castle	8670, 8671
9	Dowlaw Dean	8670
10	Brander Heugh	8770

NT94 Fishwick Mains

[Map omitted for copyright reasons]

NT94 - Sites with at least moderately good habitat		
Ref	Site	GR – NT
1	Blount Bank, Blount Island	9047 (also 8947)
2	Frockham Brae, Horndean	9048, 9049
3	Fishwick Mains, riverside below, St Thomas's Island	9149, 9249

NT95 Paxton**[Map omitted for copyright reasons]**

NT95 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
3	Foulden Braes	9054, 9154
4	Edington Hill Covert	9057
5	Foulden Dean	9154, 9254, 9255
8	Union Bridge	9250, 9350, 9351
9	Paxton House	9251, 9252, 9351, 9352, 9452
10	Clarabad Wood	9253, 9254, 9354
12	Tibbie Fowler's Glen, Witches Cleugh	9354, 9453, 9454
13	Edrington Castle, Cawderstones	9352, 9353, 9452, 9453, 9454
14	Lambsmill Burn, Edrington House	9354, 9355, 9454, 9455
18	Lamberton Moor	9557, 9558
20	Lamberton Undercliff	9757, 9758
21	Lamberton Shiels, shore below, Hilton Bay, Catcairn Bushes	9658, 9659

NT96 Eyemouth

[Map omitted for copyright reasons]

NT96 - Sites with at least moderately good habitat		
Ref	Site	GR - NT
4	Millar's Moss	9067, 9068
6	Coldingham Bay	9166
7	St Abbs Village, Northfield	9167, 9168, 9266, 9267
8	St Abbs Head NNR, Starney Bay	9167
9	St Abbs Head NNR, St Abbs Head	9168, 9169
10	St Abbs Head NNR, Petticowick	9068, 9069
11	West in Thirle, Broadhaven Bay	9068, 9069
12	Ayton, Ayton Castle, Eye Water	9260, 9261, 9361
13	Linthill, Ale Water near, Little Dean	9162, 9262, 9263
14	Old Linthill, Ale Water, Eye Water	9362, 9462
15	Eyemouth, Eyemouth Fort, Hairy Ness	9363, 9364, 9365, 9463, 9464, 9465
16	Killiedraught Bay	9364, 9465
17	Fleurs Dean, Linkim Kip	9165, 9264, 9265
18	Linkim Shore, Yellow Craig	9265, 9266, 9365
19	Chester Hill	9560
20	Burnmouth, south	9560, 9660
21	Burnmouth, north	9561
22	Fancove Head	9562
23	Gungreen	9464, 9563, 9564

Hectad Descriptions and Site Register

NT44 Whitlaw

(Systematic sample survey 1997, further samples to 2009)

Hectad Description

Overview

Only 10% of the hectad NT44 is in Berwickshire. It lies between 236m near Whitlaw and 378m at Lauder Common. It lies on acid Silurian rocks and the vegetation is moorland at Lauder Common and grassland with small blocks of forestry at Whitlaw. Three small burns converge at Whitlaw farm. The B6362 crosses Lauder Common.

Habitats

The **heather moorland** at Lauder Common is managed for grazing and is less frequently burnt than the grouse moors of the Lammermuirs. This has allowed modest patches of *Sphagnum* to survive with small colonies of *Drosera rotundifolia*, *Narthecium ossifragum* and *Vaccinium oxycoccus*. *Euphrasia micrantha* and *Viola lutea* occur where grass and heather meet. Flushes support *Equisetum sylvaticum* and *Parnassia palustris*.

The **burnsides** above Whitlaw have patches of botanical interest with *Viola lutea* and a reasonable diversity of grassland and wetland axiophytes together with a few woodland species near the farm.

The sides of the B6362 have *Spergularia marina* and other roadside halophytes are likely to have colonised in recent years.

Index of Sites NT44 Whitlaw

GR - NT	Ref	Site	Habitats
4845, 4945, 4946	1	Lauder Common, west section	Heather moorland
4947, 4948, 4949	2	Whitlaw, above	Burnsides, acid grassland

Site Register NT44 Whitlaw

1. Lauder Common, west section 4845, 4945, 4946, Habitat moderately good in part ♥

Heather moorland

S	Taxon	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Drosera rotundifolia</i>		495456		2003	Anon	Consultant
		Small	493461		2006	JTM	Mercer, Dr J T & Mrs A
	<i>Euphrasia micrantha</i>		484456		1997	MEB	
	<i>Lycopodium clavatum</i>	Two	495458	67	2009	MEB	By rough track
		Three	496457	08, 35	2009	MEB	By rough track
		Two	497455	43	2009	MEB	By rough track
	<i>Vaccinium oxycoccos</i>		495456		2003	Anon	Consultant

Selected axiophytes: *Equisetum sylvaticum*, 495456, *Narthecium ossifragum*, 493456, 494454, 495455, 495456, *Parnassia palustris*, 485453, 487453, 495456, 487453, 495456, *Viola lutea*, 4845, 495456

Other axiophytes: *Briza media*, *Crepis paludosa*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Thymus polytrichus*, *Triglochin palustre*

2. Whitlaw, above 4947, 4948, 4949, Habitat fragmentary

Burnsides, acid grassland

Selected axiophytes: *Equisetum sylvaticum*, 491477, *Geranium sylvaticum*, 491477, *Viola lutea*, 494491

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Briza media*, *Cardamine amara*, *Carex disticha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Galium uliginosum*, *Helictotrichon pratense*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Ranunculus bulbosus*, *Sanicula europaea*, *Thymus polytrichus*

NT45 Oxton

(Systematic sample survey 1997, further samples to 2009)

Hectad Description

Overview

45% of the hectad NT45 is in Berwickshire. It lies between 207m near Oxton and 468m at Hartside Hill. There is a small area around Oxton with productive farmland on the Old Red Sandstone and from here the Leader Water can be followed to its source at Longmuir Moss. The rest is hill land which lies on acid Silurian rocks. There is improved and semi-improved grassland with wind farms at Dun Law and Carfrae Common. Part of the large area of conifer forestry on Hartside Hill is now being cleared for a further wind farm. The main areas of moorland are on Clints Hill and at Headshaw Heugh.

The track of the former Lauder Light Railway runs from Oxton to Threeburnford with associated old quarries at Airhouse Wood. The A68 trunk road crosses the hectad.

Habitats

Although the **native woodland** is fragmentary it includes fine juniper scrub at Headshaw Haugh, Raughty Burn, Airhouse Quarry and by a nameless burn below Threeburnford as well as decrepit birchwood at Airhouse Wood. The juniper at Headshaw Heugh lies on steep banks with *Erica cinerea* and *Calluna* and was associated with *Melampyrum pratense* in 1997 but this species was not refound in 2004. Flushes near the burn have colonies of *Pedicularis palustris* and *Pinguicula vulgaris*. The botanical interest continues for some distance up the Headshaw Burn. By the Raughty Burn the botanical interest is localised with the juniper largely in a dense colony on a knowe with *Helianthemum nummularium*. Airhouse Wood has small relict colonies of *Cirsium heterophyllum*, *Geranium sylvaticum*, *Gymnocarpion dryopteris*, *Ranunculus auricomus*, *Rosa pimpinellifolia* and *Viola lutea* among the birches. The quarry area adjacent has a substantial colony of juniper.

The nameless burn near Threeburnford is a fine site with a mix of interesting habitats. The juniper lies in a cleugh with *Helianthemum nummularium* and *Populus tremula*. This area has recently been fenced and planted with more juniper and a variety of other 'native species', some of which would never have occurred there naturally. A little upstream there are a series of fine **calcareous flushes** by the burn with *Dactylorhiza incarnata*, *Eleocharis quinqueflora*, *Euphrasia scottica* and *Trollius europaeus*. Steep heathy and **grassland** banks nearby have a fine colony of *Viola lutea*. Above Hartside there are similar grassy banks by the burnside with *Koeleria macrantha*, but the habitat is fragmentary.

The key **wetland** site is Longmuir Moss on the boundary with Midlothian. This is a valley mire with a raised bog on the southern half and a fen area to the north with a little willow carr. There is also an area of base-rich grassland on a knowe by the east side. The raised bog is in good condition and where it grades into fen there is ground water movement that supports a colony of the rare Northern Deergrass *Trichophorum cespitosum subsp. cespitosum* amongst the *Sphagnum* with *Salix phyllicifolia* nearby. The fen proper is very species-rich and has a large colony of *Carex diandra* at its only station in Berwickshire. *Listera cordata* and *Pyrola minor* occur in the willow carr. *Botrychium lunaria* and *Viola lutea* are present on the knowe.

Further wetland occurs along the Mountmill Burn with *Carex paniculata* and *Geranium sylvaticum*, but the habitat is fragmentary.

Clints Hill is an attractive area of **moorland** with screes at the west end but the specific botanical interest is very localised by small burns on the north side where crags support one young bush of juniper with *Listera cordata* below and where flushes support *Sagina nodosa* and *Selaginella selaginoides*. There are small backwaters by the Armet Water at the foot of the hill with aquatic species of acidic waters including the charophyte *Nitella flexilis/opaca* agg..

The **forestry** at Hartside Hill has access roads with a wide stony ditch at the margin, hewn from the hillside. Here a remarkable community has developed over several kilometres with abundant clubmosses. *Lycopodium clavatum* is the principal species present but *Diphasiastrum alpinum* is well scattered and a single plant of *Huperzia selago* has been found. *Euphrasia micrantha* is abundant in the same habitat.

In **rudereral** habitats around Oxton village *Papaver dubium subsp. lecoqii* is sometimes seen. This is thought to have been introduced with the railway. **Arable weeds** include *Galeopsis speciosa* near Threeburnford.

The A68 has the usual **roadside** halophytes. A lay-by at Red Brae has a stony bank hewn from the hillside with abundant lichens. Here *Lycopodium clavatum* and *Diphasiastrum alpinum* have colonised.

Index of Sites NT45 Oxton

GR - NT	Ref	Site	Habitats
4353, 4354, 4453, 4454	1	Clints Hill	Burnsides, flushes, moorland
4454, 4455, 4456, 4554, 4555, 4556	2	Hartside Forestry	Conifer plantations
4652, 4653	3	Threeburnford, nameless burn near	Juniper scrub, burnsides, flushes
4653, 4753	4	Hartside	Burnsides
4654, 4655, 4754, 4755	5	Raughty Burn	Juniper scrub, burnsides
4750, 4751	6	Longmuir Moss (VC 81 part, also VC 83)	Valley mire and grassland
4752, 4753	7	Airhouse Wood and Quarry	Juniper scrub, birchwood
4756, 4855, 4856	8	Headshaw Haugh	Juniper scrub, burnsides, moorland
4854, 4954	9	Mountmill Burn	Burnsides
4857	10	Headshaw Burn	Burnsides, flushes, moorland
4953	11	Oxton	Ruderal, burnsides
45	12	Sundry	Arable habitats
45	13	Sundry	Sundry habitats

Site Register NT45 Oxton

1. Clints Hill, 4353, 4354, 4453, 4454, Habitat good in part ♥♥

Burnsides, flushes, moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>	Large	433542		1985	MEB	
	<i>Euphrasia scottica</i>		433541		2004	MEB	
	<i>Listera cordata</i>	Large	434540		1990	DGL	In <i>Sphagnum</i> under <i>Calluna</i>
	<i>Sagina nodosa</i>		433542		1985	MEB	
	<i>Selaginella selaginoides</i>	3x3m	433541	94	2004	MEB	

Charophytes: *Nitella flexilis/opaca* agg., 431539, 1997, MEB, oxbow in Arnet Water, fertile, modest colony

Selected axiophytes: *Festuca filiformis*, 431539, *Juniperus communis*, 434540, one bush, *Pinguicula vulgaris*, 433541

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*

2. Hartside Forestry, 4454, 4455, 4456, 4554, 4555, 4556, Habitat fragmentary

Conifer plantations

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphysastrum alpinum</i>	Eleven 100m cells	4454		2007	MEB	Forestry trackside
		Six	448555		2007	MEB	Forestry trackside
		Three 100m cells	4554		2007	MEB	Forestry trackside
		One	450568	55	2007	MEB	Forestry trackside
	<i>Euphrasia micrantha</i>	Very large	4454		2009	MEB, ENHS	Forestry trackside
		Very large	4455		2009	MEB, ENHS	Forestry trackside
		Very large	4456		2009	MEB, ENHS	Forestry trackside
	<i>Huperzia selago</i>	One	445543	39	2009	MEB, ENHS	Forestry trackside
	<i>Lycopodium clavatum</i>	Ten 100m cells	4454		2007	MEB	Forestry trackside
		Eight 100m cells	4455		2007	MEB	Forestry trackside
		Eight 100m cells	4456		2007	MEB	Forestry trackside
		Five 100m cells	4554		2007	MEB	Forestry trackside
		Eleven 100m cells	4556		2007	MEB	Forestry trackside

Selected axiophytes: *Carex curta*, 447567, [*Salix pentandra*], 445558, plantedOther axiophytes: *Achillea ptarmica*, *Briza media*, *Callitriche hamulata*, *Carex disticha*, *Carex pulicaris*, *Crepis paludosa*, *Galium uliginosum*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*, *Veronica scutellata*Former rare or scarce species: *Sedum villosum*, 4456, 1974, C O Badenoch, *Trientalis europaea*, 4454, 1873, A Kelly, abundant**3. Threeburnford, nameless burn near, 4652, 4653, Habitat fine ♥♥♥**

Juniper scrub, burnside, flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Dactylorhiza incarnata</i>		463529		2004	LWG	
	<i>Eleocharis quinqueflora</i>		465530	26	2004	MEB	
	<i>Euphrasia scottica</i>		464530	62	2004	MEB	
	<i>Rosa pimpinellifolia</i>		4652		2004	LWG	
	<i>Trollius europaeus</i>	Small	464530	62	2004	MEB	
			466529		2004	LWG	

Selected axiophytes: *Carex paniculata*, 463529, *Geranium sylvaticum*, 4652, *Helianthemum nummularium*, 465529, 468527, *Juniperus communis*, 465529, 466528, 466529, 467528, 467529, 468527, 468528, 111 bushes, *Parnassia palustris*, 464530, *Pedicularis palustris*, 465530, *Pinguicula vulgaris*, 465530, *Populus tremula*, 466529, [*Salix pentandra*, 4652, planted], *Salix repens*, 4652, *Viola lutea*, 453521, 463528, 464529, 464538, 466528

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Leontodon hispidus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Rhinanthus minor*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Coeloglossum viride*, 4652, 1876, R Renton, *Gentianella campestris*, 4652, 1876, R Renton

4. Hartside, 4653, 4753, Habitat fragmentary

Burnsides

Other axiophytes: *Aira caryophyllea*, *Crepis paludosa*, *Helictotrichon pratense*, *Koeleria macrantha*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*, *Achillea ptarmica*

Intrusive neophytes: *Symphoricarpos albus*, 4653

Former rare or scarce species: [*Geranium lucidum*], 4653, 1873, A Kelly, behind the cottages, introduction

5. Raughty Burn, 4654, 4655, 4754, 4755, Habitat good ♥♥

Juniper scrub, burnsides

Selected axiophytes: *Helianthemum nummularium*, 469543, 470543, *Juniperus communis*, 463546, 468541, 468542, 468543, 469542, 469543, 469544, 469553, 470540, 470541, 470543, 470551, 381 bushes

Other axiophytes: *Briza media*, *Carex caryophyllea*, *Carex flacca*, *Crepis paludosa*, *Geum rivale*, *Helictotrichon pratense*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

6. Longmuir Moss (VC 81 part, also VC 83), 4750, 4751, Habitat outstanding

♥♥♥♥♥

Valley mire and grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Botrychium lunaria</i>		473509		1995	RMcB	McBeath, bank near
	<i>Carex diandra</i>	Large	472509		1988	MEB <i>et al</i>	
	<i>Drosera rotundifolia</i>		472505		1988	MEB	
	<i>Listera cordata</i>	Two	472508		1990	DA	Adamson
	<i>Lycopodium clavatum</i>	Two	473509		1990	MEB	Dry bank with <i>Calluna</i>
	<i>Pyrola minor</i>		4750		1995	DGL	
	<i>Salix phylicifolia</i>		472505		1988	MEB	
	<i>Trichophorum cespitosum</i> nothosubsp. <i>foersteri</i>		471504	98	2000	MEB	Raised bog
	<i>Trichophorum cespitosum</i> subsp. <i>cespitosum</i>		471504	84	2000	MEB	Edge of raised bog

Selected axiophytes: *Carex curta*, 4750, *Carex paniculata*, 4750, 472511, *Menyanthes trifoliata*, 472508, *Narthecium ossifragum*, 472505, *Parnassia palustris*, 472508, *Pedicularis palustris*, 472507, *Salix pentandra*, 472508, 472511, *Salix repens*, 4750, *Viola lutea*, 472501, 473508

Other axiophytes: *Achillea ptarmica*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Rhinanthus minor*, *Senecio aquaticus*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

7. Airhouse Wood and Quarry, 4752, 4753, Habitat good in part ♥♥

Juniper scrub, birchwood

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Cirsium heterophyllum</i>		476536		1980	KK	Kirby
	<i>Filago vulgaris</i>		4753		1981	MEB	Quarry
*	<i>Ranunculus auricomus</i>	One	476537		2005	JTM, AM	Mercer, Mercer, just above burn
*	<i>Rosa pimpinellifolia</i>		476537	36	2001	MEB	Det R Maskew, hips dark red

Selected axiophytes: *Chrysosplenium alternifolium*, 472535, *Geranium sylvaticum*, 4753, *Gymnocarpium dryopteris*, 4753, *Helianthemum nummularium*, 4753, *Juniperus communis*, 471535, 472534, 472534, 472535, 473528, 473533, 473533, 473534, 473535, 474534, 476538, 19 bushes, *Prunus padus*, 472535, *Salix repens*, 4753, *Viola lutea*, 476536

Other axiophytes: *Adoxa moschatellina*, *Anemone nemorosa*, *Cardamine amara*, *Conopodium majus*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Rhinanthus minor*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana officinalis*

8. Headshaw Haugh, 4756, 4855, 4856, Habitat fine ♥♥♥

Juniper scrub, burnside, moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>	One	479566	31	2004	MEB, PFB	
	<i>Lycopodium clavatum</i>	One	482563	54	2004	MEB, PFB	
	<i>Melampyrum pratense</i>		4756		1997	MEB, PFB	

Selected axiophytes: *Juniperus communis*, 472564, 473564, 477564, 477565, 478563, 478564, 478565, 479561, 479562, 479563, 479566, 480560, 480561, 480562, 480567, 481569, 482569, 493 bushes, *Pedicularis palustris*, 481568, *Pinguicula vulgaris*, 477565, 482569

Other axiophytes: *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Isolepis setacea*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Potentilla palustris*, *Thymus polytrichus*, *Triglochin palustre*

Former rare or scarce species: *Ulex gallii*, 4756, 1960, DGL

9. Mountmill Burn, 4854, 4954, Habitat fragmentary

Burnside

Selected axiophytes: *Carex paniculata*, 4854, *Geranium sylvaticum*, 4854, *Helianthemum nummularium*, 4854, *Vaccinium vitis-idaea*, 4854

Other axiophytes: *Carex disticha*, *Conopodium majus*, *Crepis paludosa*, *Galium uliginosum*, *Linum catharticum*, *Lysimachia nemorum*, *Ranunculus aquatilis*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*

10. Headshaw Burn, 4857, Habitat fragmentary

Burnsides, flushes, moorland

Selected axiophytes: *Juniperus communis*, 482570, four bushes, *Pinguicula vulgaris*, 484572

Other axiophytes: *Anemone nemorosa*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Conopodium majus*, *Crepis paludosa*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*

11. Oxton, 4953, Habitat fragmentary

Ruderal, burnsides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Papaver dubium</i> <i>subsp. lecoqii</i>]		498531		1997	MEB, PFB	Introduction
			498534		1997	MEB, PFB	Introduction

Other axiophytes: *Iris pseudacorus*, *Leontodon hispidus*

12. Sundry arable habitats NT45, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Persicaria lapathifolia</i>		485547		2005	LWG	Kirkton Hill farm, in kale

Selected axiophytes: *Galeopsis speciosa*, 4752, Threeburnford, near, 464520, Threeburnford, near, 480542, Mountmill, 485547, Oxton, Kirkton Hill farm, 488550, Lauder, Headshaw Farm, *Lamium amplexicaule*, 4654, Hartside, 4953, Oxton

13. Sundry NT45, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]		482554		2000	LWG	A68 New Channelkirk, roadside halophyte
	<i>Botrychium lunaria</i>	Six	453521		2003	JTM	Mercer, near Threeburnford
	<i>Carex pallescens</i>		453521		2007	JM, ENHS	Muscott, near Threeburnford
	<i>Diphasiastrum alpinum</i>	Two	475567	74, 75	2004	MEB, PFB	A68 Red Brae
	<i>Lycopodium clavatum</i>	Twelve	475567	61, 62, 64	2004	MEB	A68 Red Brae

Former rare or scarce species: [*Saxifraga hirculus*, 45, 1898, F C Crawford, 'Soutra Hill', most likely VC 82]

NT46 Kelhope Rig

Hectad Description

Overview

Less than 0.1% of the hectad NT46 is in Berwickshire. This six hectare patch of apparently undistinguished hill grassland at NT4960 lies on acid Silurian rocks between 437m and 454m on the watershed with East Lothian and has only been viewed from afar. No botanical records are held.

NT53 Earlston (resurveyed 2010)

Hectad Description

Overview

19% of the hectad NT53 is in Berwickshire. It lies between 63m by the Tweed below Dryburgh and 314m at the Black Hill. The geology is largely Old Red Sandstone. Here the Leader Water runs from Carolside to Leaderfoot to join the River Tweed whose flow east from that junction is interrupted by two great bends in the river at Gledswood and Dryburgh. Most of the steep banks by the Leader and Tweed are wooded and here much of the botanical interest of the hectad is found, with further interest at the riverside itself. The two main hills, the Black Hill and Bemersyde Hill, are of intrusive rocks. Redpath Hill, now Craighouse Quarry, and the eminence near Dryburgh where Wallace's Statue stands are also of intrusive rocks.

Between the hills and the rivers there is productive farmland and the settlements of Earlston, Redpath and Dryburgh. A short section of the A68 trunk road runs north from Earlston, but little remains of the former railway track east from Earlston towards Gordon.

Habitats

The riverside **woodlands** are on the site of native woods of elm and ash with oak on the steeper banks and alder by the river. Most of the woodland is much modified by plantings but pockets of less-disturbed habitat occur on the steepest ground. There are no substantial patches of unmodified habitat by the Leader. Nevertheless the ground flora remains representative of native woodland. A speciality is *Lathraea squamaria* which is frequent on a variety of host species. A few native bushes of *Euonymus europaeus* and *Viburnum opulus* survive at the foot of crags. Likewise *Carex remota* and *Listera ovata* are but poorly represented. *Cardamine amara*, *Chrysosplenium alternifolium*, *Polystichum aculeatum* and *Prunus padus* are much more plentiful while colonies of *Hyacinthoides non-scripta*, so infrequent in Berwickshire, are more scattered. *Claytonia sibirica* and *Meconopsis cambrica* are well naturalised near the river.

Similar woodland occurs by the Tweed from Leaderfoot to Bemersyde, but here the woodland strip is deeper and much larger patches of relatively unmodified habitat survive. Gledswood is notable for *Lathraea squamaria*, *Geranium sylvaticum*, including a pale-flowered variety with deeper pink veins, and *Hyacinthoides non-scripta*, including an occasional autumn-flowering plant. There is remarkable habitat at the bend in the river below Bemersyde Hill where the dean at Halidean marks the upstream limit of the intrusive rocks. Immediately below, at Gaitheugh (now Gateheugh, but the old spelling makes it clear that this is the cliff of the wild goats), the intrusive rocks have weathered to yield unstable slopes of calcareous detritus interspersed with much more resistant rock

outcrops. Many unexpected species occur here, albeit in small quantity, most notably *Arabis hirsuta*, *Astragalus glycyphyllos*, *Clinopodium vulgare*, *Convallaria majalis*, *Echium vulgare*, *Galium boreale*, *Galium sternerii*, *Juniperus communis*, *Sorbus rupicola*, *Thalictrum minus* and *Viola hirta*. The *Convallaria majalis* has only recently been discovered on a very inaccessible ledge, but it appears to be native. The healthy colony of *Sorbus rupicola* is assuredly native. *Helianthemum nummularium* is plentiful on the calcareous detritus with a naturalised population of *Helleborus foetidus*. Woodland species of note include *Circaea x intermedia*, *Euonymus europaeus*, *Melampyrum pratense*, *Melica uniflora* and *Ranunculus auricomus*. *Melica nutans* appears to have been lost recently while the current status of *Vaccinium vitis-idaea* is unclear. *Hieracium* species of interest occur here.

The riverside itself is less notable. The **aquatic flora** is poor, though *Potamogeton x olivaceus* has twice been recorded at Gledswood and *Mimulus x robertsii* is a neophyte that is frequent on the gravels along the Leader. The **riparian flora** by the Leader has an excess of *Phalaris arundinacea* while the neophytes *Allium paradoxum*, *Doronicum pardalianches* and *Symphytum tuberosum* have spread into the woodland in abundance. By the Tweed the same neophytes are joined by *Impatiens glandulifera* and *Lysimachia vulgaris* but *Carex acuta*, *Scirpus sylvaticus* and *Senecio aquaticus* occur at Gledswood or Gaitheugh. The Turfford Burn at Earlston has much *Solanum dulcamara* at its banks

There is only a little **moorland** left on the Black Hill with a lone bush of juniper, and the **acid grassland** there is now very species-poor following nitrogen application. *Viola lutea* may or may not survive. However the screes support a large population of *Cryptogamma crispa* with *Ceratocarpus claviculata* frequent amongst whins on the screes and in the larch plantation below. Bemersyde Hill, both above and below the road at Scott's View, differs from the Black Hill despite the rather similar geology. Little of the grassland is botanically rewarding but there are patches on the most skeletal soils and at small rock outcrops with a more notable flora. These patches support good colonies of *Cerastium arvense* and the annuals *Cerastium semidecandrum*, *Filago minima*, *Scleranthus annuus*, *Spergularia rubra*, *Stellaria pallida* and *Vulpia bromoides*. A tiny patch of grassland on basalt above Wallace's Statue has *Cerastium arvense* and *Trifolium striatum*.

Redpath Moss is the principal **wetland** site, described here though half of it falls in hectad NT63. The habitat remains in good condition. The willow carr and associated wet grassland is home to *Carex curta*, *C. paniculata*, *Listera ovata*, *Pyrola minor*, *Silaum silaus*, *Trollius europaeus* and *Vaccinium oxycoccus*. *Corallorhiza trifida* is a speciality of the moss, but was not encountered in 2010. Halidean Mill Moss is much modified but is a station for *Hippuris vulgaris*.

The **arable weed** flora is not exceptional but *Fumaria densiflora* has been recorded recently from two fields. *Erysimum cheiranthoides* and *Sinapis alba* appear to be introductions, the latter being grown as a game crop and often persisting.

Of the more **ruderal** habitats Park Quarry is interesting with a colony of *Cynoglossum officinale* on the rocky slopes and a colourful show of orchids, mainly *Dactylorhiza fuchsii*, on the old quarry floor. At Earlston *Senecio squalidus* and *Trifolium arvense* are thought to be relicts of the railway while *Malva moschata*, also about Dryburgh, may be a more-or-less naturalised introduction rather than a native.

Index of Sites NT53 Earlston

GR - NT	Ref	Site	Habitats
5539, 5639	1	Carolside, south section	Riverside woodland
5735, 5736, 5835	2	Leaderfoot to above Redpath, Leader Water	Riverside woodland
5737	3	Cowdenknowes	Policies, riverside
5638, 5639, 5738, 5838	4	Earlston	Ruderal, riverside
5734, 5834,	5	Gledswood	Woodland, riverside, aquatic
5833, 5933, 5934	6	Gaitheugh (Gateheugh)	Woodland, riverside, aquatic
5836	7	Redpath Dean	Dean woodland
5836, 5837	8	Black Hill	Acid grassland, screes
5832, 5931, 5932	9	Dryburgh	Ruderal, riverside, aquatic
5933, 5934	10	Bemersyde Hill, Scott's View	Acid grassland, knowes
5934, 5935	11	Halidean Mill Moss	Moss (and former pond)
5936, 6036	12	Redpath Moss (part NT63)	Carr woodland
53	13	Sundry	Arable habitats
53	14	Sundry	Sundry habitats

Site Register NT53 Earlston

1. Carolside, south section, 5539, 5639, Habitat moderately good in part ♥

Riverside woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euonymus europaeus</i>	One	565397	96	2010	LWG	On steep rocks
	<i>Lathraea squamaria</i>	Large	565395	64	2010	LWG	On <i>Acer campestre</i>
		Large	566395	32	2010	LWG	On <i>Acer campestre</i>
	<i>Listera ovata</i>	Two	562398		2007	LWG	

Selected axiophytes: *Equisetum sylvaticum*, 5539, *Populus tremula*, 565397, *Prunus padus*, 5539, 567394, *Saxifraga granulata*, 5639

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Cardamine amara*, *Conopodium majus*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Ranunculus bulbosus*, *Stellaria holostea*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Rhododendron ponticum*, *Symphoricarpos albus*

2. Leaderfoot to above Redpath, Leader Water, 5735, 5736, 5835, Habitat moderately good in part ♥

Riverside woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex remota</i>	One	577350	62	2010	MEB	
	<i>Euonymus europaeus</i>	One	579355	97	2010	MEB	Near foot of crag
		Three	580355		1999	LWG	
	<i>Lathraea squamaria</i>		578363		1999	LWG	On <i>Ulmus</i>
		Three	579364	00	2010	LWG	On <i>Populus</i>
	<i>Polypodium interjectum</i>		579355	97	2010	MEB	Near foot of crag
	<i>Viburnum opulus</i>		578356		2010	LWG	Cliff by river

Selected axiophytes: *Chrysosplenium alternifolium*, 577350, 577358, 578352, 578359, 579353, 579354, *Geranium sylvaticum*, 5735, *Prunus padus*, 577351, 579355, *Stellaria nemorum*, 577352, 581355

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Conopodium majus*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Sanicula europaea*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Rhododendron ponticum*, *Symphoricarpos albus*

3. Cowdenknowes, 5737, Habitat moderately good in part ♥

Policies, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex remota</i>		574378		2010	LWG	River's edge
	<i>Geranium pusillum</i>		577370		1998	MEB	Garden weed
	<i>Lathraea squamaria</i>	Eleven	573376	77	2010	LWG	On <i>Ulmus</i>
		Ten +	574376	09	2010	LWG	On <i>Ulmus</i>
		Sixty	576370	46	2006	JTM	Under <i>Prunus laurocerasus</i>
	[<i>Trifolium arvense</i>]		5737		1998	MEB	More or less casual

Selected axiophytes: *Cystopteris fragilis*, 5737, *Elymus caninus*, 5737, *Geranium sylvaticum*, 5737

Other axiophytes: *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Dactylorhiza fuchsii*, *Galium odoratum*, *Hyacinthoides non-scripta*, *Mercurialis perennis*, *Origanum vulgare*, *Polystichum aculeatum*, *Rhinanthus minor*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Doronicum pardalianches*, *Rhododendron ponticum*

Former rare or scarce species: *Melica uniflora*, 5737, 1835, Sir William Jardine, *Viburnum opulus*, 5737, 1835, Sir William Jardine

4. Earlston, 5638, 5639, 5738, 5838, Habitat fragmentary

Ruderal, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Aethusa cynapium</i>		579385		1995	MEB	
	<i>Carex remota</i>	One	565391	51	2010	MEB	
	[<i>Chrysanthemum segetum</i>]		572386	33	2009	MEB	Sown in municipal flower bed
			572387	40	2009	MEB	Sown in municipal flower bed
	[<i>Convolvulus arvensis</i>]		575383	28	2010	MEB	Roadside
			575384		2009	LWG	Road verge
	[<i>Daucus carota</i> subsp. <i>carota</i>]		572387	40	2009	MEB	Sown in municipal flower bed
	[<i>Echium vulgare</i>]		572386	33	2009	MEB	Sown in municipal flower bed
			572387	40	2009	MEB	Sown in municipal flower bed
	[<i>Euonymus europaeus</i>]	Few	565390		2010	LWG	Planted
	<i>Lathraea squamaria</i>	Large	566389	12	2010	LWG	On <i>Acer campestre</i>
		90	566389	42	2010	MEB	On <i>Prunus avium</i>
		Ten	569382	88	2010	MEB	On <i>Prunus avium</i>
	[<i>Malva moschata</i>]	Small	583384		2010	LWG	Roadside

[<i>Trifolium arvense</i>]		579385	56	2010	MEB	Roadside, railway introduction
		580385	79	2010	MEB	Pathside, railway introduction
		580386		2001	LWG	Railway introduction
		581386	00	2010	MEB	Pathside, railway introduction

Selected axiophytes: *Chrysosplenium alternifolium*, 565390, *Cystopteris fragilis*, 574384, *Elymus caninus*, 568384, *Geranium sylvaticum*, 567386, *Primula veris*, 573380, *Prunus padus*, 565389, 565390, 568384, [*Rosa rubiginosa*], 575383, [*Salix pentandra*], 572386, *Solanum dulcamara*, 575382, 575383, 575386, 579385

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Festuca gigantea*, *Galium odoratum*, *Hyacinthoides non-scripta*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Centranthus ruber*, *Doronicum pardalianches*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*, *Rhododendron ponticum*

Former rare or scarce species: *Hypericum maculatum* subsp. *obtusiusculum*, 5738, 1926, Anon

5. Gledswood, 5734, 5834, Habitat fine in part ♥♥♥

Woodland, riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Euonymus europaeus</i>		589344	44	1989	DW	Walton
*	<i>Lathraea squamaria</i>		586342		1995	MEB	
*			586344	20	2010	LWG	
*			587342		1995	MEB	
*		2 patches	588344	50	2010	LWG	On <i>Ulmus</i>
*		2 patches	589344	81	2010	LWG	On <i>Ulmus</i>
*	<i>Potamogeton x olivaceus</i>		5834		2004	RVL, TJP	
*	<i>Rubus caesius</i>		5834		1989	MEB	

Selected axiophytes: *Campanula latifolia*, 5834, *Carex acuta*, 587342, *Chrysosplenium alternifolium*, 577347, 577348, 578347, *Geranium sylvaticum*, 5834, *Helianthemum nummularium*, 5834, *Primula veris*, 585345, 588346, *Prunus padus*, 5834, *Ranunculus fluitans*, 5834, *Ranunculus trichophyllus*, 5834, *Saxifraga granulata*, 5834, *Stellaria nemorum*, 5834

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Leontodon hispidus*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Ranunculus bulbosus*, *Sanicula europaea*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: *Potamogeton x olivaceus*, 5734, 1971, NTHH

6. Gaitheugh (Gateheugh), 5833, 5933, 5934, Habitat outstanding ♥♥♥♥♥

Woodland, riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Arabis hirsuta</i>	Patch	590338	20	2009	LWG	
*		Ninety	591340	30, 41	2010	LWG	
*	<i>Astragalus glycyphyllos</i>	One	590344	32	2010	LWG	
*	<i>Carex remota</i>	One	591342	54	2009	LWG	
*			593340		1999	LWG	
*	<i>Carex vesicaria</i>	Patch	5934		2010	LWG	River's edge
*	<i>Circaea x intermedia</i>	Small	584322	45	2010	LWG	Patch near river
*		Small	585336	80	2010	LWG	Patch near river
*	<i>Clinopodium vulgare</i>	Small	591344		2001	DJMcC	Foot of burn
*	<i>Convallaria majalis</i>	3x2m	592343	10	2009	LWG	Dry rocky ridge
*	<i>Echium vulgare</i>	One	590344		2010	LWG	Eight in 2005
*	<i>Euonymus europaeus</i>	One	590343		1995	MEB	
*		Two	590344		2001	MEB	100m up dean on W side
*			591340	30, 41	2010	LWG	
*	<i>Galium boreale</i>	Small	590338	20	2009	LWG	On cliff
*	<i>Galium sternerii</i>	Few	591342	71	2010	LWG	
*	[<i>Geranium lucidum</i>]		590338		2001	MEB	Near boat landing, introduction
*		Large	591341	83	2001	MEB	Introduction
*	<i>Hypericum x desetangii</i>		590344	20	2005	LWG, BNC	
*	<i>Lathraea squamaria</i>	2 patches	590344		2001	MEB	
*		Large	591340		2001	MEB	
*	<i>Melampyrum pratense</i>	Patch	590337	06	2010	LWG	
*	<i>Melica uniflora</i>	Patch	589337	97	2010	LWG	
*		Large	591339	13	2001	MEB	
*		Modest	592342	05	2001	MEB	
*	[<i>Mycelis muralis</i>]		590345		2009	LWG	Introduction
*	<i>Polypodium interjectum</i>		5934		1974	RWMC	Recent survey inadequate
*	<i>Ranunculus auricomus</i>		593343		1972	AJK	A J Kerr, hereabouts 1981, MEB
*	<i>Sorbus rupicola</i>	Eight	591343	53	2010	LWG	
*			592342		1989	MEB	To 4m
*	<i>Thalictrum minus</i>		590338		1981	MEB	
*			591339		1989	MEB	
*			593340		1999	LWG	
*	<i>Viola hirta</i>		590343		1973	DGL	Recent survey inadequate
*			592343		1993	MEB	

Selected axiophytes: *Campanula latifolia*, 5833, *Carex acuta*, 5934, *Elymus caninus*, 591339, 591345, *Geranium sylvaticum*, 5833, 5934, *Helianthemum nummularium*, 5934, *Juniperus communis subsp. communis*, 590338, 592342, three bushes, *Populus tremula*, 592342, *Prunus padus*, 5833, *Solidago virgaurea*, 5833, 5934, *Stellaria nemorum*, 5833, 5934

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Rhinanthus minor*, *Scirpus sylvaticus*, *Senecio aquaticus*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

Former rare or scarce species: *Geranium sanguineum*, 5934, 1868, J Hardy, *Gnaphalium sylvaticum*, 5934, 1853, Dr G Johnston, 'abounds to excess', *Melica nutans*, 5934, 1983, J G Roger, *Milium effusum*, 5933, 1872, A Brotherston, perhaps an introduction at Bemersyde House, *Teesdalia nudicaulis*, 5934, 1877, A Brotherston

7. Redpath Dean, 5836, Habitat fragmentary

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ranunculus auricomus</i>	Three	582363	55	2005	JTM	Dr J T Mercer, roadside

Selected axiophytes: *Carex paniculata*, 581363, *Chrysosplenium alternifolium*, 585363, *Geranium sylvaticum*, 5836, *Prunus padus*, 580360, 585363

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Cardamine amara*, *Carex disticha*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Rhinanthus minor*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Doronicum pardalianches*, *Rhododendron ponticum*

Former rare or scarce species: *Euonymus europaeus*, 5836, 1835, Sir William Jardine, *Rubus saxatilis*, 5836, 1835, Sir William Jardine

8. Black Hill, 5836, 5837, Habitat good in part ♥♥

Acid grassland, screes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment	
	<i>Cryptogramma crispa</i>	4 cells	583369		2010	MEB	Scree	
		13 cells	583370		2010	MEB	Scree	
		4 cells	583371		2010	MEB	Scree	
		5 cells	584369		2010	MEB	Scree	
		22 cells	584371		2010	MEB	Scree	
		13 cells	584372		2010	MEB	Scree	
				585368	68	2010	MEB	Scree in whins
		6 cells	585372		2010	MEB	Scree	
				586368	49	2010	MEB	Scree in whins
				586369	92	2010	MEB	Scree in whins
		9 cells	586372		2010	MEB	Scree	
				586373	91	2010	MEB	Scree
				587369	02, 14, 24	2010	MEB	Scree in whins
		Two	587372		15	2010	MEB	Under rock overhang

Selected axiophytes: *Ceratocarpus claviculata*, 581368, 582368, 583367, 583370, 584367, 584372, 585367, 585368, 586368, 586369, *Equisetum sylvaticum*, 587375, *Juniperus communis subsp. communis*, 586372, one bush, *Viola lutea*, 586373

Other axiophytes: *Achillea ptarmica*, *Anemone nemorosa*, *Galium odoratum*, *Hyacinthoides non-scripta*

Former rare or scarce species: *Diphysastrum alpinum*, 584372, 1977, A J Smith, MEB

9. Dryburgh, 5832, 5931, 5932, Habitat fragmentary

Ruderal, riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium arvense</i>		592327	05	2010	LWG	On basalt
	<i>Clinopodium vulgare</i>		595316		1995	MEB	
	<i>Hypericum x desetangsii</i>	Small	593324	16	2010	LWG	On basalt
	<i>Lactuca virosa</i>		594315		1999	LWG	
		Twelve	595316		1995	MEB	On rocks
		Two	595317	14	2005	MEB	
	[<i>Malva moschata</i>]		5932		2010	LWG	Near Wallace statue and fields near, introduction
	<i>Persicaria lapathifolia</i>		5832		2010	LWG	Riverside
	<i>Ranunculus auricomus</i>	2 patches	592322	65	2010	LWG	
			593324		2006	LWG	Near Chain Bridge
	<i>Trifolium striatum</i>		592327	05	2010	LWG	On basalt

Selected axiophytes: *Agrimonia eupatoria*, 586329, *Elymus caninus*, 594315, *Knautia arvensis*, 593324, *Saxifraga granulata*, 5932, *Solanum dulcamara*, 594315

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Alisma plantago-aquatica*, *Allium ursinum*, *Brachypodium sylvaticum*, *Conopodium majus*, *Galium odoratum*, *Hypericum hirsutum*, *Ononis repens*, *Polystichum aculeatum*, *Quercus petraea*, *Ranunculus aquatilis*, *Ranunculus bulbosus*, *Sanicula europaea*, *Scirpus sylvaticus*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Hyacinthoides x massartiana*

Former rare or scarce species: *Arenaria serpyllifolia* subsp. *leptoclados*, 5931, 1907, Dr G C Druce, status unknown, [*Geranium lucidum*], 5931, 1836, presumed introduction, Dr F Douglas, [*Medicago minima*], 5931, 1946, Miss H M Brown, presumed introduction

10. Bemersyde Hill, Scott's View, 5933, 5934, Habitat moderately good in part ♥

Acid grassland, knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium arvense</i>	Patch	593339	55	2008	MEB	
		4 cells	594340		2008	LWG	
	<i>Cerastium semidecandrum</i>		593342		1995	MEB	
			593344		1993	MEB	
			595343		1993	MEB	
	<i>Filago minima</i>	Two	591337	57	2008	MEB	
	<i>Scleranthus annuus</i>	One	591337	78	2010	MEB	Rocky bank
		4 cells	592338		2008	LWG	
		Large	593338	35	2010	LWG	
			593339	59	2010	LWG	Below road
	<i>Spergularia rubra</i>		590337	81	2008	LWG	
		One	591337	78	2008	MEB	
		Few	592338	87	2008	MEB	
			593338	09, 19, 29	2008	MEB	
		4 cells	593339		2008	LWG	
		Few	593342	11	2008	MEB, PFB	Below whins
		Scattered	594343		2008	MEB	Above road
		Scattered	595342		2008	MEB	Above road
		Scattered	595343		2008	MEB	Above road

Selected axiophytes: *Stellaria pallida*, 595342, 596343Other axiophytes: *Thymus polytrichus*, *Vulpia bromoides*Former rare or scarce species: *Botrychium lunaria*, 5934, 1831, Dr W Baird**11. Halidean Mill Moss, 5934, 5935, Habitat fragmentary**

Moss (and former pond)

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex vesicaria</i>		594350	12	2010	LWG	
	<i>Galium palustre subsp. elongatum</i>		5934		1999	LWG, KAV	
	<i>Hippuris vulgaris</i>		594349	26	2010	LWG	
			594350	70	2010	LWG	

Selected axiophytes: *Carex paniculata*, 5934, *Menyanthes trifoliata*, 5934Other axiophytes: *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Carex disticha*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Potentilla palustris*, *Valeriana officinalis*, *Veronica scutellata*Former rare or scarce species: [*Nuphar lutea*], 5934, 1946, Miss H M Brown, presumed introduction, *Silaum silaus*, 5934, 1868, J Hardy

12. Redpath Moss (part NT63), 5936, 6036, Habitat fine ♥♥♥

Carr woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex vesicaria</i>	Large	599367	34	2010	MEB, LWG	
			600366		1995	MEB	
	<i>Corallorhiza trifida</i>	Seven	599367		1980	MEB	Not seen 2010
	<i>Galium palustre subsp. elongatum</i>		599365		2010	MEB, LWG	
		Large	600368	77	2010	MEB, LWG	
	<i>Pyrola minor</i>	2 patches	599366	59, 68	2010	MEB, LWG	
	<i>Listera ovata</i>	15	600367	94	2010	MEB, LWG	
		30	600368	82	2010	MEB, LWG	
		4 cells, 50	601367		2010	MEB, LWG	
	<i>Silau silaus</i>	One	598367	76	2010	MEB, LWG	
	<i>Trollius europaeus</i>	Two	601366	49	2010	MEB, LWG	
	<i>Vaccinium oxycoccus</i>	Large	599366	56, 73, 80	2010	MEB, LWG	

Selected axiophytes: *Carex curta*, 599365, 599366, 600366, 600367, *Carex paniculata*, 599367, *Menyanthes trifoliata*, 599366, 600366, *Solanum dulcamara*, 598366, 599366, 601366

Other axiophytes: *Achillea ptarmica*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Trifolium medium*, *Valeriana dioica*, *Veronica scutellata*

13. Sundry arable habitats NT53, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Atriplex littoralis</i>		585346		2003	LWG	Gledswood, set-aside
	<i>Fumaria densiflora</i>		595398		2000	LWG	West Morriston, set-aside
			598354		2005	LWG	Halidean Mill, sown grass
	<i>Hypericum humifusum</i>		595398		2000	LWG	West Morriston, set-aside
	<i>Persicaria lapathifolia</i>		592352		1999	LWG	Halidean Mill, turnips
			598354		2005	LWG	Halidean Mill, sown grass
	<i>Vicia sativa subsp. segetalis</i>		596355		1981	MEB	Craighouse, rape

Selected axiophytes: *Galeopsis speciosa*, 5832, Dryburgh, 591398, Grizzlefield, *Lamium confertum*, 592352, 598354, Halidean Mill

14. Sundry NT53, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex vesicaria</i>		579398		1995	MEB	Grizzlefield, pond west of, dried-up pond [recorded as 579387]
	<i>Cynoglossum officinale</i>	Few	598363	11, 12, 24	2010	MEB, LWG	Park Quarry, three flowering plants and several rosettes

Selected axiophytes: *Geranium sylvaticum*, 596362, Redpath Hill, *Menyanthes trifoliata*, 587379, Georgefield, pond south of

Former rare or scarce species: *Galium mollugo*, 5939, 1931, A A Falconer, West Morriston, possible introduction

NT54 Lauder

(Systematic sample survey 1997, further samples to 2009)

Hectad Description

Overview

78% of the hectad NT54 is in Berwickshire. It lies between 116m by the Leader Water by Carolside and 368m at Inchkeith Hill. This is the heart of Lauderdale with productive farmland on the Old Red Sandstone. Away from the vale, the hill land lies on acid Silurian rocks and is mainly improved grassland except for the moorland on Lauder Common.

There is a modest amount of forestry. The town of Lauder has a small industrial estate on the site of the old railway station. The policies of Thirlestane Castle lie adjacent to the town. The A68 and A697 trunk roads cross the hectad.

Habitats

The **mixed woodland** of alder, elm, ash and oak that is so much a feature beside the lower part of the Leader Water in NT53 continues through the policies of Carolside and Chapel on Leader to Whitslaid. More fragmentary woodland and scrub is found by the Boondreigh Water. The woods are discontinuous and much modified by plantings but botanical interest remains, especially on the steepest banks. *Prunus padus* and *Saxifraga granulata* are features of the woodland. *Euonymus europaeus* is present as a presumed native at Carolside and Whitslaid. Carolside also has *Lathraea squamaria* and *Melica uniflora*. Chapel on Leader and Whitslaid have *Clinopodium vulgare* while the latter adds *Ranunculus auricomus* and *Rosa pimpinellifolia*. *Ranunculus auricomus* also occurs by the Boondreigh Water with *Solidago virgaurea* and a few native bushes of *Viburnum opulus*. *Allium paradoxum* and *Claytonia sibirica* have spread down the Leader Water from Boon Bridge.

There were formerly extensive oakwoods by the Earnscleugh Water at Edgarhope Wood, but only a few oaks remain there at the foot of conifer plantations. Lower down the burn at Drummonds-hall there is mixed woodland at the transition from the Old Red Sandstone to the Silurian, but it is almost all plantation and the botanical interest is fragmentary.

The **riversides** of the upper Leader and Boondreigh Waters have extensive banks of sand and gravel, with *Lepidium heterophyllum* constant. The extent of the sand and gravel increases upstream from Thirlestane Castle and is notable at Boon Bridge and up the Boondreigh Water. Here *Chenopodium bonus-henricus* and *Mimulus x robertsii* have become widely naturalised and

Rhinanthus minor is occasional. There are pools and oxbows in places, especially up the Boondreigh Water with *Cardamine amara*, *Iris pseudacorus* and *Lychnis flos-cuculi*.

The **hill burns** are quite varied. The finest botanical feature of the hectad is the juniper scrub up the Blythe Water, the name for the upper part of the Boondreigh Water. This has recently been altered by extensive planting of juniper and the naturalness of the site has been somewhat spoilt in the process. Other species of interest there include *Carex laevigata*, *Geranium sylvaticum*, *Helianthemum nummularium* and *Solidago virgaurea*. Where the Brunta Burn runs into the Blythe Water there is a wet meadow with *Veronica catenata*.

The Lauder Burn has its source in Roxburghshire at Threepwood Moss. The upper Berwickshire sections of the burn have an aquatic flora of a type not surviving elsewhere in the county comprising *Apium inundatum*, *Potamogeton alpinus* and *Sparganium emersum* with *Senecio aquaticus* at the banks. Flushed areas adjacent have *Carex paniculata*, *Crepis paludosa* and *Valeriana dioica*. There are rocky places and screes near the burn with a varied flora including *Gymnocarpion dryopteris*, *Juniperus communis* and *Viola lutea*. The Harry Burn awaits detailed survey but is thought to be much less varied.

Lauder Common is **moorland** of unprepossessing appearance. Its modest flora is of some interest as it has been less regularly burned than the Lammermuir grouse moors and patches of active *Sphagnum* survive with *Erica tetralix* and *Narthecium ossifragum*. However the adjacent moorland-edge at Muircleugh is largely drained but, though *Ranunculus hederaceus* is still present in quantity, there is a considerable list of local extinctions.

There is a modest but interesting **wetland** at Pickie Moss with *Carex curta*, *Carex paniculata*, *Pedicularis palustris* and *Salix repens*. *Pyrola minor* grows in the willow carr. A farm pond at Legerwood formerly had *Apium inundatum* and *Rumex palustris* at its muddy margins but the pond is now fenced and such mud communities have not been seen there recently though the charophyte *Nitella flexilis/opaca* agg. was recorded in 1997. A small colony of *Trollius europaeus* survives by the Washing Burn but with few associates of note.

The **policies** of Thirlestane Castle are where Andrew Brotherston collected the nationally rare *Carex muricata* subsp. *muricata* on several occasions from 1874 to 1878, but it has not been seen since. Well-authenticated specimens are preserved at the Natural History Museum in London. It may have been introduced accidentally with a seed-mixture of grasses and sedges to naturalise in woodland as *Milium effusum* was recorded before 1902 and *Luzula luzuloides* and *Carex divulsa* subsp. *leersii* are present today. The policy woodlands have only modest botanical interest unless *Epipactis helleborine* survives: this was last seen at Standalane Plantation in 1982.

The **arable fields** are well managed and arable weeds are few, though the fields at the edge of the town at Lauder have occasional weedy corners. There have been a few surprises: *Fumaria purpurea* turned up at the Golf Course in 2004 and *Bromus commutatus* near the Milsie Burn in 2007. *Galeopsis speciosa* is occasional, being much less frequent here than in the adjacent hectad NT64. *Aethusa cynapium* has been seen only as a weed below a wall at Legerwood Kirk.

The **town** of Lauder has notable high stone walls with a range of neophytes including *Euphorbia cyparissias* and *Cymbalaria muralis*. *Cymbalaria hepaticifolia* and *C. pallida* also occur around the town. *Viola tricolor* has been seen on the industrial estate.

The **roadsides** have the now-familiar halophytes including *Cochlearia danica* and *Sagina maritima* from 2007, while *Rumex longifolius* is quite frequent further from the tarmac. The *Cochlearia* has been notably slow to colonise the A68 south from Edinburgh. There is a remarkable colony of

Erinus alpinus by the A68 at Chapel on Leader where it has colonised a rock cutting on the Old Red Sandstone in quantity.

Index of Sites NT54 Lauder

GR - NT	Ref	Site	Habitats
5045, 5046, 5146	1	Lauder Common, east section, Muircleugh	Moorland and moorland edge
5144, 5145, 5146, 5246	2	Lauder Burn	Burnsides and screes
5247, 5347	3	Lauder	Ruderal
5248, 5347, 5348	4	Thirlestane Castle	Riversides, policy woodland
5448, 5449	5	Edgarhope Wood, Drummonds-hall	Former oakwood
5540, 5640	6	Kedslie	Woodland
5640	7	Carolside, north section	Wooded riversides
5542, 5641, 5642	8	Chapel on Leader	Wooded riversides
5544	9	Whitslaid	Wooded riversides
5545	10	Boon Bridge	Sand and gravel at riverside
5645, 5646, 5647, 5747, 5848	11	Boondreigh Water, Dod Mill	Burnsides, part wooded
5748, 5749, 5848	12	Blythe Water	Juniper scrub
5848	13	Pyatshaw Meadow, by Brunta Burn, Blythe Water	Pasture with wetland
5843	14	Legerwood Pond	Farm pond
5844, 5944	15	Pickie Moss	Mire with carr woodland
54	16	Sundry	Arable habitats
54	17	Sundry	Sundry habitats

Site Register NT54 Lauder

1. Lauder Common, east section, Muircleugh, 5045, 5046, 5146, Habitat moderately good in part ♥

Moorland and moorland edge

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>	Two	509471	40	2009	MEB	Old track, overgrown with <i>Calluna</i>

Selected axiophytes: *Ceratocarpus claviculata*, 501461, *Narthecium ossifragum*, 502457, *Viola lutea*, 502473

Other axiophytes: *Briza media*, *Dactylorhiza maculata*, *Erica tetralix*, *Festuca pratensis*, *Isolepis setacea*, *Rhinanthus minor*, *Thymus polytrichus*, *Valeriana dioica*

Former rare or scarce species: *Botrychium lunaria*, 5046, 1873, A Kelly, very abundant, *Genista anglica*, 5046, 1902, A Kelly, W Shaw, *Gentianella campestris*, 5046, 1873, A Kelly, in some places the old lea is perfectly purpled with it, *Lycopodium clavatum*, 5046, 1965, DGL, *Ophioglossum vulgatum*, 5046, 1873, A Kelly, over an area of several acres, *Sedum villosum*, 5045, 1902, A Kelly, W Shaw, *Silaum silaus*, 5046, 1902, A Kelly, W Shaw, Fir Stell

2. Lauder Burn, 5144, 5145, 5146, 5246, Habitat good ♥♥

Burnsides and screes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Apium inundatum</i>	Large	516452		1997	MEB	
	<i>Potamogeton alpinus</i>		516452		1997	MEB	
	<i>Rosa pimpinellifolia</i>	Patch	516458	34	2004	MEB	
	<i>Sparganium emersum</i>		516452		1997	MEB	

Selected axiophytes: *Callitriche hermaphroditica*, 5145, *Campanula latifolia*, 513455, *Carex paniculata*, 517449, *Festuca filiformis*, 517457, *Geranium sylvaticum*, 5145, *Gymnocarpium dryopteris*, 519462, 522465, 5347, *Helianthemum nummularium*, 5144, 516458, 5146, 520440, *Juniperus communis subsp. communis*, 517442, 518441, 519461, 519462, 520462, nine bushes, *Prunus padus*, 5145, *Viola lutea*, 519457, 524467

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Potentilla palustris*, *Senecio aquaticus*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*

Intrusive neophytes: *Heracleum mantegazzianum*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: *Botrychium lunaria*, 5246, 1886, Rev T Martin, *Coeloglossum viride*, 5145, 1873, A Kelly, old lea at Muircleugh, *Cryptogramma crispa*, 5246, 1886, Rev T Martin, Chester Hill, *Ophioglossum vulgatum*, 5145, 1886, Rev T Martin, pasture near Muircleugh, *Ophioglossum vulgatum*, 5246, 1886, Rev T Martin, Chester Hill, [*Ranunculus circinatus*], 526471, 1974, COB, possible error

3. Lauder, 5247, 5347, Habitat fragmentary

Ruderal

Selected axiophytes: *Chenopodium bonus-henricus*, 5247

Intrusive neophytes: *Buddleja davidii*, *Crococsmia x crocosmiiflora*, *Sedum album*, *Symphoricarpos albus*

4. Thirlestane Castle, 5248, 5347, 5348, Habitat fragmentary

Riversides, policy woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Carex divulsa subsp. leersii</i>]		534477		1997	MEB	Introduction
	[<i>Montia fontana subsp. chondrosperma</i>]		534476		1997	MEB	Weed on drive

Selected axiophytes: *Chenopodium bonus-henricus*, 539476, 533484, naturalised by Leader Water, *Chrysosplenium alternifolium*, 542483, 545488, *Geranium sylvaticum*, 530471, 5348, 542483, *Gymnocarpium dryopteris*, 5248, *Prunus padus*, 542483

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Allium ursinum*, *Anemone nemorosa*, *Callitriche hamulata*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Geum rivale*, *Iris pseudacorus*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Origanum vulgare*, *Ranunculus aquatilis*, *Rhinanthus minor*, *Stellaria holostea*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: *Blysmus compressus*, 5348, 1873, A Kelly, very plentiful, [*Carex muricata subsp. muricata*], 5347, 1878, A Brotherston, perhaps an introduction, *Epipactis helleborine*, 5248, 1982, Miss L Whiteside, *Hippuris vulgaris*, 5348, 1902, A Kelly, W Shaw, [*Milium effusum*], 5347, 1874, A Kelly, perhaps an introduction, [*Plantago media*], 5347, 1902, W Shaw, Castle lawn, perhaps an introduction, *Platanthera bifolia*, 5347, 1902, A Kelly, W Shaw, *Pyrola minor*, 5248, 1902, A Kelly, W Shaw, *Ranunculus circinatus*, 530472, 1989, Dr PS Lusby, *Viburnum opulus*, 5347, 1902, A Kelly, W Shaw

5. Edgarhope Wood, Drummonds-hall, 5448, 5449, Habitat fragmentary

Former oakwood

Selected axiophytes: *Callitriche hermaphroditica*, 542483, *Chrysosplenium alternifolium*, 542483, 545488, *Geranium sylvaticum*, 542483, *Prunus padus*, 542483

Other axiophytes: *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*

Former rare or scarce species: *Crepis mollis*, 5449, 1853, Dr G Johnston, by the Earnscleugh Water

6. Kedslie, 5540, 5640, Habitat fragmentary

Woodland

Selected axiophytes: *Campanula latifolia*, 555404, *Chrysosplenium alternifolium*, 564405

Other axiophytes: *Adoxa moschatellina*

7. Carolside, north section, 5640, Habitat moderately good ♥

Wooded riversides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euonymus europaeus</i>	Patch	564405		1995	MEB	
	[<i>Geranium lucidum</i>]		564405		1995	MEB, PFB	Introduction
	<i>Lathraea squamaria</i>		564405		1995	MEB, PFB	
	<i>Melica uniflora</i>		564405		1995	MEB, PFB	

Selected axiophytes: *Prunus padus*, 5640, *Saxifraga granulata*, 563403

Other axiophytes: *Adoxa moschatellina*, *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Cardamine amara*, *Carex caryophylla*, *Carex flacca*, *Conopodium majus*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Origanum vulgare*, *Polystichum aculeatum*, *Stellaria holostea*, *Valeriana officinalis*

8. Chapel on Leader, 5542, 5641, 5642, Habitat moderately good ♥

Wooded riversides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Clinopodium vulgare</i>		563413		1997	MEB	
	[<i>Hypericum humifusum</i>]		563415		1997	MEB	Casual in strawberry field
	<i>Melica uniflora</i>		5641		1997	MEB	
	[<i>Salix caprea subsp. sphacelata</i>]		563413		1997	MEB	Probably planted

Selected axiophytes: *Chrysosplenium alternifolium*, 558427, [*Cystopteris fragilis*], 5641, walls, *Elymus caninus*, 5641, *Geranium sylvaticum*, 5641, *Prunus padus*, 563413, *Saxifraga granulata*, 5641

Other axiophytes: *Adoxa moschatellina*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Galium odoratum*, *Hypericum hirsutum*, *Iris pseudacorus*, *Lysimachia nemorum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Stellaria holostea*, *Valeriana officinalis*

Intrusive neophytes: 8, *Allium paradoxum*, *Doronicum pardalianches*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: [*Malva moschata*], 5641, 1902, A Kelly, W Shaw, introduction

9. Whitslaid, 5544, Habitat moderately good ♥

Wooded riversides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex pendula</i>		5544		2006	JTM	Mercer
	<i>Clinopodium vulgare</i>		558440		2002	LWG	
	<i>Euonymus europaeus</i>	Four	558440		2002	LWG	
	<i>Melica uniflora</i>		558440		2002	LWG	
	<i>Myosotis ramosissima</i>		5544		2006	JTM	Mercer
	<i>Ranunculus auricomus</i>	Modest	557440		2008	LWG	Good patch
	<i>Rosa pimpinellifolia</i>		558440		2002	LWG	

Selected axiophytes: *Campanula latifolia*, 557440, *Chrysosplenium alternifolium*, 5544, [*Cystopteris fragilis*], 5544, wall, *Geranium sylvaticum*, 5544, *Prunus padus*, 5544

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Conopodium majus*, *Geum rivale*, *Hypericum hirsutum*, *Iris pseudacorus*, *Lysimachia nemorum*, *Mercurialis perennis*, *Stellaria holostea*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*

10. Boon Bridge, 5545, Habitat moderately good ♥

Sand and gravel at riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Spergularia rubra</i>		557456		2008	LWG	

Selected axiophytes: *Chenopodium bonus-henricus*, 557455, 557456, naturalised by Leader Water, *Chrysosplenium alternifolium*, 557456

Other axiophytes: *Ajuga reptans*, *Cardamine amara*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Galium odoratum*, *Geum rivale*, *Iris pseudacorus*, *Lysimachia nemorum*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*

11. Boondreigh Water, Dod Mill, 5645, 5646, 5647, 5747, 5848, Habitat good ♥♥

Burnsides, part wooded

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ranunculus auricomus</i>		565475		1997	MEB	
	<i>Ranunculus auricomus</i>		5747		1997	MEB	
	<i>Spergularia rubra</i>		5645		1997	MEB	
	<i>Viburnum opulus</i>		560456		1997	DGL	

Selected axiophytes: *Agrimonia eupatoria*, 562456, *Chenopodium bonus-henricus*, naturalised by burn, 5747, *Chrysosplenium alternifolium*, 565475, *Geranium sylvaticum*, 575478, *Prunus padus*, 5645, 570476, *Saxifraga granulata*, 5645, 565460, 5747, *Solidago virgaurea*, 5747

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Callitriche hamulata*, *Cardamine amara*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species: *Cirsium heterophyllum*, 5647, 1874, A Brotherston, Dean near ruins of Old Thirlestane Castle, *Gymnadenia conopsea subsp. densiflora*, 5848, 1872, Dr P W Maclagan, [*Rumex pseudoalpinus*], 5647, 1874, A Kelly, glade of East Water (the east boundary of Lauderdale, but also apparently used for Leader Water), introduction, *Trollius europaeus*, 5647, 1902, W Shaw, Thirlestane, abundant in an old grass field (ambiguous locality, but plausible associate of *Cirsium heterophyllum*), [*Vicia sativa subsp. segetalis*], 5647, 1965, AGL, roadside, naturalised introduction

12. Blythe Water, 5748, 5749, Habitat excellent ♥♥♥♥

Juniper scrub

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex laevigata</i>	Large	575497		1999	MEB, PFB	

Selected axiophytes: *Ceratocarpus claviculata*, 573498, *Geranium sylvaticum*, 5749, *Helianthemum nummularium*, 5749, *Juniperus communis subsp. communis*, 576486 to 579492, eighteen 100m cells, 121 bushes, *Solidago virgaurea*, 5749

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Anemone nemorosa*, *Briza media*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza maculata*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Rhinanthus minor*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

13. Pyatshaw Meadow, by Brunta Burn, Blythe Water, 5848, Habitat moderately good in part ♥

Pasture with wetland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex laevigata</i>	Clump	580483		1999	MEB, PFB	
	<i>Veronica catenata</i>		584483		1991	MEB	

Other axiophytes: *Achillea ptarmica*, *Festuca pratensis*

14. Legerwood Pond, 5843, Habitat fragmentary

Farm pond

Charophytes: *Nitella flexilis/opaca* agg., 584439, 1997, J J Day

Selected axiophytes: *Zannichellia palustris*, 584436

Other axiophytes: *Carex disticha*, *Festuca pratensis*, *Iris pseudacorus*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species: *Apium inundatum*, 5843, 1960, AGL, *Ranunculus peltatus*, 5843, 1961, DGL, *Rumex palustris*, 5843, 1960, AGL

15. Pickie Moss, 5844, 5944, Habitat good ♥♥

Mire with carr woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Pyrola minor</i>		5844		1997	MEB, PFB	

Selected axiophytes: *Carex curta*, 5844, *Carex paniculata*, 5844, *Festuca filiformis*, 5844, *Pedicularis palustris*, 5844, *Salix repens*, 5844

Other axiophytes: *Achillea ptarmica*, *Carex acutiformis*, *Conopodium majus*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Erica tetralix*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Rhinanthus minor*, *Valeriana officinalis*, *Veronica scutellata*

Former rare or scarce species: *Drosera rotundifolia*, 5844, 1972, R Harper

16. Sundry arable habitats NT54, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Bromus commutatus</i>		544458		2007	LWG	Blainslie, north of Milsie Burn, quite plentiful in barley, in field corner
	<i>Fumaria purpurea</i>		528465		2004	JTM	Mercer, Lauder Golf Course
	<i>Persicaria lapathifolia</i>		562422		1999	LWG	Birkenside, Earlston

Selected axiophytes: *Galeopsis speciosa*, 531472, Lauder, Calfward Park, 545462, Lauder, Lauder Barns farm, 5543, Birkenside, Leader Water and oxbow near, 553455, Lauder, St Leonard's farm, 568400, Earlston, Huntshaw farm, 5641, Chapel on Leader, 564468, East Mains, near, *Lamium amplexicaule*, 527463, Lauder Common, bank of new pond on Golf Course, 573427, Legerwood Burn, 5747, Cambridge, south of, *Lamium confertum*, 566400, Huntshaw Hill, 568400, Earlston, Huntshaw farm

Former rare or scarce species: *Stachys arvensis*, 5247, 1902, A Kelly, W Shaw, Crofts

17. Sundry NT54, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Aethusa cynapium</i>]		594434		1997	MEB	Weed at Legerwood Kirk
	<i>Catabrosa aquatica</i>	Large	572426		2004	LWG	Birkenside, old mill pond
	[<i>Convolvulus arvensis</i>]		5146		1999	LWG, KAV	Velander, Lauder Burn, weed cast out from Lauder
	<i>Hippuris vulgaris</i>		572426		2004	LWG	Birkenside, old mill pond
	<i>Sherardia arvensis</i>		512483		2006	JM, ENHS	Muscott, Harry Burn, near
	<i>Trollius europaeus</i>	Six	519476		2003	JTM	Mercer, Washing Burn
	<i>Viola tricolor subsp. tricolor</i>		522482		1997	MEB	Lauder, near old railway

Selected axiophytes: *Callitriche hermaphroditica*, 5543, Birkenside, Leader Water and oxbow near, 584483, Pyatshaw Burn, mouth of, *Campanula latifolia*, 549464, West Mains, near, *Ceratocarpus claviculata*, 5747, Cambridge, south of, 598498, Bruntaburn Mill, *Juniperus communis subsp. communis*, 536404, Kedsle Hill, six bushes, *Primula veris*, 584482, Lauder, near, *Prunus padus*, 549464, West Mains, near, *Ranunculus trichophyllus*, 5543, Birkenside, Leader Water and oxbow near, *Viola lutea*, 525437, Lauder Burn, near source

Former rare or scarce species: *Galium mollugo*, 5249, 1902, A Kelly, W Shaw, Newmills, Lauder, *Genista anglica*, 5947, 1931, A A Falconer, Whiteburn, Lauder, *Linnaea borealis*, 5642, 1894, R H Dunn, Birkhill,

Lauder, *Pyrola minor*, 5948, 1869, J Hardy, Spottiswoode, near, *Vicia orobus*, 5247, 1902, A Kelly, W Shaw, Lauder, vicinity of

NT55 Carfraemill (resurveyed 2009)

Hectad Description

Overview

All of the hectad NT55 is in Berwickshire. It lies between 170m by the Leader Water below Lauderhaugh and 513m at Seenes Law. While the hectad has productive farmland in Lauderdale on the Old Red Sandstone, that is only a relatively small area near the Leader Water below Carfraemill. The rest of the hectad is in the heart of the Lammermuirs on acid Silurian rocks. The land is open grouse moor dissected by a series of burns running south into the Leader Water, except in the northeast which lies across the watershed at the head of the Dye Water.

There is as yet no extensive forestry nor are there wind farms, though a line of pylons crosses the north of the hectad serviced by a well-built track. There is an established plantation at Edgarhope Wood and more recent plantings are evident in the lower sections of the hill burns, many of them orientated to the development of the shooting estates. These are now supplemented by annually-cultivated game strips or longer-term sowings and by new ponds.

Access is available up the main burns. From Dodcleugh for Kelphope Burn, from Longcroft for Soonhope and Whalplaw Burns, from Blythe for the upper Blythe Water, from Spottiswoode for the Brunta Burn and from Byrecleugh for the upper Dye Water. Tollishill gives access to the tops via the upland tracks servicing the pylons and the grouse moors. These tops include Crib Law 509m and Seenes Law 513m. Alternative hill routes are the Herring Road, an old drove road, from Burncastle and the Southern Upland Way from Wanton Walls to Twin Law.

Habitats

The **heather moorland** is almost exclusively managed by muirburn optimised to the grouse-shooting interests. This is not a happy outcome from a botanical viewpoint as it leaves very uniform species-poor communities. While the moors can never have been at all species-rich it is the peatland communities that have suffered most. The Lammermuir peats are mostly very thin and active *Sphagnum* has now been wholly destroyed over much of the area by centuries of muirburn. Species that have suffered include *Erica tetralix*, *Eriophorum vaginatum*, *Empetrum nigrum* and *Vaccinium myrtillus*. *Narthecium ossifragum* is unknown in the hectad but is likely to have occurred in the past. *Genista anglica* is the most recent casualty and was not refound anywhere in the hectad in 2009. Its exact requirements are a little obscure but the frequency of the muirburn appears to be the main problem. Species of the drier slopes have continued to prosper, especially *Erica cinerea* which is locally abundant.

True **blanket bog** with deep peat has been almost entirely lost. There are degraded fragments at North Hart Law and Little Reds Cleugh but the *Rubus chamaemorus* once associated with them was not refound in 2009. Active *Sphagnum* does survive on a few steep north-facing banks in the cleughs and here there are small colonies of *Listera cordata* with a few plants of *Vaccinium vitis-idaea*, otherwise known only on the summit of Crib Law. Clubmosses were formerly found in the open moorland but have disappeared from that habitat, whether from the frequency of muirburn or eutrophication. However *Lycopodium clavatum*, with one plant of *Diphasiastrum alpinum*, has

colonised the **stony sides of the track** servicing the pylons, especially in the passing places where the plants are little disturbed.

The burn-sides are where most of the botanical interest is concentrated. However much of the habitat away from the heather is species-poor **acid grassland**, though that in itself is a habitat of interest. Here one may savour the simple delights of *Lotus corniculatus* and *Thymus polytrichus*. There are also areas of **neutral grassland** with a wider range of species including *Helianthemum nummularium*, but these are localised. Of greater interest are the **screes and rocky places** by the burns which support healthy juniper colonies and populations of such species as *Euphrasia micrantha*, *Gymnocarpion dryopteris*, *Rosa pimpinellifolia* and *Solidago virgaurea*. The best juniper is at Dodcleugh, by the Whalplaw Burn and the Earnscleugh Water (most of the Blythe Water juniper is just south of the hectad). Some of the **cleughs** are quite rich in ferns, especially *Oreopteris limbosperma*, and are now well-colonised by *Epilobium brunnescens* but more montane species are absent. **Native woodland** is very poorly represented, with scraps of birchwood up the Soonhope Burn apparently no longer host to *Melampyrum pratense*.

The botanist soon finds himself working the burn-sides for **wetland communities** and these are far from plentiful. *Juncus articulatus* flushes are only modestly widespread and those with a base-rich influence are scarce. Nevertheless species such as *Carex disticha*, *Geum rivale* and *Valeriana dioica* are not rare. There are two types of more specialised flushes that are of special interest. First and foremost are the **open acid flushes dominated by bryophytes** where *Sedum villosum* can be plentiful. These communities are kept open by a steady flow of spring water. There are not very many of them and they may be changing. A high proportion of the *Sedum villosum* populations recorded around 20 years before were not refound in 2009, especially those lower down the burns. The provisional conclusion is that a number have succumbed to invasion by *Juncus* species (especially *J. effusus*) perhaps mainly as a result of eutrophication. The best *Sedum villosum* flushes surviving may be the two found in cleughs off the upper Soonhope Burn. **Base-rich flushes** are even rarer. There is a fine flush in the upper Whalplaw Burn with *Eriophorum latifolium* and *Eleocharis quinqueflora* and two in the Wheel Burn, a tributary of the Blythe Water, are of a type not found elsewhere in Berwickshire with *Anagallis tenella*, *Parnassia palustris*, *Pedicularis palustris* and *Sagina nodosa*.

An interesting wetland occurs unexpectedly below Addinston Hill in the form of a substantial **wet meadow** on a heavily flushed slope. This is dominated by *Juncus acutiflorus* and *J. articulatus* accompanied by such species as *Achillea ptarmica*, *Briza media*, *Crepis paludosa*, *Geum rivale*, *Lychnis flos-cuculi* and *Valeriana dioica*, all in plenty.

But there is one splendid site that refuses to fit into any simple list of habitats as it includes a **mix of woodland, woodland-edge, base-rich rocky knowes, burn-sides and flushed areas**. This is at Cromwells by the Brunta Burn and home to *Carex laevigata*, *C. pallescens*, *Crepis mollis*, *Gymnadenia conopsea*, *Helianthemum nummularium*, *Melica uniflora* and *Rosa pimpinellifolia* with *Prunus padus* and *Saxifraga granulata* by the burn and *Hyacinthoides non-scripta* in the wood.

The hill burn-sides themselves are only modestly species-rich but below Longcroft the Cleekimin Burn has extensive **gravels** with a rather ruderal flora including plentiful *Carduus crispus*, usually thought of as a more lowland species. *Lepidium heterophyllum* is a specialty of the gravels of the Leader Water as a whole as is *Chenopodium bonus-henricus*, while *Mimulus guttatus* and *M. x robertsii* are sometimes spectacular in the **ox-bows** with *Ranunculus aquatilis*. *Mimulus x burnetii* is plentiful by the Kelphope Burn.

The **damp grassland** adjacent to the Cleckimin Burn and by the Leader Water itself has frequent *Festuca pratensis* and a little *Isolepis setacea*. Just below Carfraemill the Leader Water has well-flushed riversides with much *Geum rivale* and *Iris pseudacorus* together with a little *Chrysosplenium alternifolium* and *Crepis paludosa*.

Edgarhope wood is a plantation on a **former oak wood** site that still has good banks of *Hyacinthoides non-scripta*. Hazeldean Wood has *Prunus padus* as well as hazel, though the wood is only a small group of trees by the lower Kelhope Burn.

Addinston, at the very edge of the arable area, has a diverse **arable weed flora** probably reflecting the light soils and a history of periods in grass between cultivations. Species present include *Fumaria officinalis* subsp. *wirtgenii*, *Fumaria purpurea*, *Lamium amplexicaule*, *L. confertum*, *L. hybridum*, *Persicaria lapathifolia* and *Sherardia arvensis*. *Galeopsis speciosa* occurs elsewhere in the hectad on less well-drained soil.

Index of Sites NT55 Carfraemill

GR - NT	Ref	Site	Habitats
5052, 5152	1	Carfraemill, Leader Water near	Flushed riverside
5155	2	Addinston Hill, wet meadow north of	Wet meadow
5157, 5158, 5159	3	Kelhope Burn	Acid burnsidess and flushes, juniper colony
5259	4	Crib Law, south section	A somewhat stony hilltop
5255, 5354, 5355	5	Soonhope Burn, lower section	Acid burnsidess with fragmentary woodland
5356, 5357, 5358, 5359	6	Soonhope Burn, upper section	Upland burnsidess, cleughss and flushes
5353, 5354, 5355, 5454, 5455	7	Whalplaw Burn, lower section	Burnsidess, cleughss and screess with juniper
5456, 5457, 5556, 5557, 5558	8	Whalplaw Burn, upper section	Burnsidess and flushes
5451, 5452, 5553, 5554, 5654, 5655	9	Earnsclough Water	Acid burnsidess with juniper
5559, 5659	10	Seenes Law	Upland summitss
5650, 5651, 5750, 5751	11	Wheel Burn, Blythe Water	Rich flush communitiess, slightly base-rich stony bankss with juniper
5758, 5759, 5858, 5859, 5958, 5959	12	Dye Water, upper section	Cleughss and former blanket bog
5950, 5951	13	Cromwellss, Brunta Burn	Base-rich knowess and burnside woodland-edge
55	14	Sundry	Arable habitattss
55	15	Sundry	Sundry habitattss

Site Register NT55 Carfraemill

1. Carfraemill, Leader Water near, 5052, 5152, Habitat moderately good ♥

Flushed riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Hypericum maculatum</i> <i>subsp. obtusiusculum</i>]	4x4m	509528	88	2009	MEB	Carfraemill, near, top of bank at fence line, possible introduction

Selected axiophytes: *Chrysosplenium alternifolium*, 510526

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis subsp. vestita*, *Cardamine amara*, *Carex disticha*, *Carex flacca*, *Crepis paludosa*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Geum rivale*, *Iris pseudacorus*, *Isolepis setacea*, *Rhinanthus minor*, *Trifolium medium*, *Triglochin palustre*

2. Addinston Hill, wet meadow north of, 5155, Habitat moderately good ♥

Wet meadow around 515552. Apparently recently fenced off from the hill and in need of seasonal grazing

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Crepis paludosa*, *Galium uliginosum*, *Geum rivale*, *Lychnis flos-cuculi*, *Valeriana dioica*

3. Kelphope Burn, 5157, 5158, 5159, Habitat moderately good in part ♥

Acid burnsidings with a few flushes where *Sedum villosum* was found in the past, but not in 2009. The dense juniper colony at Dodcleugh is away from the main burn and is composed of unusually small bushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia micrantha</i>	Small	511591	37	2009	MEB	Above crag
	<i>Listera cordata</i>	Small	5159		1985	MEB	Hill top
	<i>Sedum villosum</i>	Modest	512587		1985	MEB	Spring as marked on map, not refound 2009
		Modest	513584		1988	MEB, PFB	Bryophyte-rich flush, not refound 2009

Selected axiophytes: *Geranium sylvaticum*, 5159, *Juniperus communis*, 5157, Dodcleugh, 302 bushes, 512587, one bush, *Pinguicula vulgaris*, 5159, *Vaccinium vitis-idaea*, 5159

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Crepis paludosa*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Isolepis setacea*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*

4. Crib Law, south section, 5259, Habitat moderately good in part ♥

A somewhat stony hilltop with a large population of *Vaccinium vitis-idaea*

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Listera cordata</i>		5259		1985	MEB	<i>Sphagnum</i> under <i>Calluna</i>

Selected axiophytes: *Vaccinium vitis-idaea*, 5259

Other axiophytes: *Carex pulicaris*, *Galium uliginosum*, *Luzula pilosa*, *Thymus polytrichus*

Former rare or scarce species: *Sedum villosum*, 5259, 1964, DGL, near Crib Law

5. Soonhope Burn, lower section, 5255, 5354, 5355, Habitat moderately good in part ♥

Acid burnsidings with fragmentary woodland habitat

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia micrantha</i>	Modest	530546	59	2009	MEB, DGL	Crag
		Large	530548		2009	MEB, DGL	Steep slope
		Large	530552		2009	MEB, DGL	Steep slope
	<i>Sedum villosum</i>	Small	531555	06	2009	MEB, DGL	Flush overgrown with <i>Juncus</i>

Selected axiophytes: *Festuca filiformis*, 5255, *Gymnocarpium dryopteris*, 530546, *Helianthemum nummularium*, 5354, *Juniperus communis*, 534559, one bush, *Vaccinium vitis-idaea*, 537559, Longcroft Hill

Other axiophytes: *Aira caryophyllea*, *Briza media*, *Carex caryophyllea*, *Carex flacca*, *Carex pulicaris*, *Conopodium majus*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Ranunculus aquatilis*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Veronica scutellata*

Former rare or scarce species: *Melampyrum pratense*, 5255, 1983, MEB

6. Soonhope Burn, upper section, 5356, 5357, 5358, 5359, Habitat good in part ♥♥

Upland burnsidings, cleughs and flushes. Two good colonies of *Sedum villosum*

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia micrantha</i>	Modest	533561	07	2009	MEB, DGL	Bank below birch wood
	<i>Listera cordata</i>	35 stems	538584	Three	2009	MEB, LWG	Longformacus Burn
	<i>Rosa pimpinellifolia</i>	One	537573	31	2009	MEB, LWG	The Howe, below, on rocks
	<i>Sedum villosum</i>	6x2m	531577	86, 87	2009	MEB, LWG	Flush on steep slope, main colony has outliers
			536592		1985	MEB	Bryophyte-rich flush, not refound 2009
		2x2m	539585	22	2009	MEB, LWG	Longformacus Burn, bryophyte-rich flush

Selected axiophytes: *Festuca filiformis*, 549566, *Geranium sylvaticum*, 5356, 5358, *Helianthemum nummularium*, 5356, *Pinguicula vulgaris*, 536588, *Salix pentandra*, 536575, The Howe, introduced, *Vaccinium vitis-idaea*, 534569

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Cardamine amara*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Dactylorhiza maculata*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Veronica scutellata*

Intrusive neophytes: *Hyacinthoides x massartiana* (Glenburnie)

7. Whalplaw Burn, lower section, 5353, 5354, 5355, 5454, 5455, Habitat fine in part ♥♥♥

Burnsides, cleughs and screes with good juniper and fern communities, less acid than higher up the burn. The flushes may have deteriorated, *Sedum villosum* was not refound in 2009

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia micrantha</i>		5354		1983	MEB	Not refound 2009
	<i>Sedum villosum</i>		535545		1992	MEB	Not refound 2009
			541551		1992	MEB	Not refound 2009

Selected axiophytes: *Festuca filiformis*, 5354, *Geranium sylvaticum*, 5454, Foxes Cleugh, *Gymnocarpium dryopteris*, 539546, *Helianthemum nummularium*, 536546, *Juniperus communis*, 5353, 5354, 5455, 179 bushes, *Pinguicula vulgaris*, 5354, *Ranunculus trichophyllus*, 5354, *Vaccinium vitis-idaea*, 5354, *Viola lutea*, 530537, 530538

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Anemone nemorosa*, *Briza media*, *Callitriche hamulata*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Isolepis setacea*, *Koeleria macrantha*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Ranunculus aquatilis*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Lycopodium clavatum*, one, 542548, 1983, Dr A J Silverside, Foxes Cleugh

8. Whalplaw Burn, upper section, 5456, 5457, 5556, 5557, 5558, Habitat good in part ♥♥

Burnsides and flush communities. One extensive flush system with a fine community in a small part of it and a species-rich area round a waterfall

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>	Modest	549568	52	2009	MEB	Very fine base-rich flush with two open stony runnels
	<i>Drosera rotundifolia</i>	Modest	549568	41, 52	2009	MEB	Above runnel in very fine base-rich flush
	<i>Eleocharis quinqueflora</i>	Modest	549568	52, 53	2009	MEB	Very fine base-rich flush with two open stony runnels
	<i>Eriophorum latifolium</i>	Small	549568	53	2009	MEB	Very fine base-rich flush with two open stony runnels
	<i>Euphrasia scottica</i>	Small	548563	77	2009	MEB	Foot of rivulet
		Large	549564	01	2009	MEB	Flush
		Large	549568	52, 53	2009	MEB	Very fine base-rich flush with two open stony runnels
	<i>Lycopodium clavatum</i>	One	548575	05	2009	MEB	Passing place at trackside
	<i>Rosa pimpinellifolia</i>	1x1m	548570	26	2009	MEB	Ledge above waterfall
	<i>Sagina nodosa</i>	Two	548570	34	2009	MEB	Below waterfall
		Two	548570	36	2009	MEB	Grassy flush
	<i>Sedum villosum</i>		547566		1992	MEB	Not refound 2009
			547567		1992	MEB	Not refound 2009

Selected axiophytes: *Carex curta*, 548568, *Carex paniculata*, 548568, *Geranium sylvaticum*, 548570, *Juniperus communis*, 548570, two bushes, *Pinguicula vulgaris*, 548569, 549568, 548570, [*Salix pentandra*], 544560, introduced, *Vaccinium vitis-idaea*, 549562

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Dryopteris carthusiana*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*

Intrusive neophytes: *Hyacinthoides x massartiana*

9. Earnsclough Water, 5451, 5452, 5553, 5554, 5654, 5655, Habitat moderately good ♥

Acid burnsidcs with scattered juniper and a number of pockets of interest

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia scottica</i>	Modest	556540		2001	MEB, LWG	
	<i>Lycopodium clavatum</i>	One	549523		2000	MEB	
		One	556540		2001	MEB, LWG	Heathery bank
	<i>Potamogeton alpinus</i>	Modest	545518		2001	MEB, LWG	Pond, probably introduced
	<i>Rosa pimpinellifolia</i>	Small	556539		2001	MEB, LWG	

Selected axiophytes: *Geranium sylvaticum*, 5553, *Helianthemum nummularium*, 5553, *Juniperus communis*, 5452, 5553, 5554, 65 bushes, *Parnassia palustris*, 556540, 569553, *Solidago virgaurea*, 552530, *Vaccinium vitis-idaea*, 547514, 565546

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Briza media*, *Callitriche hamulata*, *Carex flacca*, *Carex pulicaris*, *Crepis paludosa*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*

Former rare or scarce species: *Genista anglica*, one, 558548, 1990, M Osborne, Hogs Law, heather burnt perhaps 5-8 years before

10. Seenes Law, 5559, 5659, Habitat fragmentary

Upland summits with track and power line below

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphysastrum alpinum</i>	One	568590	27	2009	MEB	Trackside
	<i>Lycopodium clavatum</i>	Two	551580	33, 89	2009	MEB	Trackside
		One	553582	07	2009	MEB	Trackside
		One	554584	24	2009	MEB	Trackside
		Two	555586	76	2009	MEB	Trackside
		One	556588	92	2009	MEB	Trackside
		Five	557588	28	2009	MEB	Trackside
		One	559590	32	2009	MEB	Trackside
		One	561590	53	2009	MEB	Trackside
		One	564590	95	2009	MEB	Trackside
		Four	565590		2009	MEB	Passing place at trackside
		Three	566590		2009	MEB	Trackside
		One	568590	38	2009	MEB	Passing place at trackside
	<i>Drosera rotundifolia</i>		5559		1964	AGL	Seenes Law, near

Selected axiophytes: [*Vaccinium vitis-idaea*], 558590, an anomalous deciduous seedling at trackside, casual, possibly this

11. Wheel Burn, Blythe Water, 5650, 5651, 5750, 5751, Habitat fine ♥♥♥

The upper section of a fine site along the Blythe Water. The Wheel Burn has rich flush communities and The Scawart is a slightly base-rich stony bank with juniper. Further upstream the section 5752, 5852 is almost unvisited, but is thought to be species-poor

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Anagallis tenella</i>	As below	565512	91	2009	MEB	Wheel Burn, flush
		5x5m	566511	09	2010	MEB, BNC	Wheel Burn, flush and burnside
		As above	566512	00, 01	2009	MEB	Wheel Burn, flush
		Modest	566513	52	2010	MEB, BNC	Wheel Burn, flush
	<i>Carex dioica</i>	Small	566511	09, 18	2010	MEB, BNC	Wheel Burn
	<i>Eleocharis quinqueflora</i>	Small	566511	09, 19	2010	MEB, BNC	Wheel Burn
	<i>Euphrasia micrantha</i>	Small	564515	68	2010	MEB, BNC	Wheel Burn, dry bank with <i>Calluna</i>
		Modest	572501	52	2010	MEB, BNC	The Scawart, top of bank with <i>Erica cinerea</i>
	<i>Euphrasia scottica</i>	Small	565512	91	2009	MEB	Wheel Burn
		Small	566512	01	2009	MEB	Wheel Burn
		Small	566513	52	2010	MEB, BNC	Wheel Burn, flush
	<i>Genista anglica</i>		571516		2000	DGL	Wheel Burn
	<i>Rosa pimpinellifolia</i>	Modest	567506	71	2009	MEB	Blythe Water
		Modest	574516	99	2009	MEB	Blythe Water
		Modest	575517	00	2009	MEB	Blythe Water
	<i>Sagina nodosa</i>	Modest	566511	09, 18	2009	MEB	Wheel Burn
		Small	566513		1991	MEB	Wheel Burn, not refound 2009

Selected axiophytes: *Callitriche hermaphroditica*, 564516, 574517, *Geranium sylvaticum*, 5650, *Helianthemum nummularium*, 5650, 5750, *Juniperus communis*, 568506, three bushes, 571500, 573500, three bushes, *Menyanthes trifoliata*, 564517, 566511, *Parnassia palustris*, 564516, 566511, 566513, *Pedicularis palustris*, 564516, *Pinguicula vulgaris*, 564516, *Populus tremula*, 567506, *Solidago virgaurea*, 567506, 574516

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Isolepis setacea*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Antennaria dioica*, 5750, 1951, Mrs E K Swinton, Blythe, near

12. Dye Water, upper section, 5758, 5759, 5858, 5859, 5958, 5959, Habitat fragmentary

Cleughs and former blanket bog, with track and power line crossing. The habitats appear to have degraded. *Rubus chamaemorus* could not be refound in the tiny fragments of blanket bog remaining, *Genista anglica* was not seen on the open moor and *Sedum villosum* appears almost lost from the flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>	Three	570590	48, 69	2009	MEB	Trackside
		One	573590	48	2009	MEB	Passing place at trackside
		Three	574590	69	2009	MEB	Passing place at trackside
		Two	575590	29, 99	2009	MEB	Trackside
		Two	576590	29	2009	MEB	Passing place at trackside
		Three	576591	80	2009	MEB	Trackside
		Three	577590	58, 59	2009	MEB	Trackside
		Four	577591	29, 30	2009	MEB	Trackside
		One	579591	31	2009	MEB	Trackside
	<i>Sedum villosum</i>	Three	584589	46, 56	2009	MEB	Dye Head, <i>Caltha</i> flush cut over, <i>Juncus</i> invading

Selected axiophytes: *Carex curta*, 582590, *Vaccinium vitis-idaea*, 598593, Meikle Law

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Carex disticha*, *Carex pulicaris*, *Conopodium majus*, *Dactylorhiza maculata*, *Erica tetralix*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Potentilla palustris*, *Thymus polytrichus*, *Triglochin palustre*, *Veronica scutellata*

Former rare or scarce species: *Genista anglica*, 5958, 1970, AGL, left side of Dye Valley, above Byreclough but below Shiel, *Lycopodium clavatum*, 5958, 1964, DGL, Little Law, Dye below, *Rubus chamaemorus*, 5758, 1956, Miss H M Brown, Hunt Law, 5758, 1886, Dr C Stuart, Byreclough, near, 587589, 1979, MEB, Little Reds Cleugh, *Sedum villosum*, 585589, 586590, 1979, MEB, Little Law, near, edge of burn

13. Cromwells, Brunta Burn, 5950, 5951, Habitat excellent ♥♥♥♥

Base-rich knowes and burnside woodland-edge with a notable population of *Crepis mollis*

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex laevigata</i>	Large	595510		2009	MEB	Brunta Burn
	<i>Carex pallescens</i>	Modest	596505	01, 02	2009	MEB	Cromwells, flush
	<i>Crepis mollis</i>	Three	595504	97, 98	2008	MEB	Cromwells, rocky knowe
		12	595505	81, 92, 93	2008	MEB	Cromwells, rocky knowe
		12	596505	03, 04, 14	2008	MEB	Cromwells, rocky knowe
	<i>Gymnadenia conopsea</i> subsp. <i>borealis</i>		595503		2000	DGL	Cromwells, rocky knowe
		Three	595504		1999	DGL	Cromwells, rocky knowe
		Few	597503		2006	JTM	Mercer, Cromwells, rocky knowe
	<i>Melica uniflora</i>	Large	596505	20, 55	2009	MEB	Cromwells
	<i>Rosa pimpinellifolia</i>	Modest	597521	99	2009	MEB	Cromwells, rocks

Selected axiophytes: *Elymus caninus*, 596505, *Equisetum sylvaticum*, 593511, *Geranium sylvaticum*, 5950, *Helianthemum nummularium*, 5950, *Prunus padus*, 5950, *Prunus padus*, 597521, *Saxifraga granulata*, 5950, *Solidago virgaurea*, 5951, 597521, *Vaccinium vitis-idaea*, 599521

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Galium odoratum*, *Galium uliginosum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Leontodon hispidus*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Polystichum aculeatum*, *Potentilla palustris*, *Quercus petraea*, *Sanicula europaea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*

Former rare or scarce species: *Carex muricata* subsp. *lamprocarpa*, 5950, 1995, MEB, Bruntaburn, track near

14. Sundry arable habitats NT55, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		516527	12	2009	MEB	Addinston, near, gateway
	<i>Fumaria purpurea</i>		524533		2000	LWG	Addinston, setaside
	<i>Persicaria lapathifolia</i>		513530	43	2009	LWG	Addinston
	<i>Sherardia arvensis</i>		513530	43	2009	LWG	Addinston
			515526		2002	LWG	Addinston

Selected axiophytes: *Galeopsis speciosa*, 502522, Burnfoot, near, 507530, Netherhowden, 5151, Wiselawmill, near, 515526, Addinston, *Lamium amplexicaule*, 524533, Addinston, 535573, The Howe, hill above, *Lamium confertum*, 516524, Addinston, near, 514530, Addinston, 523532, Addinston, 537508, Burncastle, 535573, The Howe, hill above, *Lamium hybridum*, 515518, Carfraemill, near, 535573, The Howe, hill above

Former rare or scarce species: [*Centaurea cyanus*], 520523, 1992, MEB, Cleekhimin Burn, probably a garden escape

15. Sundry 55, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Montia fontana subsp.</i> <i>chondrosperma</i>	Small	546506	76	2009	MEB	Edgarhope Wood, forestry track
	<i>Spergularia rubra</i>		545506	48, 78	2009	MEB	Edgarhope Wood, forestry track
	<i>Vicia sativa subsp.</i> <i>segetalis</i>		524502		2009	MEB	Lauderhaugh

Selected axiophytes: *Chenopodium bonus-henricus*, 5151, Wiselawmill, near, 517563, Hazeldean Wood, 521524, Cleekhimin Burn, 527532, Addinston, near, 529537, Whalplaw Burn, 544504, Earnsclough Water, naturalised introduction, *Prunus padus*, 505543, Hillhouse, near, 517563, Hazeldean Wood, 546500, Edgarhope Wood, [*Salix pentandra*], 514553, Addinston Hill, near, introduced, 529538, Whalplaw cottages, introduced, *Silene vulgaris*, 505551, Hillhouse

Former rare or scarce species: *Centaurea cyanus*, 520523, 1992, MEB, Cleekhimin Burn, probably a garden escape, *Cirsium heterophyllum*, 5053, 1902, A Kelly & W Shaw, Oxton, near, [*Honckenya peploides*], 5252, 1873, A Kelly, Longcroft Water, a strange casual, [*Hyoscyamus niger*], 5252, 1902, A Kelly & W Shaw, Longcroft Water, introduction, *Trifolium arvense*, 5252, 1902, A Kelly & W Shaw, Longcroft Water

NT56 Meikle Says Law (resurveyed 2010)

Hectad Description

Overview

Only 7% of the upland hectad NT56 is in Berwickshire. It lies between 330m by the Lammerlaw Burn and 532m by Meikle Says Law, 3m short of its summit in East Lothian. The land is open grouse moor in the heart of the Lammermuirs on acid Silurian rocks. In the west the Lammerlaw Burn runs between Crib Law and Lammer Law to the Kelphope Burn which in turn feeds into the Leader Water. In the east a series of burns below Meikle Says Law and Little Says Law form the headquarters of the Dye Water.

There is as yet no forestry nor are there wind farms, though a line of pylons crosses the southeast corner of the hectad serviced by a well-built track.

Tollishill gives access to the western tops and the Lammerlaw Burn via the upland tracks servicing the pylons and the grouse moors. The burns to the east can be reached by tracks from Byreclough on the Dye Water or from Faseny Bridge on the Faseny Water. An alternative route to Meikle Says Law is from Faseny Cottage.

Habitats

The **heather moorland** is almost exclusively managed by muirburn optimised to the grouse-shooting interests. This is not a happy outcome from a botanical viewpoint as it leaves very uniform species-poor communities. While the moors can never have been at all species-rich it is the peatland communities that have suffered most. Nevertheless this hectad contains almost all the deep **blanket bog** remaining in Berwickshire. There are only modest pockets with active *Sphagnum* and these lie mainly on wet slopes. Here survive four colonies of *Rubus chamaemorus* over a total area of about ten hectares, at the relatively low altitude for this montane species of 460m to 500m.

The Lammerlaw Burn has rewards for the botanist in a series of **flushes** and with **woodland axiophytes** surprisingly well represented. The flushes near the burn are only modestly species-rich but two small side burns have excellent acid flushes with *Sedum villosum*. There also is an upland form of *Veronica serpyllifolia* with deeper blue flowers than normal on few-flowered racemes. It does not, however, correspond to *subsp. humifusa*. A third rivulet leads quite high up Crib Law to base-rich flushes with *Sagina nodosa*, *Equisetum sylvaticum*, *Parnassia palustris* and what appears to be the hybrid between *Euphrasia micrantha* and *E. scottica*. Here an upland form of *Cardamine pratensis* occurs with unusually large leaflets that feel thick and leathery to the touch. Normal, smaller, forms of this species occur alongside. There is a modestly extensive colony of *Vaccinium vitis-idaea* nearby.

The burnsidings below Meikle Says Law are extraordinarily species-poor, though one steep bank has *Listera cordata* in *Sphagnum*. However near Wester Black Burn there is one fine feature: a strong spring feeds a series of **acid flushes** with *Sedum villosum* and *Carex curta* with some slightly less-acid flushes adjoining.

Index of Sites NT56 Meikle Says Law

GR - NT	Ref	Site	Habitats
5160, 5260	1	Lammerlaw Burn, Crib Law, north section	Burnsidings, flushes, moorland
5560, 5660	2	Rotten Cleugh	Blanket bog
5761, 5861, 5961	3	Meikle Says Law, Little Says Law	Blanket bog
5860	4	Wester Black Burn	Burnsidings, flushes, moorland
56	5	Sundry	Sundry habitats

Site Register NT56 Meikle Says Law

1. Lammerlaw Burn, Crib Law, north section, 5160, 5260, Habitat good in part ♥♥

Burnsides, flushes, moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>	One	512603		1999	MEB, LWG	
		One	515605		1999	MEB, LWG	
			521605	54	2002	MEB, LWG	With <i>Empetrum</i>
	<i>Sagina nodosa</i>	Modest	514605	97	2010	MEB	Compact colony with bryophytes in rivulet
	<i>Sedum villosum</i>	Modest	512605	64	2010	MEB	Steep wet slope
		Large	516606	89, 98, 99	2010	MEB	Steep eroding stony flush
		Modest	517606	47, 85	2010	MEB	

Selected axiophytes: *Equisetum sylvaticum*, 518606, *Geranium sylvaticum*, 512605, 513605, *Parnassia palustris*, 515605, *Vaccinium vitis-idaea*, 515605, 515606, 523601, 524601

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*

2. Rotten Cleugh, 5560, 5660, Habitat fragmentary

Blanket bog, much degraded

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Drosera rotundifolia</i>	Small	558604	07	2002	MEB, LWG	In good active blanket bog
	<i>Rubus chamaemorus</i>		559605		2002	MEB, LWG	
			560605		2002	MEB, LWG	
			561605		2002	MEB, LWG	
			562604		2002	MEB, LWG	
			563604		2002	MEB, LWG	
			564604		2002	MEB, LWG	
			564605		2002	MEB, LWG	

3. Meikle Says Law, Little Says Law, 5761, 5861, 5961, Habitat fragmentary

Blanket bog, much degraded

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Rubus chamaemorus</i>		575611		2002	MEB	
			575612		2002	MEB	
			576611		2002	MEB	
			576612		2002	MEB	
			583614		2002	MEB	
			584614		2002	MEB	
			585613		2002	MEB	
			585614		2002	MEB	
			586613		2002	MEB	
		20x20m	594613	14	2002	MEB	Degraded blanket bog
			595612		2002	MEB	

Selected axiophytes: *Narthecium ossifragum*, 583615, *Vaccinium vitis-idaea*, 579610**4. Wester Black Burn, 5860, Habitat good in part ♥♥**

Burnsides and degraded moorland with one fine acid flush

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Listera cordata</i>	20	582607	99	2010	MEB	Steep <i>Sphagnum</i> bank
		Three	583607	08, 09	2010	MEB	Steep <i>Sphagnum</i> bank
	<i>Sedum villosum</i>	25	583604	58, 59	2010	MEB	Extensive acid flush

Selected axiophytes: *Carex curta*, 583604, *Festuca filiformis*, 5860, *Vaccinium vitis-idaea*, 583607Other axiophytes: *Callitriche hamulata*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Erica tetralix*, *Galium uliginosum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Ranunculus aquatilis*, *Triglochin palustre***5. Sundry NT56, Habitat fragmentary**

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphasiastrum alpinum</i>	One	597602	90	2010	MEB	Black Burn, near, trackside
		One	598602	12	2010	MEB	Black Burn, near, trackside
	<i>Euphrasia scottica</i>		525606		1999	MEB	Rushy Grain, character of <i>E. scottica</i> but in grass/ <i>Calluna</i> edge so possible hybrid
	<i>Listera cordata</i>		524602		1999	MEB	Rushy Grain, steep bank among <i>Calluna</i> and <i>Sphagnum</i> (MEB 99).
	<i>Lycopodium clavatum</i>	One	598602	11	2010	MEB	Black Burn, near, trackside

Selected axiophytes: *Carex curta*, 592602, 595602, Black Burn

NT63 Mertoun

(Systematic sample survey 1995, further samples to 2010)

Hectad Description

Overview

47% of the hectad NT63 is in Berwickshire. It lies between 49m by the Tweed below Dalcove and 266m at Brotherstone Hill.

The geology is largely Old Red Sandstone but the basaltic lavas of the Kelso traps and related intrusive rocks form most of the prominent features and are responsible for much of the botanical interest. These features are Redpath Hill, Butchercote Craigs, Brotherstone Hill, the craigs along the north side of the Eden Water near Nenthorn and Hareheugh Craigs. The botanical interest relates largely to grassland on thin soils.

The River Tweed turns south above Mertoun Bridge and near there, at the turn, steep eroding banks provide a habitat of interest. Below this is the Tweed meanders around Mertoun House with no specialist habitats on the Berwickshire bank. The substrate is Old Red Sandstone and the lack of suitable holdfasts may be the reason for the absence of most of the specialist aquatic species of the Tweed. Hollows in the rolling landform leave a varied series of wetlands at Bemersyde Moss, Whitrig Bog, Redpath Moss, Brotherstone Moss, Mincie Moss and Lurgie Loch.

There is productive farmland on the Old Red Sandstone. Small settlements are found at Clintmains and Nenthorn with the great houses of Mellerstain and Mertoun nearby with their policies. The principal roads are a short section of the A6089 near Nenthorn and the B6404 east from Mertoun Bridge. Other development is limited to a short section of former railway at Purvishaug and the roadstone quarries at Craighouse and Blinkbonny.

Habitats

The **grassland** of the basalt is the main feature of the hectad and is notable for its annual species, but it is much fragmented. At Butchercote Craigs the populations of the scarcer annuals on the knowes are small but *Cerastium semidecandrum*, *Filago minima*, *Montia fontana* subsp. *chondrosperma*, *Myosotis ramosissima*, *Scleranthus annuus*, *Stellaria pallida* and *Trifolium striatum* are all present and fully representative of this specialised flora. Perennial species include *Helianthemum nummularium* and *Koeleria macrantha* with *Dianthus deltoides*. The *Dianthus* is a perennial whose populations are often a mixture of long-lived plants in secure rock crevices and of more or less annual plants on sandy areas. *Viola lutea* is found on the more acid ground. *Saxifraga granulata* is technically a perennial but it reproduces mainly by bulbils which sometimes allow it to function as a pseudo-annual. There are also base-rich flushes with *Dactylorhiza incarnata* and *Carex viridula* subsp. *brachyrrhyncha*. Brotherstone Hill to the north is more acid and has only a few of the annuals. However it has vestiges of former moorland with *Genista anglica* and a tiny peat bog with *Carex limosa* and *Vaccinium oxycoccus*. A small rock outcrop by the Covehouse Burn is being quarried but *Viola tricolor* is present in an arable field nearby.

A further series of sites is found to the north of the Eden Water between Mellowlees Bridge and Nenthorn. The knowes at Muckle Thairn and Little Thairn occupy an attractive site overlooking the Eden. The annuals differ from those at Butchercote and include *Erodium cicutarium*, *Sherardia arvensis*, *Trifolium arvense* and *Vulpia bromoides*. There is *Carex muricata* subsp. *lamprocarpa* alongside the *Dianthus*. The populations of *Lactuca virosa* and *Malva moschata* may well be native, though their status is sometimes debated, while *Valerianella carinata* seems likely to be a

neophyte. Some wetland interest is to be found by the Eden where *Senecio aquaticus* grows along with *S. x ostenfeldii*. Girrick and Blinkbonny are home to an extensive series of knowes where the former extent of the grassland communities on the basalt is at its most apparent. At Girrick, west of the lane to Nenthorn, there are small ungrazed knowes with a little *Dianthus* and *Scleranthus*. To the east of this lane, but south of the lane to Mellowlees Bridge, the best-preserved habitat in the series lies in the field next to Girrick and along the southeast side of the triangular field to its east. Here quite large populations of *Dianthus* survive, again with *Scleranthus*. Small colonies of *Sherardia*, *Trifolium arvense* and *T. striatum* are also present with *Helianthemum* and *Saxifraga granulata* rather local. Here there are also wetland habitats, not in the best of condition, but the flushes still hold *Eleocharis quinqueflora*, *Triglochin palustre* and *Valeriana dioica*. North of the lane to Mellowlees Bridge the grassland is mainly reseeded and fertilised, but even so there is considerable interest on the small knowes with *Scleranthus* remarkably widespread along with *Geranium pusillum*. *Malva moschata* appears again here. At the A6089 there is a surprising colony of *Dianthus* on a low basalt wall and the fields towards Blinkbonny Quarry have further small colonies of *Dianthus*, *Erodium cicutarium* and *Scleranthus*. The lane to Mellowlees Bridge is itself of interest for its colonies of *Agrimonia eupatoria*, *Knautia arvensis* and *Silene vulgaris*.

Lurgie Craigs is only a small feature and, being ungrazed, has lost much of the habitat suitable for annuals. *Montia fontana subsp. chondrosperma* and *Scleranthus* are found on almost bare rock ledges. East, across the Sweethope to Stenmuir road, stands Hareheugh Craigs, much the best grassland site in the hectad. Part lies in the hectad NT64 and it is described under that hectad along with a separate knowe to its east.

The **woodland** interest in the hectad is very modest. The steep river banks northwest of Mertoun Bridge have colonies of *Clinopodium vulgare*, *Origanum vulgare* and *Lactuca virosa*. The latter is also present on a cliff in the section of the wood further to the west. To the south of Mertoun Bridge there is more woodland with steep banks, but not eroding to the extent of those north of the bridge. Here, and at the riverside below, may be found *Campanula latifolia*, *Scirpus sylvaticus*, *Senecio aquaticus* and *Stellaria nemorum*. Rather similar riverside woodland is found below Dalcove where *Adoxa moschatellina* and *Chrysosplenium alternifolium* are additional species.

Moorland has gone from the hectad, with the exception of the remnants at Brotherstone Hill referred to above, but there are a series of plantations and wet fields between Mellerstain and Purvishaugh that contain some natural birchwood with traces of former moorland communities. Racecourse Plantation with its mature pines is one of these. The woods at Mellerstain are attractive but again have limited continuity from former moorland rather than from any former native woodland. *Ceratocaphnos claviculata* is frequent, mainly under pines.

Although the moorland has gone a series of mosses remain with a variety of **wetland** habitats. Bemersyde Moss is a eutrophic swamp with large areas of open water. While these conditions are not conducive to a diverse flora, some species poorly represented in Bewickshire thrive. *Bidens cernua* is the most characteristic while *Cicuta virosa* has only been reported recently and may be new colonisation as would seem to be the case with *Rorippa islandica*. *Ranunculus sceleratus* is frequent. The ponds in the nearby Whitrig Bog also have the *Bidens*, *Ranunculus sceleratus* and *Rorippa islandica*, though the latter is more plentiful by seasonal pools nearby. These pools are relicts of the substantial former wetland here that was drained to the Maidenhall Burn through a remarkable stone-lined tunnel built in the early years of the nineteenth century. Brotherstone Moss is shared with VC 80, Roxburghshire, and is willow carr with a little *Narthecium ossifragum*. Redpath Moss lies to the west and is described under hectad NT53. Mincie Moss is partly drained but the scrub includes *Salix pentandra* bushes with *S. repens* in more open areas. The ditches have a relatively varied aquatic flora with *Berula erecta*, *Callitriche hamulata*, *Ranunculus trichophyllus*, *Veronica catenata* and the charophyte *Nitella flexilis/opaca* agg.. Lurgie Loch has lost its open

water and the acid bog that developed where it lay has now almost scrubbed over with birch and willow. Nevertheless some fen areas remain at the fringes with the last colony in Berwickshire of *Stellaria palustris*, here associated with *Carex lasiocarpa*. *Salix repens* and *Vaccinium oxycoccus* survive rather precariously in the little remaining open habitat while *Carex curta*, *Corallorhiza trifida*, *Pyrola minor* and *Salix pentandra* are more secure.

Nenthorn House has two ponds fed from the Eden Water. At one of these *Potamogeton alpinus* thrives. This species was formerly known from the Eden itself. The lake at Mellerstain is also fed by the Eden and has the charophyte *Chara globularis/virgata* agg.. The *Nuphar lutea* there is probably introduced but it could have originated from the Eden nearby where *Sparganium emersum* is still present. *Scrophularia umbrosa* is frequent by the Eden. The River Tweed is the main habitat for **aquatic** species but while the Mertoun stretch has *Ranunculus pencillatus* neither *R. fluitans* nor *Potamogeton x olivaceus* have been refound recently, though they could persist. *Lysimachia vulgaris* is now plentiful by the Tweed while *Valeriana pyrenaica* has colonised banks in wooded riverside at Mertoun.

Though the thin soils associated with the basalt favour **arable weeds**, the reality is rather disappointing. The most dramatic find was a large population of *Fumaria purpurea* in set-aside near Lurgie Craigs in 1999. One plant of *Anthriscus caucalis* turned up unexpectedly northwest of Millfield in 2002. *Anagallis arvensis* is rare while *Galeopsis speciosa*, *Lamium amplexicaule* and *L. confertum* are occasional. *Hypericum humifusum* is occasionally found in set-aside as is *Erysimum cheiranthoides* as a probable introduction in turnips. Game crops can bring in some unexpected species such as *Sinapis alba* but it is unclear whether the large colony of *Carduus nutans* found in 2009 below Fans Hill in this habitat is an introduction or not. Its identity is also unresolved as it may all be the hybrid with *C. crispus*.

No **ruderal** habitats of great interest are known. *Reseda luteola* seems to be about the extent of the botanical interest in Craighouse Quarry. The presence of *Carex muricata* subsp. *lamprocarpa* as a colonist in the car park at Nenthorn Church relates to colonies on knowes nearby.

Index of Sites NT63 Mertoun

GR - NT	Ref	Site	Habitats
6032	1	Mertoun Bridge, Tweedside west of	Riverside, wooded banks
6030, 6031, 6130, 6131, 6132	2	Mertoun House, Tweedside near	Riverside, wooded banks
6231, 6331	3	Magalenehall, Tweedside near	Riverside
6431, 6531	4	Dalcove, Tweedside near	Riverside, wooded banks
6033, 6133, 6134	5	Bemersyde Moss	Swamp
6234, 6235	6	Whitrig Bog	Ponds
6234	7	Butchercote Craigs	Grassland on knowes, flushes
6035, 6036, 6135, 6136	8	Brotherstone Hill	Grassland on knowes, bog
6136	9	Brotherstone Moss (VC 81 part, also VC 80)	Carr woodland
6036	10	Redpath Moss (see NT53)	Carr woodland, wet meadow
6038, 6138	11	Racecourse Plantation	Pine plantation on former moorland
6237	12	Covehouse Burn	Grassland on knowes
6338	13	Mincie Moss	Carr woodland, fen
6438, 6439, 6538, 6539, 6639	14	Mellerstain Policies, Eden Water	Wooded policies, lake, burnsidess
6537, 6637	15	Muckle Thairn, Little Thairn	Grassland on knowes, burnsidess
6737	16	Nenthorn House	Ponds, burnsidess
6637, 6638, 6639, 6738	17	Girrick, Blinkbonny	Grassland on knowes, flushes
6739	18	Lurgie Loch	Carr woodland, fen
6739	19	Lurgie Craigs	Grassland on knowes
6837, 6936, 6937	20	Nenthorn Bridge, Stichill Bridge	Grassland on knowes, burnsidess
6839	21	Hareheugh Craigs (see NT64)	Grassland on intrusive rocks
6939	22	Hareheugh Craigs, craig near (see NT64)	Grassland on intrusive rocks
63	23	Sundry	Arable habitats
63	24	Sundry	Sundry habitats

Site Register NT63 Mertoun

1. Mertoun Bridge, Tweedside west of, 6032, Habitat moderately good in part ♥

Riverside, wooded banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Clinopodium vulgare</i>		605324	36	2005	MEB	
		Small	607323		1995	MEB	
	<i>Hypericum x desetangsii</i>		605324	07	2005	MEB	
		Modest	609323		1995	MEB	
	<i>Lactuca virosa</i>	Two	602324	80	2005	MEB	On cliff
		Modest	605324		1998	MEB	Above and below track
	<i>Malva moschata</i>		605324	07	2005	MEB	Native or introduced

Selected axiophytes: *Helianthemum nummularium*, 6032, *Rosa rubiginosa*, 604324, *Saxifraga granulata*, 605324

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Hypericum hirsutum*, *Ononis repens*, *Origanum vulgare*

Former rare or scarce species: *Silaum silaus*, 6032, 1886, J Hardy, Tweedside, Dryburgh and Mertoun, between, *Viola hirta*, 6032, 1886, J Hardy, Tweedside, Dryburgh and Mertoun, between

2. Mertoun House, Tweedside near, 6030, 6031, 6130, 6131, 6132, Habitat fragmentary

Riverside, wooded banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Convolvulus arvensis</i>]		618317		1995	MEB	
	[<i>Geranium lucidum</i>]		615310	29	2002	MEB	Broomhill, introduced but naturalised
	<i>Hypericum x desetangsii</i>		611318	45	2006	MEB	
*	<i>Lathraea squamaria</i>		611321		2000	FE	Evans, Mertoun Bridge, on <i>Populus</i>

Selected axiophytes: *Campanula latifolia*, 611316, *Elymus caninus*, 615312, *Stellaria nemorum*, 608307

Other axiophytes: *Achillea ptarmica*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Crepis paludosa*, *Festuca gigantea*, *Hypericum hirsutum*, *Origanum vulgare*, *Scirpus sylvaticus*, *Senecio aquaticus*, *Valeriana officinalis*

Intrusive neophytes: *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Rhododendron ponticum*

Former rare or scarce species: *Epipactis helleborine*, 6131, 1886, J Hardy, three in woods behind church, [*Malva moschata*], 6131, 1836, Dr F Douglas, probably introduced, *Potamogeton x olivaceus*, 6132, 1967, DGL, Mertoun Bridge, *Valerianella locusta*, 6131, 1871, W B Boyd, Tweed near Mertoun suspension bridge

3. Magalenehall, Tweedside near, 6231, 6331, Habitat fragmentary

Riverside

Selected axiophytes: *Campanula latifolia*, 620317

Other axiophytes: *Galium odoratum*, *Hyacinthoides non-scripta*

Intrusive neophytes: *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*
 Former rare or scarce species: [*Hyoscyamus niger*], 6331, 1831, Dr R D Thomson, north bank of Tweed
 opposite Littledean Tower, introduction, *Potamogeton x olivaceus*, 6231, 1971, Dr N T H Holmes

4. Dalcove, Tweedside near, 6431, 6531, Habitat fragmentary

Riverside, wooded banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Hypericum x desetangsii</i>		652318		1995	MEB	
	<i>Malva moschata</i>		651319		1995	MEB	Native or introduced

Selected axiophytes: *Agrimonia eupatoria*, 6531, *Campanula latifolia*, 6531, *Chrysosplenium alternifolium*, 656316, *Knautia arvensis*, 6531, *Stellaria nemorum*, 651319

Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Hyacinthoides non-scripta*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

5. Bemersyde Moss, 6033, 6133, 6134, Habitat fine ♥♥♥

Swamp

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Bidens cernua</i>		607337		2002	MEB	
*		50	608337		2002	MEB	
*			608338		2002	MEB	
*			609338		2002	MEB	
*			609339		2002	MEB	
*			610339		2002	MEB	
*		One	611337	39	2002	MEB	
*			611340		2002	MEB	
*			612340		2002	MEB	
*			612341		2002	MEB	
*		Modest	613338	89	2002	MEB	
*			613341		2002	MEB	
*	<i>Carex vesicaria</i>	Modest	610337	43	2002	MEB	
*	<i>Cicuta virosa</i>		6133		2002	DMH	Hawker, in <i>Carex acutiformis</i> swamp immediately in front of the bird hide
*	<i>Galium palustre subsp. elongatum</i>	Small	611338	82	2002	MEB	
*	<i>Ranunculus lingua</i>		612330		1995	LWG	
*	<i>Rorippa islandica</i>	30	608337		2003	LWG	On dried out muddy patch near moss
*	<i>Silaum silaus</i>		609338		2003	LWG	

Selected axiophytes: *Carex riparia*, 612330, *Salix pentandra*, 612330, 612348

Other axiophytes: *Alisma plantago-aquatica*, *Dryopteris carthusiana*, *Veronica scutellata*

Former rare or scarce species: *Sanguisorba officinalis*, 612330, 1978, MEB, *Scutellaria galericulata*, 6134, 1974, COB, *Sparganium emersum*, 6134, 1978, MEB

6. Whitrig Bog, 6234, 6235, Habitat moderately good in part ♥

Ponds

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Bidens cernua</i>	10	620350	85	2003	MEB	
		25	621350	03, 04	2003	MEB	
			621350		2003	LWG	
	<i>Rorippa islandica</i>	50	619348	34	2003	MEB	
		30	620348	30	2003	MEB	
		Three	620350	63	2003	MEB	
	<i>Veronica catenata</i>		620348		1995	MEB	

Former rare or scarce species: *Drosera rotundifolia*, 6234, 1834, Prideaux J Selby, *Vaccinium oxycoccos*, 6234, 1834, Prideaux J Selby

7. Butchercote Craigs, 6234, Habitat good in part ♥♥

Grassland on knowes, flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>	Three	623342		1995	MEB	
			626346		1995	MEB	
			626347		2006	LWG	
	<i>Dactylorhiza incarnata</i>		625345		1995	MEB	
	<i>Dianthus deltoides</i>		6234		1989	PSL	Lusby
	<i>Filago minima</i>		627345		1995	MEB	
	<i>Montia fontana</i> subsp. <i>chondrosperma</i>		626347		2006	LWG	
			627345		1995	MEB	
	<i>Myosotis ramosissima</i>		626347		2006	LWG	
	<i>Scleranthus annuus</i>	Small	626346		1995	MEB	
	<i>Trifolium striatum</i>	Small	626346		1995	MEB	

Selected axiophytes: *Helianthemum nummularium*, 626346, 627345, *Hydrocotyle vulgaris*, 625346, *Saxifraga granulata*, 624344, *Stellaria pallida*, 623342, 626346, *Viola lutea*, 623342

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Koeleria macrantha*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Ranunculus bulbosus*, *Thymus polytrichus*, *Valeriana dioica*, *Veronica scutellata*

8. Brotherstone Hill, 6035, 6036, 6135, 6136, Habitat moderately good in part ♥

Grassland on knowes, bog

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex limosa</i>		617358		1989	RWMC	Small peat bog
	<i>Genista anglica</i>		617363		1989	RWMC	
	<i>Montia fontana</i> subsp. <i>chondrosperma</i>		620356		1999	MEB	
	<i>Rosa pimpinellifolia</i>		610361		2007	LWG	
	<i>Scleranthus annuus</i>		6136		1988	PSL	Lusby
	<i>Vaccinium oxycoccos</i>	Small	617358		1989	RWMC	Small peat bog

Selected axiophytes: *Helianthemum nummularium*, 6136, *Viola lutea*, 6136

Other axiophytes: *Achillea ptarmica*, *Conopodium majus*, *Erica tetralix*, *Galium uliginosum*, *Koeleria macrantha*, *Thymus polytrichus*, *Triglochin palustre*

9. Brotherstone Moss (VC 81 part, also VC 80), 6136, Habitat moderately good ♥ Carr woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Galium palustre subsp. elongatum</i>		619366		1995	MEB	

Selected axiophytes: *Carex curta*, 619366, *Menyanthes trifoliata*, 619366, *Narthecium ossifragum*, 619366

Other axiophytes: *Lychnis flos-cuculi*, *Potentilla palustris*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Corallorhiza trifida*, 6136, 1970, AGL, *Dactylorhiza incarnata*, 6136, 1969, AGL

10. Redpath Moss (see NT53), 6036, Habitat fine ♥♥♥ Carr woodland, wet meadow

11. Racecourse Plantation, 6038, 6138, Habitat fragmentary Pine plantation on former moorland

12. Covehouse Burn, 6237, Habitat fragmentary Grassland on knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Geranium pusillum</i>		626378	52	2007	LWG	Knowe being quarried
	<i>Trifolium striatum</i>		626378	52	2007	LWG	Knowe being quarried
	<i>Viola tricolor subsp. tricolor</i>		627379		2000	MEB	Set-aside

13. Mincie Moss, 6338, Habitat moderately good ♥ Carr woodland, fen

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Veronica catenata</i>	Small	631384	84	2002	MEB	Ditch

Charophytes: *Nitella flexilis/opaca* agg., 632385, 1999, LWG, ditch, det. MEB

Selected axiophytes: *Berula erecta*, 633377, *Ranunculus trichophyllus*, 632385, *Salix pentandra*, 632385, *Salix repens*, 633385

Other axiophytes: *Achillea ptarmica*, *Anemone nemorosa*, *Callitriche hamulata*, *Carex disticha*, *Carex flacca*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Galium uliginosum*, *Geum rivale*, *Isolepis setacea*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Ranunculus aquatilis*, *Sanicula europaea*, *Trifolium medium*, *Valeriana dioica*, *Valeriana officinalis*

14. Mellerstain Policies, Eden Water, 6438, 6439, 6538, 6539, 6639, Habitat moderately good in part ♥

Wooded policies, lake, burnsidcs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>		6538		1999	LWG	Round recently cleaned out lake
	[<i>Leontodon saxatilis</i>]	Modest	648389		1994	RWMC	Introduced
		Large	649388		2001	MEB, PFB	Introduced
	<i>Montia fontana</i> subsp. <i>chondrosperma</i>		647390		2002	MEB	Path by house
	[<i>Nuphar lutea</i>]		652386		2001	MEB, PFB	Lake, probably introduced, but see 1853 record from Eden
	<i>Rorippa islandica</i>	Small	650386	30	2001	MEB, PFB	On barish patch at lake side
	<i>Sparganium emersum</i>	Modest	658394	87	2007	MEB	Eden Water
		Small	662398	15	2007	MEB	Eden Water

Charophytes: *Chara globularis/virgata*, 650388, 2001, MEB, PFB, recorded as *C. globularis*, north end of lake, modest colony

Selected axiophytes: *Carex riparia*, 6538, *Ceratocarpus claviculata*, 642396, 642397, 644395, *Cystopteris fragilis*, 6438, wall

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Carex acutiformis*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Galium odoratum*, *Iris pseudacorus*, *Linum catharticum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Senecio aquaticus*, *Valeriana officinalis*

Intrusive neophytes: *Rhododendron ponticum*

Former rare or scarce species: *Lathraea squamaria*, 6439, 1947, I Terneut, [*Nuphar lutea*], 6639, 1853, Dr F Douglas, Marks Bridge, Eden above, probably introduced, *Polystichum setiferum*, 651384, 1979, AW, Willmot, *Ranunculus lingua*, 6538, 1836, Dr F Douglas

15. Muckle Thairn, Little Thairn, 6537, 6637, Habitat good ♥♥

Grassland on knowes, burnsidcs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex muricata</i> subsp. <i>lamprocarpa</i>		6537		1999	LWG	
	<i>Dianthus deltoides</i>		665375		1999	LWG	
		Small	667373		1991	MEB	
		Small	668373		1991	MEB	
	<i>Erodium cicutarium</i>		654377	55	2009	LWG	In kale
	<i>Lactuca virosa</i>	50	664375	24	2007	MEB	
	<i>Malva moschata</i>		665375		1999	LWG	Native or introduced
	<i>Sherardia arvensis</i>	Small	664371	77	2007	MEB	On cliff
		Small	664373	87	2007	MEB	
		Large	665375		1999	LWG	
		Four	668372	23	2007	MEB	On cliff
	<i>Trifolium arvense</i>	Large	664373	87	2007	MEB	
			665374		2002	LWG	

Selected axiophytes: *Helianthemum nummularium*, 6637, *Saxifraga granulata*, 6637

Other axiophytes: *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Callitriche hamulata*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Geum rivale*, *Iris pseudacorus*, *Ononis repens*, *Potentilla palustris*, *Ranunculus bulbosus*, *Senecio aquaticus*, *Thymus polytrichus*, *Vulpia bromoides*

Former rare or scarce species: *Scabiosa columbaria*, 6637, 1834, Dr G Johnston, craigs by Eden near Nenthorn

16. Nenthorn House, 6737, Habitat fragmentary

Ponds, burnsidies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Potamogeton alpinus</i>	Large	673371		2005	LWG	In small pond adjacent to main pond on the Eden Water

17. Girrick, Blinkbonny, 6637, 6638, 6639, 6738, Habitat good in part ♥♥

Grassland on knowes, flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
1	Girrick, west of lane to Nenthorn House						
	<i>Dianthus deltoides</i>	Four	661378	39, 49	2009	MEB, LWG	Knowe and road verge
	<i>Geranium pusillum</i>		662379	16	2009	MEB, LWG	On knowe
	<i>Scleranthus annuus</i>		661378	08, 18, 39	2009	MEB, LWG	
			662379	16	2009	MEB, LWG	
	<i>Trifolium striatum</i>		662379	16	2009	MEB, LWG	On knowe
2	Girrick, south of lane to Mellowlees Bridge						
	<i>Dianthus deltoides</i>	One	665380	07	2009	MEB, LWG	Knowe south of road
	<i>Dianthus deltoides</i>	One	665381	40	2009	MEB, LWG	Knowe
		Ten	667382	81, 82, 90	2009	MEB, LWG	Knowe
		Four	668381	76	2009	MEB, LWG	
		16	668382	00, 11, 12	2009	MEB, LWG	Knowe
		8cells, 100	669381		2009	MEB, LWG	On rocky bank
		Small	669382	80	2009	MEB, LWG	On rocky bank
		17	670382	34, 44	2009	MEB, LWG	On rocky bank
	<i>Eleocharis quinqueflora</i>		668381	16	2009	MEB, LWG	Flush
	<i>Scleranthus annuus</i>		664380	54	2009	MEB, LWG	
			665381	40	2009	MEB, LWG	
			667382	90	2009	MEB,	

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					LWG	
<i>Scleranthus annuus</i>		668381	76	2009	MEB, LWG	
	Five	669381	05	2009	MEB, LWG	
<i>Sherardia arvensis</i>		6637		1991	MEB	
<i>Trifolium arvense</i>	One	669382	70	2009	LWG	
<i>Trifolium striatum</i>		665381	40	2009	MEB, LWG	
		669381	89	2009	MEB, LWG	
3	Girrick, north of lane to Mellowlees Bridge, west & east of Girrick					
<i>Cerastium semidecandrum</i>		667383		1995	MEB	
<i>Dianthus deltoides</i>	21	664384	30, 40	2009	MEB, LWG	Knowe
	Five	665380	81, 82, 93	2009	MEB, LWG	Knowe
	Small	667383		1995	MEB	
<i>Geranium pusillum</i>		662383	25, 46	2009	MEB, LWG	
		662384	36, 77	2009	MEB, LWG	
		664384	11	2009	MEB, LWG	
<i>Malva moschata</i>	Large	660379	99	2009	MEB, LWG	Native or introduced
<i>Myosotis ramosissima</i>		667383		1995	MEB	
<i>Scleranthus annuus</i>		660379	99	2009	MEB, LWG	
		661379	26	2009	MEB, LWG	
		661380	00, 19	2009	MEB, LWG	
<i>Scleranthus annuus</i>		661381	00	2009	MEB, LWG	
		664384	50	2009	MEB, LWG	
	4 cells	665380		2009	MEB, LWG	
		667383		1995	MEB	
<i>Trifolium striatum</i>	Small	661379	34	2009	MEB, LWG	
		664384	40	2009	MEB, LWG	
4	Blinkbonny, east of A6089					
<i>Dianthus deltoides</i>	26	668383	24, 91	2009	MEB, LWG	Low basalt wall, north side of A6089
	6 cells, 18	669386		2009	MEB, LWG	On knowe
<i>Erodium cicutarium</i>		669386	64	2009	MEB, LWG	
		670386	26	2009	MEB,	

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						LWG	
	<i>Scleranthus annuus</i>	18	669386	64, 75, 94	2009	MEB, LWG	
		Two	670386	26	2009	MEB, LWG	

Selected axiophytes: *Agrimonia eupatoria*, 661379, 662379, mostly along lane, *Helianthemum nummularium*, 6537, 668381, Girrick, south of lane to Mellowlees Bridge, *Knautia arvensis*, 661379, 662379, 664380, 664384, 665381, 666382, 668383, mostly along lane, *Saxifraga granulata*, 6537, 667383, south of lane to Mellowlees Bridge, *Silene vulgaris*, 665381, lane

Other axiophytes [the wetland species are south of the lane to Mellowlees Bridge]: *Achillea ptarmica*, *Aira caryophyllea*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Iris pseudacorus*, *Isolepis setacea*, *Koeleria macrantha*, *Lychnis flos-cuculi*, *Ononis repens*, *Ranunculus bulbosus*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Vulpia bromoides*

18. Lurgie Loch, 6739, Habitat fine ♥♥♥

Carr woodland, fen

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex lasiocarpa</i>	Large	676395		1999	MEB	
*	<i>Carex vesicaria</i>		6739		2003	EL	Lavery
*	<i>Corallorhiza trifida</i>		676395		1999	MEB	
*	<i>Galium palustre subsp. elongatum</i>		676395		1999	MEB, LWG	
*	<i>Pyrola minor</i>		676395		1999	MEB, LWG	
*	<i>Stellaria palustris</i>	35	675393	87, 88	2008	LWG	
*		Seven	676394	20, 50	2008	LWG	
*		17	679396	66, 74, 75	2008	LWG	
*	<i>Vaccinium oxycoccos</i>	Small	676395		1999	MEB	

Selected axiophytes: *Carex curta*, 676395, *Menyanthes trifoliata*, 676395, *Pedicularis palustris*, 6739, *Salix pentandra*, 676395, *Salix repens*, 676395

Other axiophytes: *Carex disticha*, *Conopodium majus*, *Crepis paludosa*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*

Former rare or scarce species: *Carex diandra*, 6739, 1875, A Brotherston, *Carex limosa*, 6739, 1875, T Henderson, *Drosera rotundifolia*, 6739, 1960, F H Perring and BSBI party, *Utricularia intermedia sens. lat.*, 6739, 1853, J Hardy

19. Lurgie Craigs, 6739, Habitat fragmentary

Grassland on knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Montia fontana subsp. chondrosperma</i>		675396		1999	MEB	
	<i>Scleranthus annuus</i>	Large	675396		1999	MEB	

Other axiophytes: *Conopodium majus*, *Koeleria macrantha*, *Thymus polytrichus*, *Vulpia bromoides*

20. Nenthorn Bridge, Stichill Bridge, 6837, 6936, 6937, Habitat fragmentary

Grassland on knowes, burnsidies

Selected axiophytes: *Campanula latifolia*, 6936, *Chrysosplenium alternifolium*, 697370, *Saxifraga granulata*, 6936Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Carex flacca*, *Conopodium majus*, *Geum rivale*, *Iris pseudacorus*, *Linum catharticum*, *Ranunculus bulbosus*, *Veronica montana*Intrusive neophytes: *Allium paradoxum*, *Rhododendron ponticum*Former rare or scarce species: [*Convolvulus arvensis*], 6837, 1853, Dr F Douglas, *Hypericum humifusum*, 6837, 1836, Dr F Douglas, *Silaum silaus*, 6837, 1964, AGL, bridge below Nenthorn**21. Hareheugh Craigs (see NT64), 6839, Habitat excellent ♥♥♥♥**

Grassland on intrusive rocks

22. Hareheugh Craigs, craig near (see NT64), 6939, Habitat good ♥♥

Grassland on intrusive rocks

23. Sundry arable habitats NT63, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Anthriscus caucalis</i>	One	644338		2002	LWG	Millfield turning, field by B6404 at
	<i>Erodium cicutarium</i>	Four	628399	13	2009	MEB	Fans Hill, below, arable edge
	<i>Fumaria officinalis</i> subsp. <i>wirtgenii</i>		628399	02	2009	MEB	Fans Hill, below
	<i>Fumaria purpurea</i>		675399		2003	LWG	Hardies Mill Place, large colony in 1999
	<i>Persicaria lapathifolia</i>		625352		2000	LWG	Whittrighill Farm, wet area

Selected axiophytes: *Anagallis arvensis*, 605326, Clintmains, 656315, Dalcove, *Galeopsis speciosa*, 6033, Bemersyde Moss, near, 605396, West Murrison, 645373, Rachelfield, 654377, Girrick, 675399, Hardies Mill Place, 685398, Hareheugh Craigs, near, *Lamium amplexicaule*, 6432, Dalcove and Millfield, 6531, Dalcove, 605396, West Murrison, 647323, Dalcove, 649333, Millfield, *Lamium confertum*, 601393, Purvishaugh, 660376, Girrick, 696366, Stichill Bridge, near

24. Sundry NT63, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carduus nutans</i>	One	627398	77	2009	MEB	Fans Hill, below, in headland, possible hybrid with <i>C. crispus</i>
		14	628394	25, 26, 29	2009	MEB	Fans Hill, below, in game strip, possible hybrid with <i>C. crispus</i>
		14	628395	22, 25, 27	2009	MEB	Fans Hill, below, in game strip, possible hybrid with <i>C. crispus</i>
		4 cells, 23	628396		2009	MEB	Fans Hill, below, in game strip, possible hybrid with <i>C. crispus</i>
		Four	628397	20, 23, 24	2009	MEB	Fans Hill, below, in game strip, possible hybrid with <i>C. crispus</i>
	<i>Carex muricata subsp. lamprocarpa</i>	Modest	680373		1995	MEB	Nenthorn Church, car park
	<i>Carex vesicaria</i>		623378	18	2007	LWG	Brotherstone, near, wet pinewood
	<i>Hypericum humifusum</i>		6039		2001	KB	Brownlie, Purvishaugh
			656315		2002	LWG	Dalcove, set-aside
	<i>Torilis nodosa</i>		6039		2000	KB	Brownlie, Purvishaugh

Selected axiophytes: *Agrimonia eupatoria*, 6532, Dalcove, roadside, 641323, Mertoun Newstead, *Ceratocarpus claviculata*, 6039, Purvishaugh, *Equisetum sylvaticum*, 6039, Purvishaugh, *Knautia arvensis*, 6432, Dalcove and Millfield, [*Primula veris*], 644320, Dalcove, pond by, probably introduced, [*Salix pentandra*], 601394, Purvishaugh, planted, 623378, Brotherstone, near, planted, *Silene vulgaris*, 6039, Purvishaugh, Turford Burn

Former rare or scarce species: *Epipactis helleborine*, 623328, 1960, Dr F H Perring, Danderhall, opposite

NT64 Gordon (resurveyed 2007)

Hectad Description

Introduction

Most of this account was written in 1988 after survey in 1987 and 1988. It has been updated following resurvey in 2007. Change between the two surveys is indicated by the use of words such as 'now' and 'recent'.

Overview

All of the hectad is in Berwickshire. It lies between 131m by the Eden Water above Mark's Bridge and 272m at Knock Hill.

This is gently undulating country for the most part underlain with deposits of the Upper Old Red Sandstone, but in the west at Hume Craigs there are conspicuous basaltic lavas from which two prongs project east. The first passes by Middle Third and Byrewalls to Hareford Bridge while the second, which may be earlier, forms the hill at Hexpath. In addition there are a variety of intrusive rocks of Carboniferous age known as the Kelso Traps with olivine dolerite at West Gordon, basalts at Hareheugh Craigs, Bellitaw Craigs and Knock Hill, and also some smaller plugs of conglomerate. In the extreme northeast at Spottiswoode the Old Red Sandstone gives way to Silurian rocks.

The post-glacial history of the hectad is interesting. A small part of the great eskers at Greenlaw Moor form a feature at the northeast but elsewhere there are a series of very extensive alluvial deposits indicating substantial post-glacial lakes. The largest, around Gordon Moss at 140m, extends to about 250 hectares. A second lies between Hume and Gordon and extends to about 150 hectares, again at 140m, and a third between Houndslow and Spottiswoode at 210m is much the same size. A fourth area, much smaller, lies south of Corsbie. The scale of these alluvial deposits much exceeds anything of this type elsewhere in the Scottish Borders.

The village of Gordon is the principal settlement. A main road crossing the hectad is the A697 from Coldstream to Edinburgh. The disused railway between Greenlaw and Earlston also crosses the hectad. There is a small disused quarry at the former railway station in Gordon which is now a pond.

Habitats

Woodland of birch and possibly pine must have been extensive in the past, but, except as an aftermath to peat-cutting on the mosses or as fragments associated with conifer plantations, it is only well-represented in this hectad at Bonarparte's Plantation, itself recolonisation following the felling of a pine plantation. *Ceratnocalyx claviculata* is perhaps the only native species of individual interest in this habitat and is surprisingly widespread. It seems to colonise pine plantations rather readily, but is also present under birch.

The *Linnaea borealis* and former *Goodyera repens* of Bonarparte's Plantation may well have been introductions with pine seedlings from the north. There is hardly a fragment of elm or oak woodland with a hint of ancient woodland flora remaining except perhaps at Gordon Common (see below) where *Chrysosplenium alternifolium* occurs near the Eden Water. *Mercurialis perennis* and *Silene dioica* are very scarce. The *Mercurialis* occurs at Hareheugh Craigs and under one roadside hedge where it may be an introduction.

There is a colony of *Cirsium heterophyllum* in wet birchwood at Sheriffmoor Plantation where *Gymnocarpion dryopteris* is also present.

Heather moorland and grasslands intergrade inextricably in the Scottish Borders and together must have covered much of this hectad a few centuries ago. The moorland has been steadily reclaimed with areas on both sides of the Greenlaw to Gordon road lost shortly before 1987. An unexpected area of moor remained at Gordon Common in 1987 but is now lost, having been drained and planted as Gordon Community Woodland. This was quite species-rich and there have been a number of losses. However *Genista anglica* has thrived in the new woodland rides but unfortunately it is now threatened as the *Calluna* amongst which it grows gives way to rank grasses. Another moor flanked Dogden Moss. Part survives within the Greenlaw Moor SSSI, but a further part, outwith the SSSI, is now conifer plantation.

Areas of acid grassland are now restricted, with the most typical example being perhaps the north side of Knock Hill. There the species diversity is largely concentrated in flushes, except for one small knowe with *Botrychium lunaria* and *Viola lutea* which is less acid. The juniper formerly known from this site has long been extinct. The best neutral grasslands are found on the prominent geological features of Greenlaw Dean and Hareheugh Craigs. In Greenlaw Dean the Blackadder Water runs through a spectacular cut in the Old Red Sandstone especially striking at De'il's Neuk. *Helianthemum nummularium* is abundant on some of the outcrops but the associated species are rather modest with *Polygala vulgaris*, *Leontodon hispidus*, *Helictotrichon pratense* and *Hieracium* species some of the highlights. More locally *Saxifraga granulata* occurs with *Ranunculus bulbosus* and *Carex caryophyllea* while a few wet banks have modest quantities of *Geranium sylvaticum*.

Hareheugh Craigs carries some acid heath vegetation on the north side but most of the south-facing craigs are more basic and support notable colonies of *Carex muricata subsp. lamprocarpa* and *Dianthus deltoides*. *Helianthemum nummularium* is abundant and supports a population of the Northern Brown Argus butterfly while *Helictotrichon pratense*, *Koeleria macrantha*, three *Hieracium* microspecies and *Viola canina* with its hybrid *V. x intersita* are associates. *Scleranthus annuus* is locally plentiful on the craigs in some years, with other annuals including *Filago minima*, *Geranium columbinum*, *Montia fontana subsp. chondrosperma*, *Stellaria pallida*, *Trifolium striatum* and a strong population of a hybrid *Viola* now considered to be *V. arvensis x lutea* which seems to be part annual and part perennial. In the shade on the north of the craigs is a colony of *Ranunculus auricomus*. *Saxifraga granulata* and *Viola lutea* are found on the lower slopes while by the site of a medieval farmstead is a small knowe with *Cerastium semidecandrum* and *Myosotis ramosissima*. There is a further small craig to the southeast of Hareheugh with *Cerastium semidecandrum*, *Scabiosa columbaria* and *Scleranthus annuus*.

The small part of Hume Craigs in the hectad supports *Montia fontana subsp. chondrosperma*, *Stellaria pallida* and *Viola lutea*. Tiny craigs at Bellitaw, now much damaged by small-scale quarrying, carry the same flora as the nearby Hume Craigs in a depauperate form with two interesting *Cerastium* species, *C. diffusum* and *C. semidecandrum*. As a native species *C. diffusum* is nationally largely restricted to the coast but in the Scottish Borders it extends inland on these rocky knowes as far as Hawick. *Vicia lathyroides* was also present at Bellitaw but has probably now been lost. Greenlaw Kaims are of some limited interest as grassland with *Viola lutea* present.

Roadsides and the old railway line have grassland with a certain component of neophytes, though those on the railway line are now in decline. The relative botanical poverty of the roadsides is indicated by the few small colonies of *Geranium pratense* and *Knautia arvensis* and the interest of the railway is perhaps most notable where it crosses Gordon Moss as a habitat for *Botrychium lunaria* and *Salix repens*.

No significant area of **open water** remains from the post-glacial lakes and still waters comprise a few small ponds, an amenity lake at Spottiswoode Loch and a flooded quarry at Gordon village. Their flora is very restricted. *Nuphar advena* occurs as an introduction at Spottiswoode with *Elodea nuttallii* as a very recent colonist while *Callitriche hermaphroditica* is found at Rumbleton.

Two river systems are represented in the hectad: the Eden Water and the Blackadder Water. The Eden Water, with its tributary the Hareford Burn, is largely canalised and sluggish and its flora is linked to that of the wetland which it drains. The aquatic flora has been losing diversity. There is now only a little each of *Ranunculus trichophyllus*, *Potamogeton crispus* and *P. natans* though *Callitriche hamulata* and *Sparganium emersum* remain more frequent. The burns towards the head of the Eden Water catchment, above and below Hexpathdean and near Meikle Harelaw, have gravel bottoms and are well colonised by *Catabrosa aquatica*. The Blackadder and its tributary the Fangrist Burn are much brisker and their beds, together with some adjacent ox-bows and ditches are remarkable for frequent large colonies of *Berula erecta* approaching its highest altitude in Britain. *Ranunculus circinatus* has been recorded here in the past. *Carex acuta* is present in the upper reaches of the Blackadder.

The **wetland** habitats are diverse and sometimes important ranging from small flushes through wet meadows and haughs to extensive areas of fen and acid peat.

Gordon and Lightfield Mosses are deservedly the most famous. Here a post-glacial lake fed by numerous springs had developed into a varied wetland with wet meadows, spring mires, areas of deep peat with acid *Sphagnum* bog on top and peaty pools and channels. Peat-cutting and drainage in the eighteenth and nineteenth centuries much altered the area. Canalising the Hareford Burn in a

stank in 1820 eliminated much of the open water whose margins were formerly colonised by *Lythrum salicaria*, *Ranunculus lingua*, *R. sceleratus*, *Hippuris vulgaris*, *Stellaria palustris*, *Lemna trisulca*, *Sparganium minimum*, *Utricularia minor*, *Typha latifolia*, various *Potamogeton* species and *Carex aquatilis*. Of these only *Lemna trisulca* and *Typha latifolia* now survive, these being found in small quantity in ditches and pools in Gordon Moss. The drainage allowed agricultural improvements which reduced the heath and wet meadows around the margins at Lightfield eliminating *Parnassia palustris* and *Trollius europaeus*. *Genista anglica* and *Apium inundatum* survived until recently, but the *Apium* at least seems now to have gone. *Cirsium heterophyllum* is still at Gordon Moss. Peat-cutting at Gordon Moss broke up the bog surface and when it was abandoned the cuttings became colonised by birch, creating what is now the largest birchwood in the Scottish Borders. However, much interest remains. Gordon Moss reserve was acquired for its *Platanthera bifolia* and *Coralorhiza trifida* but it also has a good variety of willows including *Salix pentandra* and *S. phylicifolia* and superb colonies of *Carex paniculata*, *C. disticha* and *Dryopteris carthusiana* together with a surprising variety of wetland and woodland habitats within an outwardly uniform woodland appearance. However the habitat has recently become much more uniform as the wetland has dried out and the open areas have wooded over. *Platanthera* has declined so much that glades have recently been cut to try to recreate suitable habitat for this orchid. The woodland element of the flora includes a large population of *Listera ovata*, a grove of *Populus tremula*, several colonies of *Pyrola minor* and scattered *Moehringia trinervia*.

The areas outwith the wildlife reserve were under immediate sentence of change in 1987 following the then-recent agricultural drainage schemes but were still varied and interesting. The fields north of the Hareford Burn have now been drained and have lost much of their botanical interest, but those south of the burn are largely unchanged and retain good wetland habitat. There are very modest areas of bog with *Eriophorum angustifolium* and *E. vaginatum* and a little active *Sphagnum* where *Drosera rotundifolia* and *Narthecium ossifragum* are found. These grade into flushed grassland with *Filipendula ulmaria*, *Valeriana officinalis*, *V. dioica*, *Hydrocotyle vulgaris* and a variety of associates. The Tower Burn is more open and carries a large population of *Catabrosa aquatica* which in 1987 was also plentiful elsewhere round Gordon Moss in freshly cut ditches through the peat, but has since declined. Also in the Tower Burn is *Ranunculus hederaceus*, a once common species becoming relatively scarce in the county. *Apium nodiflorum* is present in a ditch to the west of the Moss, at its sole extant Berwickshire station.

Nothing of significance remains of the former wetlands between Hume and Gordon, where there were old records of *Potamogeton alpinus*, nor of the drier areas towards Hume Castle with *Genista anglica*, nor indeed of the former wetland between Houndslow and Spottiswoode. The continuing occurrence of *Catabrosa aquatica* in a ditch through the deposit of fen peat at Howlets Ha' is indicative of its wetland history. Below Corsbie something of interest does still remain. Corsbie Bog itself is a raised moss much cut-over and colonised by birch, though in 1987 it retained enough open moss to support *Vaccinium oxycoccus* and a colony of the large heath butterfly. It no longer supported the *Carex limosa* formerly known there. *Vaccinium oxycoccus* could not be refound in 2007, but the associated woodland still contains abundant *Dryopteris carthusiana*. To the south, Everett Moss is a more significant wetland. At the east end there is *Juncus acutiflorus* fen with *Valeriana officinalis*, *Equisetum fluviatile*, *Dactylorhiza purpurella* and *Carex paniculata*. This is adjoined by a large stand of *Phragmites* with *Angelica sylvestris* and *Cicuta virosa* and this in turn grades into an area with *Carex paniculata*, *Juncus* species, *Eriophorum angustifolium* and plentiful *Cicuta virosa*. Behind this is carr woodland with willow and birch associated with *Dryopteris carthusiana*. *Catabrosa aquatica* occurs in a muddy cattle pool at the margin. Curiously, *Filipendula ulmaria* appears to be absent.

An important peatland of another sort is the fine raised mire of Dogden Moss, perhaps the best preserved such mire in the Scottish Borders. The *Sphagnum* and *Eriophorum vaginatum* have but

few associates though *Drosera rotundifolia* is abundant and *Empetrum nigrum* frequent. *Vaccinium oxycoccus* is constant across the whole moss, but in varying abundance, while *Narthecium ossifragum* occurs in good quantity but more locally. The rare Northern Deergrass *Trichophorum cespitosum subsp. cespitosum* is present in several places and its hybrid with *T. c. subsp. germanicum*, *T. c. nothosubsp. foersteri*, is constant across much of the moss and is sometimes prolific.

The modest-sized Jordanlaw Moss was somewhat similar but the part remaining today is small in comparison to that planted with conifers in the early 1970's. This fragment has now dried out and no bog community is left.

The richer flush communities are now rare following agricultural activities that have eliminated such species as *Parnassia palustris* at Lightfield and Rumbleton but good examples occur well up the Fangrist Burn and there are still flushes by the Rumbleton Burn with *Dactylorhiza incarnata* and pools with *Catabrosa aquatica*. The edges of the Fangrist Burn support colonies of *Blysmus compressus* and *Isolepis setacea* while small flushes carry the community characterised by *Carex dioica* and *Eleocharis quinqueflora* with *Eriophorum latifolium*, *Euphrasia scottica*, *Selaginella selaginoides*, *Parnassia palustris*, *Pinguicula vulgaris*, *Carex hostiana* and *C. viridula subsp. brachyrrhyncha*. The flushed areas in the haughs down the Blackadder support *Dactylorhiza incarnata* with a rich variety of associates including *Blysmus compressus*. However the best example has now been compromised by the digging of a duck pond.

The **arable weed flora** of the hectad includes *Anchusa arvensis*, *Euphorbia helioscopia*, *Fumaria muralis*, *Galeopsis speciosa*, *Lamium confertum* and *Raphanus raphanistrum*. *Galeopsis speciosa* and *Lamium confertum* are notably widespread and occasionally abundant. *Papaver dubium* and *Thlaspi arvense* are now rare but *Matricaria recutita* was found in some quantity near Gordon in 1987 and has since become more frequent. Species that are now almost confined to gardens include *Sonchus oleraceus*, *Urtica urens* and *Veronica agrestis*. Set-aside near Gordon Moss in 2007 revealed the presence of *Fumaria bastardii*, *F. densiflora*, *F. officinalis subsp. wirtgenii*, *F. purpurea*, *Geranium pusillum*, *Papaver dubium subsp. lecoqii*, *Persicaria lapathifolia* and *Viola tricolor*. *Mentha arvensis* occurs in a wet field near Gore Bridge. *Bromus hordeaceus subsp. longipedicellatus* was recorded by Hareford Bridge in 2007, but was not very distinct from *subsp. hordeaceus*. Overall, this is a hectad with a notably rich arable weed flora.

The **neophyte element in the flora** of the hectad was considered minimal in 1988 with *Matricaria discoidea* and *Veronica filiformis* the most evident species. This has been changing. The roadsides have been colonised by the usual range of halophytes and to a lesser extent by the native *Spergularia rubra*. *Buddleja davidii* and *Allium paradoxum* have colonised in Gordon village. *Rumex longifolius* (arguable native) has become quite widespread by roads and in damp places in the unimproved fields, while *Dipsacus laciniatus*, *Sinapis alba* and *Phacelia tanacetifolia* have been planted as game crops. *Anisantha diandra*, *Amsinckia micrantha* and *Erysimum cheiranthoides* are new arable weeds. A paddock near Gordon Common was planted with a wildflower mix in 2007 which included *Agrostemma githago*, *Anthemis arvensis*, *Centaurea cyanus* and *Chrysanthemum segetum*. It has since been returned to grass. Recent planting at Howlets Ha' includes two locally scarce species, *Euonymus europaeus* and *Viburnum opulus*.

Index of Sites NT64 Gordon

GR - NT	Ref	Site	Habitats
6040, 6041, 6141	1	Gordon Bogs, west section, Fans	Birchwood, wet meadow
6043	2	Everett Moss	Fen, reed bed and willow carr
6048, 6049, 6149	3	Spottiswoode Loch	Lake, wetland, woodland
6143	4	Huntly Wood	Spruce plantation
6144	5	Corsbie Bog	Former raised bog
6147	6	Sheriffmoor Plantation	Mixed plantation with birch
6149	7	Jordanlaw Moss	Former raised bog
6342	8	Gordon Bogs, central section, Gordon Moss SSSI	Wet birchwood
6242, 6342, 6442	9	Gordon Bogs, central section, outwith SSSI	Birchwood, wet meadow
6244, 6245	10	Corsbie Fen	Wet meadow and sandy knowe
6341, 6441	11	Gordon Bogs, east section, north of Lightfield	Wet meadow
6440, 6441	12	Lightfield Moor, south of Lightfield	Wet meadow and heath
6440	13	Bonarparte's Covert	Birchwood and pine plantation
6443	14	Gordon Meadow	Grassland on rocky knowes
6541, 6641	15	Hareford Burn	Canalised burn
6640	16	Eden Water	Canalised burn
6543, 6544, 6643, 6644	17	Gordon Community Woodland, south of old railway	Mixed woodland on heath
6544, 6644	18	Gordon Community Woodland, north of old railway	Mixed woodland on heath
6547	19	Meikle Harelaw	Ditch through improved grassland
6546	20	Hexpathdean, lower section	Burnsides and sandy knowes
6547, 6647	21	Hexpathdean, upper section	Burnsides and sandy knowes
6648, 6649, 6747, 6748, 6847, 6848	22	Halliburton, Blackadder Water near	Haughs, banks and scaurs
6749, 6849	23	Dogden Moss, west section	Raised bog with rand intact
6949	24	Dogden Moss, east section	Raised bog with rand intact
6839, 6840, 6940	25	Hareheugh Craigs (part NT63)	Grassland on intrusive rocks
6939, 6940	26	Hareheugh Craigs, craig near (part NT63)	Grassland on intrusive rocks
6842, 6843, 6942	27	Gore Bridge, Middlemoor	Plantation and wetland
6943	28	Bellitaw Craigs	Grassland on intrusive rocks
6941	29	Hume Craigs, west section	Grassland on intrusive rocks
6945, 7045	30	Rumbleton Burn (part NT74)	Wet meadow and heath
6946, 6947, 6948	31	Greenlaw Dean, main section	Haughs, banks and scaurs
6948, 6949	32	Fangrist Burn	Flushes and burnsides
64	33	Sundry	Arable habitats
64	34	Sundry	Sundry habitats

Site Register NT64 Gordon

1. Gordon Bogs, west section, Fans, 6040, 6041, 6141, Habitat fragmentary

Birchwood on fragment of former raised bog, wet meadow, ponds, ditches and sandy knowe

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>	Small	605404	03	2002	MEB	Pond
		Small	608410		1987	MEB	Ditch, probably lost by 2002
	<i>Cerastium semidecandrum</i>	30	607408	81	2002	MEB	Knowe
	[<i>Erodium cicutarium</i>]	Three	610416	41	2002	MEB	Knowe, probably casual
	<i>Montia fontana subsp. variabilis</i>	Small	615417	34	2002	MEB	
		Small	617418		1987	MEB, MM	
	<i>Spergularia rubra</i>	Twelve	615417	90	2002	MEB	Knowe
		Small	616417	04	2002	MEB	

Selected axiophytes: *Anthyllis vulneraria*, 607414, *Carex curta*, 610412, 614417, *Carex paniculata*, 614418, *Ceratocarpus claviculata*, 6141, *Hydrocotyle vulgaris*, 618418, *Potamogeton pectinatus*, 604404, *Salix repens*, 618418

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Crepis paludosa*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*, *Vulpia bromoides*

Intrusive neophytes: *Rhododendron ponticum*, by pond

2. Everett Moss, 6043, Habitat fine ♥♥♥

Fen, reed bed and willow carr

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>	Small	605432	35	2007	MEB et al	Spring
		Large	605434	95	2007	MEB et al	Spring
	<i>Cicuta virosa</i>	Large	603430	27	2007	MEB et al	Fen, most of colony inaccessible

Selected axiophytes: *Carex curta*, 602430, *Carex paniculata*, 604432, *Menyanthes trifoliata*, 6043, *Pedicularis palustris*, 6043, *Salix repens*, 6043

Other axiophytes: *Achillea ptarmica*, *Carex disticha*, *Conopodium majus*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Galium uliginosum*, *Geum rivale*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*

Former rare or scarce species: *Potamogeton pusillus*, 6043, 1880, J Hardy, in Eden Water

3. Spottiswoode Loch, 6048, 6049, 6149, Habitat fragmentary

Artificial lake in former wetland with extensive policy woodlands and plantations

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Listera ovata</i>	Modest	603498		2007	DGL	Conservation woodland
	<i>Vicia sativa subsp. segetalis</i>	Large	608486	19	2007	MEB, LWG	Forestry tracksides

Selected axiophytes: *Callitriche hermaphroditica*, 6049, *Carex paniculata*, 6049, 610490, *Ceratocarpus claviculata*, 6048, 6049, *Potamogeton pectinatus*, 610493

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Callitriche hamulata*, *Carex disticha*, *Geum rivale*, *Iris pseudacorus*, *Lychnis flos-cuculi*, *Potentilla palustris*, [*Quercus petraea*], planted, *Stellaria holostea*, *Veronica scutellata*

Intrusive neophytes: *Doronicum pardalianches*, *Rhododendron ponticum*

4. Huntly Wood, 6143, Habitat lost

Former pine wood, now spruce plantation

Former rare or scarce species: *Goodyera repens*, 6143, 1880, W Stobbs, *Linnaea borealis*, 6143, 1929, J Readman, *Pyrola minor*, 6143, 1880, W Stobbs

5. Corsbie Bog, 6144, Habitat fragmentary

Pine and birch on fragment of former raised bog

Selected axiophytes: *Carex curta*, 613444

Other axiophytes: *Dryopteris carthusiana*, *Erica tetralix*, *Iris pseudacorus*, *Potentilla palustris*

Former rare or scarce species: *Carex laevigata*, 6144, 1892, C Stuart, A H Evans, *Carex limosa*, 6144, 1892, C Stuart, A H Evans, *Drosera rotundifolia*, 6144, 1880, J Hardy, *Vaccinium oxycoccos*, Small, 611442, 1987, MEB, PFB

6. Sheriffmoor Plantation, 6147, Habitat moderately good in part ♥

Mixed plantation including birchwood on site of moorland and wetland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cirsium heterophyllum</i>	Large	610476	23	2002	MEB	

Selected axiophytes: *Gymnocarpium dryopteris*, 6247, *Hydrocotyle vulgaris*, 622477

Other axiophytes: *Achillea ptarmica*, *Callitriche hamulata*, *Carex disticha*, *Dryopteris carthusiana*, *Iris pseudacorus*, *Luzula pilosa*, *Potentilla palustris*, *Veronica scutellata*

7. Jordanlaw Moss, 6149, Habitat lost

Spruce plantation and birchwood fragment on former raised bog

Selected axiophytes: *Carex curta*, 619498, *Menyanthes trifoliata*, 617501

Other axiophytes: *Achillea ptarmica*, *Dryopteris carthusiana*, *Erica tetralix*, *Potentilla palustris*

Former rare or scarce species: *Drosera rotundifolia*, small, 619498, 619499, 1987, MEB, PFB, *Sparganium natans*, 6149, 1880, Anon, *Trientalis europaea*, small, once plenty, 6149, 1870, Lady John Scott, *Vaccinium oxycoccos*, 6149, 1881, J Ferguson

8. Gordon Bogs, central section (within SSSI), Gordon Moss, 6342, Habitat fine

Wet birchwood on site of former spring mire and raised bog (the canalised burns at the boundaries are treated as outwith SSSI), site progressively drying out and declining in interest

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment (with compartment ref.)
*	<i>Botrychium lunaria</i>	3, 1	634424	13, 86	2006	DGL	Old railway, E3
*		Lots	635425		2006	AW	West, old railway, F4
*	<i>Cirsium heterophyllum</i>	13 fl	630425	55, 96	2007	LWG	A4
*		60 fl	631425	17, 19	2007	LWG	B4
*	<i>Corallorhiza trifida</i>	1, 1	633425	69, 97	2007	MEB et al	D4
*		Five	634423	36	2006	DGL	E2
*		36	634425	15, 28	1996	AG, RS	Gray, Spalding, E4
*		14	634426	11, 23, 33	2007	MEB et al	20 in 2006, DGL, E5
*			635425		2006	AW	West, F4
*	<i>Galium palustre subsp. elongatum</i>	Few	635426	25	2007	MEB et al	F5
*	<i>Lemna trisulca</i>		631423		1980	MEB	B2
*		4 cells	634426		2007	LWG	E5
*		5 cells	634427		2007	LWG	E6
*		5 cells	635426		2007	LWG	F5
*			635427	00	2007	LWG	F6
*			638424		1987	MEB	I3
*	<i>Listera ovata</i>		631425		1988	MEB	B4
*			632423		1988	MEB	C2
*		14	632424	04, 92	2007	PFB	C3
*		Modest	633425	56	2007	LWG	D4
*		200	633426	63, 67,93	2007	PFB	D5
*		Modest	637425		1991	MEB	H4
*	<i>Molinia caerulea subsp. arundinacea</i>	Patch	634423	56	2007	LWG	Det. MEB, E2
*	<i>Platanthera bifolia</i>		630425		1980	MEB	A4
*		1, 1	631425	35, 67	1996	AG, RS	Gray, Spalding, B4
*			631426		1980	MEB	B5
*			632423		1988	MEB	C2
*		One	632425	69	1996	AG, RS	Gray, Spalding, C4
*		1, 1	632426	10, 59	2007	LWG	C5
*		3 cells, 33	632427		2007	LWG	C6
*		4 cells, 9	633425		2002	ND et al	Dickson, D4
*		3 cells, 11	633426		1996	AG, RS	Gray, Spalding, D5
*		One	633427	16	2006	MEB	D6
*			634424		1987	MEB	E3
*		3 cells, 5	634425		2002	ND et al	Dickson, E4
*		1, 1	634426	11, 43	2007	MEB	E5
*			635425		1987	MEB	F4
*		One	635426	00	1996	AG, RS	Gray, Spalding, F5
*		Modest	637424		1988	MEB	H3
*	<i>Pyrola minor</i>	Patches	634423	34, 54	2007	LWG	E2
*		4 cells	634426		2006	MEB	E5

*	<i>Salix phylicifolia</i>	Five	635425	01	2007	MEB et al	F4
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Selected axiophytes: *Callitriche hermaphroditica*, 632423, *Carex curta*, 6342, *Carex paniculata*, 6342, *Ceratocarpus claviculata*, 6342, *Chenopodium bonus-henricus*, 635428, naturalised introduction, *Chrysosplenium alternifolium*, 6342, *Hydrocotyle vulgaris*, 631425, *Menyanthes trifoliata*, 6342, *Narthecium ossifragum*, 631425, 632425, 637425, *Populus tremula*, 630423, 630424, 630425, 632425, *Salix pentandra*, 6342, *Salix repens*, 633427, *Saxifraga granulata*, 637426

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Carex disticha*, *Carex pulicaris*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Rhinanthus minor*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*

Intrusive neophytes: *Symphoricarpos albus*, edge of tip

Former rare or scarce species: *Carex aquatilis*, 6342, 1915, J J M L Aiken, *Carex diandra*, 6342, 1880, C Stuart, *Carex laevigata*, 6342, 1869, C Stuart, *Carex pallescens*, 6342, 1880, C Stuart, *Dactylorhiza incarnata*, 635426, 1982, MEB, *Drosera rotundifolia*, few, 634425, 1993, MEB, *Genista anglica*, 6342, 1880, C Stuart, *Hippuris vulgaris*, 6342, 1880, C Stuart, *Lythrum salicaria*, 6342, 1886, C Stuart, grows at sides of moss holes, *Platanthera bifolia*, 634427, 1957, G Grahame, GR approx. only, *Potamogeton alpinus*, 6342, 1881, R C C Renton, *Potamogeton coloratus*, 6342, 1916, A H Evans, *Potamogeton obtusifolius*, 6342, 1881, R C C Renton, *Potamogeton pusillus*, 6342, 1880, C Stuart, *Ranunculus lingua*, 6342, 1976, A Somerville, *Salix myrsinifolia*, 6342, 1880, A Brotherston, *Schoenus nigricans*, 6342, 1916, A H Evans, *Scleranthus annuus*, 6342, 1960, D Bayliss, probably railway, *Sparganium natans*, 633423, 1982, MEB, *Spergularia rubra*, 6342, 1960, D Bayliss, probably railway, *Stellaria palustris*, three, 634426, 1993, MEB, *Trifolium arvense*, 6342, 1960, D Bayliss, probably railway, *Utricularia minor*, 633424, 1974, G Waldie, *Utricularia vulgaris* sens. lat., 6342, 1882, A Dickson, *Vaccinium oxycoccos*, 6342, 1960, A J Younger, *Valerianella locusta*, 6342, 1967, A Somerville, probably railway

Former charophytes: *Chara globularis*, 6342, 1881, Anon, det. A Bennett, herb BM, *Nitella opaca*, 6342, 1881, Anon, herb BM

9. Gordon Bogs, central section (outwith SSSI), 6242, 6342, 6442, Habitat moderately good ♥

Birchwood fragments, raised bog fragments, wet meadows and canalised burns

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Apium nodiflorum</i>	2x1m	629425	49	2007	MEB	Ditch to west of moss
		1x1m	629426	40	2007	MEB	Ditch to west of moss
	<i>Catabrosa aquatica</i>	12 cells of 100m	624421-631425		2007	MEB	Hareford Burn
		4 cells of 100m	628425-630425		2007	MEB	Ditch to west of moss
		Casual	632422	96	2007	MEB	Hareford Burn at moss
		Casual	633422	53	2007	MEB	Hareford Burn at moss
		4 cells of 100m	636421-639423		1987	MEB	Hareford Burn at moss
		Casual	639424	66, 77	2007	MEB	Moss Burn at moss
		4 cells of 100m	639425-640425		2007	MEB	Tower Burn
	<i>Drosera rotundifolia</i>	Modest	627421		2007	LWG	South of moss
		One	630420	87	2007	MEB	South of moss
		One	631420	07	2007	MEB	South of moss
	<i>Sparganium emersum</i>		6342		1982	MEB	Probably lost by 2007

Selected axiophytes: *Carex paniculata*, 6242, 6341, *Ceratocarpus claviculata*, 6241, 6242, 6341, 6342, *Chrysosplenium alternifolium*, 623421, *Hydrocotyle vulgaris*, 6241, 6341, 6342, *Menyanthes trifoliata*, 6342, *Narthecium ossifragum*, 6242, 6342, *Salix repens*, 6242, 6341, 6342

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Erica tetralix*, *Galium uliginosum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*

10. Corsbie Fen, 6244, 6245, Habitat good ♥♥

Fen, wet meadow and sandy knowe

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Botrychium lunaria</i>	Five	622450		2002	MEB	
		Six	623450		2002	MEB	
	<i>Catabrosa aquatica</i>	Small	623449	46	2002	MEB	
		Small	623449	58	2002	MEB	
	<i>Galium palustre subsp. elongatum</i>	Small	620449	11	2002	MEB	

Selected axiophytes: *Carex paniculata*, 6244, 6245, *Viola lutea*, 622450, 623450

Other axiophytes: *Achillea ptarmica*, *Anemone nemorosa*, *Cardamine amara*, *Carex caryophylla*, *Carex disticha*, *Conopodium majus*, *Dryopteris carthusiana*, *Geum rivale*, *Iris pseudacorus*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Trifolium medium*, *Veronica scutellata*

11. Gordon Bogs, east section, north of Lightfield, 6341, 6441, Habitat moderately good ♥

Wet meadows and canalised burn

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Drosera rotundifolia</i>		641418		2006	TR	Rafferty
	<i>Montia fontana subsp. variabilis</i>	Small	630418	10	2007	MEB	
	<i>Sparganium emersum</i>	Small	643419	97	2007	MEB	Hareford Burn
		Large	644419	35, 74	2007	MEB	Hareford Burn
		Modest	645419	42	2007	MEB	Hareford Burn
		Small	647418	17	2007	MEB	Hareford Burn

Selected axiophytes: *Carex paniculata*, 643420, 645419, *Chrysosplenium alternifolium*, 643419, 643420, *Hydrocotyle vulgaris*, 6441, *Narthecium ossifragum*, 644418, *Salix repens*, 6441

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Briza media*, *Callitriche hamulata*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Crepis paludosa*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*

Former rare or scarce species: *Eleocharis quinqueflora*, 6441, 1869, C Stuart, *Hippuris vulgaris*, 6441, 1869, C Stuart, *Pyrola minor*, 6441, 1842, G Darling, *Trollius europaeus*, 6441, 1842, G Darling

12. Lightfield Moor, south of Lightfield, 6440, 6441, Habitat moderately good ♥

Wet meadow and heath, damaged by drainage

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Genista anglica</i>		643409		1988	MEB	
			643411		2006	TR	Rafferty

Selected axiophytes: *Ceratocarpus claviculata*, 641410, 641411, *Hydrocotyle vulgaris*, 641411, 643411
Menyanthes trifoliata, 644418

Other axiophytes: *Carex pulicaris*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Erica tetralix*, *Galium uliginosum*, *Lychnis flos-cuculi*, *Veronica scutellata*

Former rare or scarce species: *Apium inundatum*, 644412, 1988, MEB

13. Bonarparte's Covert, 6440, Habitat good ♥♥

Birchwood and second generation pine plantation on former moorland, birch ageing and site likely to decline in interest unless colonisation of scarce species occurs as pines mature

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Hypericum humifusum</i>]		645405		1995	PSL	Lusby, perhaps casual
	<i>Linnaea borealis</i>	20x20m	646406	74	2007	MEB	Under birch

Selected axiophytes: *Ceratocarpus claviculata*, 6440, *Salix pentandra*, 645405

Other axiophytes: *Luzula pilosa*

Former rare or scarce species: *Goodyera repens*, 6440, 1956, H M Brown, *Listera cordata*, 6440, 1886, C Stuart

14. Gordon Meadow, 6443, Habitat moderately good ♥

Grassland on rocky knowes, an outcrop of the Kelso Traps

Selected axiophytes: *Viola lutea*, 646435, 646436, 647435, 647436

Other axiophytes: *Anemone nemorosa*, *Conopodium majus*

15. Hareford Burn, 6541, 6641, Habitat fragmentary

Canalised burn

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Sparganium emersum</i>	Small	653415	74	2007	MEB	
		12 cells	657411- 660412		2007	MEB	

Selected axiophytes: *Carex paniculata*, 6541, 6641, *Chrysosplenium alternifolium*, 653415, 654414, *Ranunculus trichophyllus*, 658411, 659412.

Other axiophytes: *Callitriche hamulata*, *Carex acutiformis*, *Geum rivale*, *Iris pseudacorus*, *Valeriana officinalis*

16. Eden Water, 6640, Habitat fragmentary

Canalised burn

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Sparganium emersum</i>	Large	661400	86	2007	MEB	
		Modest	661401	82	2007	MEB	
			661403		1987	MEB	
		Large	662407	66	2007	MEB	

Other axiophytes: *Callitriche hamulata*, *Ranunculus aquatilis*, *Valeriana officinalis***17. Gordon Common, now Gordon Community Woodland, section south of old railway, 6543, 6544, 6643, 6644, Habitat moderately good ♥**Mixed woodland on site of former lowland heath and burn-sides. The planting and associated drainage has destroyed much of the botanical interest but *Genista anglica* has prospered

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Botrychium lunaria</i>	Three	663439	63	2005	DGL	
	<i>Genista anglica</i>	Few	658441	91	2007	MEB	
		4 cells	659436		2007	MEB	
		8 cells	659437		2007	MEB	
		11 cells	659438		2007	MEB	
		6 cells	659439		2007	MEB	
		One	661436	92	2007	MEB	
		4 cells	661438		2007	MEB	
			662439	35	2002	DGL	
	<i>Montia fontana subsp. variabilis</i>	Small	662437	74	2005	MEB, DGL	In rut on track
	<i>Ophioglossum vulgatum</i>	30x30m	662440	29	2005	MEB, DGL	
			662441	00	2005	MEB, DGL	

Selected axiophytes: *Berula erecta*, 6543, *Carex paniculata*, 658438, 658440, *Chrysosplenium alternifolium*, 6543, 6644, *Hydrocotyle vulgaris*, 6644, [*Juniperus communis subsp. communis*], 6644, planted, [*Populus tremula*], 6644, planted, [*Salix pentandra*], 6644, planted, *Salix repens*, 661438, *Saxifraga granulata*, 659435, *Viola lutea*, 6644, 658436Other axiophytes: *Ajuga reptans*, *Brachypodium sylvaticum*, *Callitriche hamulata*, *Carex acutiformis*, *Carex hostiana*, *Iris pseudacorus*, *Isolepis setacea*, *Luzula pilosa*, *Potentilla palustris*, *Valeriana officinalis*Intrusive neophytes: *Rhododendron ponticum***18. Gordon Common, now Gordon Community Woodland, section at and north of old railway, 6544, 6644, Habitat moderately good ♥**Mixed woodland on site of former lowland heath and burn-sides, track of old railway. The planting and associated drainage has destroyed much of the botanical interest but *Genista anglica* has prospered

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Genista anglica</i>	Four	658441	69, 77	2007	MEB	
		Several	658442	62, 74	2007	MEB	
		Several	659442	29	2007	MEB	
		10 cells	660442		2007	MEB	
		Several	661445	74, 85	2007	MEB	
		3 cells	662445		2007	MEB	

<i>Sagina apetala</i> subsp. <i>apetala</i>		661447	35	2007	MEB	
<i>Sparganium emersum</i>		660447		1988	MEB	Probably lost by 2007
<i>Spergularia rubra</i>	Few	661447	34, 63	2007	MEB	Sandy roadside
	Modest	666444	32	2007	MEB	Car park and verge
<i>Veronica catenata</i>		660447		1988	MEB	May well have been hybrid
		661443		1988	MEB	May well have been hybrid
<i>Veronica x lackschewitzii</i>		658441	44	2007	MEB	Runnel by railway, partly fertile
	Three	662450	76	2007	MEB	Muddy margin of burn
<i>Vicia sativa</i> subsp. <i>segetalis</i>	Frequent	6644		2005	MEB, DGL	Old railway

Selected axiophytes: *Carex curta*, 6644, *Ranunculus trichophyllus*, 658441

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Briza media*, *Callitriche hamulata*, *Carex acutiformis*, *Carex caryophylla*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Conopodium majus*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Helictotrichon pubescens*, *Iris pseudacorus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Senecio aquaticus*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*

Intrusive neophytes: *Rhododendron ponticum*, *Rosa rugosa*

Former rare or scarce species: *Potamogeton pusillus*, 6543, 1843, G Johnston, Eden Water

19. Meikle Harelaw, 6547, Habitat fragmentary

Ditch through improved grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>		653476	66	2007	MEB	Cattle plodged ditch
			653477	09	2007	MEB	Cattle plodged ditch

20. Hexpathdean, lower section, 6546, Habitat fragmentary

Burnsides and ditches through improved grassland and sandy knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>	Large	654463	56	2007	MEB	Gravel in cleaned ditch
		Large	655465	02	2007	MEB	Gravel in cleaned ditch
		Large	656468	33	2007	MEB	Gravel in cleaned ditch

Other axiophytes: *Ajuga reptans*, *Carex disticha*, *Geum rivale*, *Potentilla palustris*

21. Hexpathdean, upper section, 6547, 6647, Habitat fragmentary

Burnsides and ditches through improved grassland and sandy knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>		658472	58	2007	MEB	Burn open to cattle
			659473	03, 37	2007	MEB	Burn open to cattle
			660474	62	2007	MEB	Burn open to cattle
			660475	93	2007	MEB	Burn open to cattle
			661474	04	2007	MEB	Burn open to cattle

22. Halliburton, Blackadder Water near, 6648, 6649, 6747, 6748, 6847, 6848, Habitat good ♥♥

Haughs, sandstone banks and scaurs by Blackadder Water

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Montia fontana subsp. variabilis</i>		680478		1988	MEB	Oxbow pond

Selected axiophytes: *Berula erecta*, 6648, 6747, 6847, 6848, *Carex acuta*, 665484, *Geranium sylvaticum*, 6747, 6748, *Helianthemum nummularium*, 6747, 6847, 6848, *Polygala vulgaris*, 682480, *Ranunculus trichophyllus*, 677478

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Rhinanthus minor*, *Scirpus sylvaticus*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*

23. Dogden Moss, west section, 6749, 6849 (see also NT65), Habitat outstanding

♥♥♥♥♥

Raised bog with rand intact

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Drosera rotundifolia</i>	Large	6749		2007	MEB	Constant across moss, scarce in lagg
*		Large	6849		2007	MEB	Constant across moss, scarce in lagg
*	<i>Trichophorum cespitosum subsp. cespitosum</i>	Small	677493	54	2002	MEB et al	
*	<i>Trichophorum cespitosum nothosubsp. foersteri</i>	Large	6749		2007	MEB	Frequent across moss
*		Large	6849		2007	MEB	Frequent across moss
*		One	682499	82	2004	MEB	Proliferous
*		Few	689495	74	2002	MEB et al	Proliferous
*	<i>Vaccinium oxycoccus</i>	10 cells of 100m	6749		2007	MEB	Across all the moss, local in lagg
*		60 cells of 100m	6849		2007	MEB	Across all the moss, local in lagg

Selected axiophytes: *Narthecium ossifragum*, 6749, 6849

24. Dogden Moss, east section, 6949 (see also NT65), Habitat outstanding ♥♥♥♥♥

Raised bog with rand intact

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Drosera rotundifolia</i>	Large	6949		2007	MEB	Constant across moss, scarce in lagg
*	<i>Trichophorum cespitosum subsp. cespitosum</i>	Modest	690493	77	2002	MEB et al	
*		Small	691492		2000	MEB	Flush at edge of raised bog
*		Few	691494	88	2007	MEB	
*			692494	54	2005	MEB, MP	Porter
*		Few	692495	30, 32, 34	2007	MEB	
*		Modest	693496	87, 88	2007	MEB	Flush on raised bog
*	<i>Trichophorum cespitosum nothosubsp. foersteri</i>	Large	6949		2007	MEB	Frequent across moss
*	<i>Vaccinium oxycoccos</i>	24 cells of 100m	6949		2007	MEB	Across all the moss, local in lagg

Selected axiophytes: *Narthecium ossifragum*, 6949

Other axiophytes: *Dryopteris carthusiana*, *Erica tetralix*

25. Hareheugh Craigs (part NT63), 6839, 6840, 6940, Habitat excellent ♥♥♥♥

Grassland on intrusive rocks, an outcrop of the Kelso traps

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Botrychium lunaria</i>	Three	687401		1991	DGL	Probably lost by 2007
	<i>Carex muricata</i> subsp. <i>lamprocarpa</i>	4 cells	688399		2007	MEB	Good colony
			687400	91	2007	MEB	
		5 cells	688400		2007	MEB	
	<i>Catabrosa aquatica</i>		686401		1994	MEB	Cattle trampled mud
			687401		1994	MEB	Cattle trampled mud
			688401		1994	MEB	Cattle trampled mud
			689400	90	2007	MEB	Spring
			689401	10	2007	MEB	Spring
	<i>Cerastium semidecandrum</i>		688399	60, 81	2007	MEB	
			689399	58, 71	2007	MEB	
			689400		1991	MEB	Near mediaeval farmstead.
	<i>Dianthus deltoides</i>	13 cells	687399		2007	MEB	Fine colony on craig and talus slope
			688398	69	2007	MEB	
		25 cells	688399		2007	MEB	
		7 cells	689399		2007	MEB	
		Few	687400	70, 92	2007	MEB	
		9 cells	688400		2007	MEB	
		Few	688401	91	2007	MEB	
	<i>Filago minima</i>	4 cells	687399		2008	MEB	Good colony in 2007, few in 2008
	<i>Geranium columbinum</i>	30-50 plants	688399	92	2008	MEB	
	<i>Montia fontana</i> subsp. <i>chondrosperma</i>	Large	686399	94	2006	MEB	Colony in wheel ruts near entrance, none in 2007
		Small	690400	14	2007	MEB	Low slope
	<i>Myosotis ramosissima</i>	4 cells	690400		2007	MEB	
	<i>Ranunculus auricomus</i>	8x1m	687400	73	2006	MEB	Foot of crag
		Small	688401	52	2006	MEB	By whins
	<i>Rosa pimpinellifolia</i>		688399	14	2006	MEB	In rock cleft
	<i>Scleranthus annuus</i>		685398	58	2007	MEB	Track to craigs, none in 2008
		7 cells	686399		2007	MEB	Track to craigs, none in 2008
		6 cells	687399		2008	MEB	Drought-prone rocks
		4 cells	688399		2007	MEB	
		Five	687400	00	2007	MEB	
			688401		1987	MEB	
		Ten	690400	06	2007	MEB	
	<i>Trifolium striatum</i>		688399	68	2007	MEB	Good colony
	<i>Viola arvensis x lutea</i>	100's	688399	44, 81	2008	MEB	Plentiful 2007 in gully, few 2008
			689400		1991	MEB	May relate to colonies in NT63, just a few metres away
	<i>Viola canina</i>	Few	687399	73, 93	2007	MEB	
		One	688401		2000	MEB	Large plant
	<i>Viola x intersita</i>	Few	687399	55, 74	2006	MEB	
		Few	688399	16, 19	2006	MEB	
		Six	687400	11	2007	MEB	
		One	688400	20	2006	MEB	Large plant

Selected axiophytes: *Helianthemum nummularium*, 688399, 6840, *Hieracium* spp. 6840, *Polygala vulgaris*, 687399, *Saxifraga granulata*, 689399, 6840, 690400, *Stellaria pallida*, 687399, 688399, 688400, 688401, 689401, *Viola lutea*, 688399, 689399, 688401, 688402

Other axiophytes: *Adoxa moschatellina*, *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Carex caryophyllea*, *Conopodium majus*, *Helictotrichon pratense*, *Koeleria macrantha*, *Mercurialis perennis*, *Stellaria holostea*, *Thymus polytrichus*, *Vulpia bromoides*

26. Hareheugh Craigs, craig near (part NT63), 6939, 6940, Habitat good ♥♥

Grassland on intrusive rocks, an outcrop of the Kelso traps

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		693399	11, 67	2007	MEB	
	<i>Scabiosa columbaria</i>	Two	693399	58	2007	MEB	At base of craig
	<i>Scleranthus annuus</i>		693399	11	2007	MEB	

Selected axiophytes: *Anthyllis vulneraria*, 693400, *Helianthemum nummularium*, 693399, 693400, *Stellaria pallida*, 693399, *Viola lutea*, 696402

Other axiophytes: *Aira caryophyllea*, *Koeleria macrantha*, *Vulpia bromoides*

27. Gore Bridge, Middlemoor, 6842, 6843, 6942, Habitat fragmentary

Plantation and wetland with old drove road

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Malva moschata</i>]	One	694424	94	2003	MEB, PFB	Middlemoor Plantation, dumped
	<i>Mentha arvensis</i>	Large	699423	12	2003	MEB	Wet field
	<i>Potamogeton pusillus</i>		6842		2003	MEB, JW	Pond

Selected axiophytes: *Carex curta*, 6843, *Ceratocarpus claviculata*, 682439, 697424, *Hydrocotyle vulgaris*, 686430, 686434

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza purpurella*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Iris pseudacorus*, *Isolepis setacea*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Ranunculus aquatilis*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica scutellata*

Former rare or scarce species: *Cryptogramma crispera*, 695424, 1987, MEB, ancient wall, probably lost by 2003, *Eleogiton fluitans*, 6842, 1875, J Hardy, ditches in Falside Hill Bog, *Potamogeton alpinus*, 6842, 1843, G Johnston, Eden Water and ditches near

28. Bellitaw Craigs, 6943, Habitat fragmentary

Grassland on intrusive rocks, a tiny outcrop of the Kelso traps, part damaged by quarrying and intensive grazing, part damaged by tree planting

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		695435		1987	MEB	Probably lost by 2008
	<i>Scleranthus annuus</i>	Four	694433	66, 68	2008	MEB	Extreme east end of craig
	<i>Vicia lathyroides</i>		695435		1987	MEB	Probably lost by 2008

Selected axiophytes: *Ceratocarpus claviculata*, 694424

Other axiophytes: *Helictotrichon pratense*, *Koeleria macrantha*, *Thymus polytrichus*

29. Hume Craigs, west section, 6941, Habitat good ♥♥

Grassland on intrusive rocks, an outcrop of the Kelso traps

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Montia fontana</i> subsp. <i>chondrosperma</i>		699416	88	2007	MEB	

Selected axiophytes: *Stellaria pallida*, 699416, *Viola lutea*, 698417Other axiophytes: *Carex caryophyllea*, *Koeleria macrantha*, *Thymus polytrichus***30. Rumbleton Burn (part NT74), 6945, 7045, Habitat good in part ♥♥**

Wet meadow and heath, old railway

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>	Small	703454	79	2007	MEB	Sandy runnel
	<i>Dactylorhiza incarnata</i>	Small	699454		1988	MEB	
		Six	699455		2000	MEB	
		Small	700454	22	2007	MEB	
	<i>Erodium cicutarium</i>	One	705455	10	2007	MEB	On disused railway
	<i>Spergularia rubra</i>	Small	7045		1998	DW	Wood [presumably disused railway]

Selected axiophytes: *Carex curta*, 689460, *Carex paniculata*, 702457, 703457, *Menyanthes trifoliata*, 699455, 700454, *Pinguicula vulgaris*, 699454, *Saxifraga granulata*, 702455, *Viola lutea*, 701455Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Crepis paludosa*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Triglochin palustre*, *Valeriana dioica*Former rare or scarce species: *Apium inundatum*, 7045, 1838, H G C Clarke, *Coeloglossum viride*, 7045, 1838, H G C Clarke, *Genista anglica*, 707450, 1927, J R Simpson, Greenlaw Golf Course, *Hippuris vulgaris*, 6945, 1853, G Johnston, *Listera ovata*, 6945, 1838, H G C Clarke**31. Greenlaw Dean, main section, 6946, 6947, 6948, Habitat fine ♥♥♥**

Haughs, sandstone banks and scours by Blackadder Water

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Blysmus compressus</i>	Large	692474	60	2000	MEB	
		Large	695470	14, 23	2000	MEB	
	<i>Catabrosa aquatica</i>	Few	692475	13	2002	MEB et al	New pond, recent colonist
	<i>Dactylorhiza incarnata</i> subsp. <i>incarnata</i>	28	691475	67, 95	2000	MEB	Flush, damaged by pond construction, colony reduced
			693475		1987	MEB	
	<i>Lemna trisulca</i>		691475	90	2000	MEB	In ox-bow

Selected axiophytes: *Berula erecta*, 6946, 6947, 6948, *Geranium sylvaticum*, 6946, *Helianthemum nummularium*, 6946, 6947, *Hieracium* spp, 6947, *Polygala vulgaris*, 698469, *Ranunculus trichophyllus*, 6947, *Saxifraga granulata*, 699467Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Callitriche hamulata*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Festuca pratensis*, *Geum rivale*, *Helictotrichon pratense*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Ranunculus aquatilis*, *Ranunculus bulbosus*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

Former rare or scarce species: *Lythrum portula*, 6946, 1843, F Douglas, *Ranunculus circinatus*, 6947, 1969, AGL

32. Fangrist Burn, 6948, 6949, Habitat excellent ♥♥♥♥

Flushes and burnsidcs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Blasmus compressus</i>	Small	693482	92	2000	MEB	
		Small	695482	08	2000	MEB	
		Large	697483	79	2002	MEB et al	Away from burn
		Large	697486	71	2000	MEB	
		Large	698486	09	2000	MEB	
		Large	698487	14	2000	MEB	
*			698488	93	2000	MEB	
*		Modest	698493	29	2000	MEB	
*		Modest	698495	99	2002	MEB	
*			699495	33, 56	2000	MEB	
*		Modest	699496	76, 78	2000	MEB	
*	<i>Carex dioica</i>		699496		1987	MEB, PFB	Probably lost by 2002
	<i>Dactylorhiza incarnata</i> <i>subsp. pulchella</i>	One	694482	56, 67	2000	MEB	
*	<i>Eleocharis</i> <i>quinqueflora</i>		698495	99	2002	MEB	
*	<i>Eriophorum latifolium</i>		698495	99	2002	MEB	
*	<i>Euphrasia scottica</i>	Modest	698495	99	2002	MEB	
	<i>Potamogeton pusillus</i>		693480	07	2000	MEB	In ox-bow
*	<i>Selaginella</i> <i>selaginoides</i>	Very few	698495	99	2002	MEB	By fence post
	<i>Veronica catenata</i>		698486		1988	MEB	Could have been hybrid

Selected axiophytes: *Berula erecta*, 6949, *Geranium sylvaticum*, 698487, *Helianthemum nummularium*, 6949, *Parnassia palustris*, 698495, 699496, *Pedicularis palustris*, 6949, *Pinguicula vulgaris*, 698495, *Viola lutea*, 696499

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Iris pseudacorus*, *Isolepis setacea*, *Leontodon hispidus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Phyllitis scolopendrium*, *Potentilla palustris*, *Thymus polytrichus*, *Valeriana dioica*, *Veronica scutellata*

33. Sundry arable habitats NT64, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Chrysanthemum segetum</i>	Large	645427		1991	COB	Gordon, near, probably lost by 2007
	<i>Fumaria bastardii</i>		626426		2007	LWG	Gordon Moss, near
	<i>Fumaria densiflora</i>		626426		2007	LWG	Gordon Moss, near
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>	Few	628431		2007	MEB	Gordon Moss, near, setaside strip
			635428		2007	MEB et al	Gordon Moss, near
			651446		2008	LWG	Greenknowe, near
	<i>Fumaria purpurea</i>	One	636429		2006	LWG	Gordon Moss, near, road verge
			675400		1999	MEB	Lurgie Craigs, near
		One	675442		2005	LWG	East Gordon, setaside
		Four	675443		2005	LWG	East Gordon, setaside
	<i>Geranium pusillum</i>		614428		2006	LWG	Huntlywood
	<i>Papaver dubium subsp. lecoqii</i>	One	628431		2007	MEB	Gordon Moss, near, setaside strip
			635428		2007	MEB et al	Gordon Moss, near
	<i>Persicaria lapathifolia</i>		6343		2007	LWG	Gordon Moss, near, field margin
		Few	657413	02	2007	MEB	Hareford Bridge
	<i>Vicia sativa subsp. segetalis</i>		6343		2007	LWG	Gordon Moss, near, field margin
	<i>Viola tricolor subsp. tricolor</i>	Few	6343		2007	LWG	Gordon Moss, near, field margin
3	[<i>Centaurea cyanus</i>]		661434		2007	MEB	Gordon Common, paddock near, sown
3	[<i>Chrysanthemum segetum</i>]		661434		2007	MEB	Gordon Common, paddock near, sown

Selected axiophytes: *Erysimum cheiranthoides*, 614424, Huntlywood, 614428, Huntlywood, 678441, East Gordon, *Galeopsis speciosa*, 6040, 6044, 6048, 6140, 6141, 6142, 6243, 6245, 6248, 6249, 6340, 6342, 6343, 6349, 6440, 6441, 6442, 6443, 6541, 6542, 6641, 6643, 6644, 6744, 6842, *Lamium amplexicaule*, 609413, Fans, 627436, Upper Huntlywood, 628431, Huntlywood, 630430, Huntlywood, 632427, Huntlywood, 672445, East Gordon, *Lamium confertum*, 6140, 6141, 6142, 6243, 6249, 6443, 6445, 6644, 6744, 6846, *Lamium hybridum*, 630430, Gordon, Huntlywood Farm, 632427, Gordon, Huntlywood South, 634499, Kelmscott, *Sinapis alba*, 627436, Upper Huntlywood, 628435, Nether Huntlywood, 654415, Hareford Burn, east of Hareford Bridge, 672445, East Gordon

Former rare or scarce species: *Centaurea cyanus*, 6442, 1894, G Gunn, *Chrysanthemum segetum*, 6441, 1964, DGL, Lightfield, cornfield near, *Mentha arvensis*, 6443, 1958, I McWhan, *Persicaria lapathifolia*, 6442, 1913, W B Boyd, Gordon, near

34. Sundry NT64, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>		621487		1987	MEB	Howlet's Ha', east of, probably lost by 2003
			628488		2003	LWG	Kelmscott
		Small	662450	85	2007	MEB	Macks Mill, near, muddy edge of burn
	[<i>Centaurea scabiosa</i>]		699462		2006	JTM	Mercer, Greenlawdean, sown wildflower meadow
	[<i>Chelidonium majus</i>]		644430	95	2007	MEB	Gordon, double-flowered, probably originally planted
	[<i>Cirsium heterophyllum</i>]		632499		1987	MEB	Westertown, probably lost by 2007
	[<i>Echium vulgare</i>]		667444		2007	LWG	Gordon Common, road end near, dumped
	[<i>Euonymus europaeus</i>]		622496		2003	LWG	Howlet's Ha , probably planted
	[<i>Galium mollugo</i>]		613426		2003	LWG	Huntlywood, road near, probable introduction
			684433		1987	MEB	Middlethird, east of, probably lost by 2003
	[<i>Geranium lucidum</i>]	Small	639427	56	2006	MEB	Greenknowe Tower, wall
			647431	69	2007	MEB	Gordon, outside old factory
	<i>Lythrum portula</i>		689460		1997	JJD	Day, Rumbleton, near
	<i>Ranunculus peltatus</i>		689460		1997	JJD	Day, Rumbleton, near
	[<i>Rosa pimpinellifolia</i>]		682448	94	2007	MEB	Rumbletonlaw, below, probable hybrid, planted
	<i>Sherardia arvensis</i>	Patch	651437	18	2007	MEB	Gordon, old quarry near, fishermen's car park
	<i>Spergularia rubra</i>		672445	21	2007	LWG	Gordon Common, old railway near
			673445	56	2007	MEB	Rumbletonlaw, old railway below
		Few	696448	53	2007	MEB	Road verge, A6105
	<i>Ulex gallii</i>	One	683437		2003	MEB, PFB	Middlethird Moor Wood, others recently lost to snowplough
	[<i>Viburnum opulus</i>]		622496		2003	LWG	Howlet's Ha , probably planted

Selected axiophytes: *Viola lutea*, 649436, Gordon, knowe at old quarry and station yard, 682448, East Gordon, by old railway

Former rare or scarce species: [*Chelidonium majus*], 6342, 1842, G Darling, Greenknowe Tower, *Euphrasia rostkoviana*, 6342, 1907, G C Druce, Gordon, near, *Hypericum humifusum*, 6443, 1894, G Gunn, Gordon, near, *Listera ovata*, 6545, 1880, W Stobbs, Fawside, near, *Lycopodium clavatum*, 6443, 1880, W Stobbs, Gordon Manse, in a plantation, [*Rosa micrantha*], 6245, 1880, A Brotherston, Skinlaws Toll, near, *Sedum villosum*, 6844, 1843, G Johnston, Lightfield and Greenlaw, between, *Sparganium emersum*, 6345, 1853, F Douglas, Greenknowe, near

NT65 Longformacus (resurveyed 2008)

Hectad Description

Overview

All of the hectad NT65 is in Berwickshire. It lies between 187m by the Dye Water at Longformacus and 470m on Blythe Edge. While the Upper Old Red Sandstone underlies a strip at the east and south edges of the hectad, there is little productive farmland and the in-by fields are mainly used as grass in conjunction with more extensive sheep farming, though there is a large cattle enterprise at Flass. Acid Silurian rocks underlie the rest of the hectad, except for the intrusive rocks at the Dirringtons, two hills standing apart from the Lammermuirs. Much of the Dye Water catchment is open grouse moor as is the Watch Water catchment above the Watch Water reservoir. South of Twin Law at 447m is Harecleugh Forest, a large conifer plantation, and nearby the Boondreigh Burn marks the head of the catchment of the Leader Water. The highest summit is Meikle Law at 468m to the north of the Dye Water but the upper slopes Blythe Edge to the south just exceed it.

Longformacus has diverse habitats with burnside woodland and the policies of Longformacus House as well as the ruderal habitats of the village itself. There are few arable fields in the hectad but the recent development of Horseupcleugh as a shooting estate has led to the introduction of annually-cultivated game strips or longer-term sowings. New ponds have been dug there and elsewhere.

Access is available to the upper Dye Water from Byreleugh and to the upper Watch Water from the reservoir. The Southern Upland Way crosses the hectad from Twin Law to Longformacus.

Habitats

The **heather moorland** is almost exclusively managed by muirburn optimised to the grouse-shooting interests. This is not a happy outcome from a botanical viewpoint as it leaves very uniform species-poor communities. While the moors can never have been at all species-rich it is the peatland communities that have suffered most. The Lammermuir peats are mostly very thin and active *Sphagnum* has now been wholly destroyed over much of the area by centuries of muirburn. Species that have suffered include *Erica tetralix*, *Eriophorum vaginatum*, *Empetrum nigrum* and *Vaccinium myrtillus*. Species of the drier slopes have continued to prosper, especially *Erica cinerea* which is locally abundant. *Vaccinium vitis-idaea* is extraordinarily scarce. It is only on Dirrington Great Law that this species is plentiful: elsewhere there is one good colony near Byreleugh and a few tiny patches on steep burnside banks with *Sphagnum*. These patches of *Sphagnum* are also the haunt of *Listera cordata* known in Green Cleugh and in two places up the Watch Water. *Genista anglica* occurs in small quantity on Dirrington Great Law but there is a better colony at Bog Park near Bedshiel where a rather wet area of moor with much *Erica tetralix* escapes frequent burning.

The botanical interest of the Dye Water cleughs is concentrated in the few slightly base-rich flushes. Green Cleugh has excellent colonies of *Sedum villosum* while Brock's Cleugh has *Eleocharis quinqueflora* and *Euphrasia scottica*, Stot Cleugh *Selaginella selaginoides* with *Parnassia palustris* and Hall Burn *Sagina nodosa*. The upper Watch Water has *Euphrasia scottica* in Easter Grain, an upland population of *Chrysosplenium alternifolium* and two small populations of *Parnassia palustris*. Boondreigh Burn has one good flush with *Carex dioica*, *Eleocharis quinqueflora*, *Euphrasia scottica* and *Pedicularis palustris*. *Euphrasia micrantha* occurs in a few places on dry

acid banks with sparse *Calluna* as at Heron Scar by the Dye Water where it grows with *Populus tremula*. *Epilobium brunnescens* is now widespread in the hill cleughs.

Lycopodium clavatum is almost absent from the moorland, with just a few plants near tracks by the Dye Water, but has colonised quite freely on the stony ditch-banks by forestry tracks in Harecleugh Forest where it is accompanied by a little *Diphasiastrum alpinum*.

Grassland communities replace the *Calluna* lower in the Dye and Watch Water valleys and there are some excellent examples of communities that favour skeletal soils. Nuns' Bank below Trottingshaws carries fine populations of *Helianthemum nummularium* and this community is repeated by the Wester Burn at Horseupcleugh and down the Dye to Wrunklaw. On banks above the Wester Burn there are several colonies of *Vicia orobus*, at its sole surviving Berwickshire station, and one of *Antennaria dioica*. *Gymnadenia conopsea* is present but rare. Other well-represented species of interest are *Aira caryophyllea* and *Carex caryophyllea* while *Rosa pimpinellifolia* occurs on rock ledges above Wrunklaw. Similar grasslands are found near the Watch Water between Rathburne and the reservoir, again with *Antennaria dioica* and *Rosa pimpinellifolia*. *Euphrasia* spp, particularly *E. confusa*, may be abundant in the acid grasslands at the moorland edge. There is a colony of *Viola lutea* on Greenlaw Kaims.

Ancient woodland is rare in the hectad, with the Dye Water burnsides the best example. The trees present include much birch and alder with some oak, elm and ash as well as introduced species. *Sambucus racemosa* has naturalised rather widely. Former woodland is indicated by an unexpected colony of *Phegopteris connectilis* on a wet bank near Trottingshaw. Between Wrunklaw and Rathburne, *Carex laevigata* occurs in what is, in effect, a wet woodland-edge community while *Salix phylicifolia* is quite frequent by the Dye Water from above Wrunklaw to near Rathburne. *Rubus saxatilis* is found under a rock by a shady pool at Heron's Hole. Hereabouts *Cardamine amara*, *Equisetum sylvaticum*, *Gymnocarpion dryopteris*, *Prunus padus* and *Solidago virgaurea* are more or less frequent. *Cirsium heterophyllum* is present with *Populus tremula* near the foot of Watch Water. *Geranium sylvaticum* is notably plentiful right through to Longformacus with a little *Adoxa moschatellina*, *Campanula latifolia* and *Ceratocarpus claviculata*. Longformacus strip, to the north of the village, is a beech plantation with old trees and some birch. Here *Pyrola minor* flourishes and a small clump of *Carex muricata* subsp. *lamprocarpa* survives.

There are several **wetland** habitats additional to the flush communities of the cleughs. The north edge of the raised mire at Dogden Moss falls in the hectad and here the lagg is especially well preserved and *Vaccinium oxycoccus* occurs in peaty areas between the mire proper and the kaims. Just north of the kaims there is a network of small burns and wetland, part drained, indicative of a former glacial lake. Here *Eleocharis quinqueflora* is rare, *Parnassia palustris* moderately widespread and *Salix repens* occasional. The burns themselves have frequent *Veronica x lackschewitzii* with *Berula erecta*, *Callitriche hermaphroditica* and *Ranunculus trichophyllus*. A very different community occurs by the Crook Burn, Dyshaugh where a bank with a strong spring line has wet areas with *Carex paniculata*, *Cirsium heterophyllum* and a fine colony of *Trollius europaeus*. By the Millknowe Burn northeast of Bedshiel there is a wet field with a large population of *Ophioglossum vulgatum*.

The **open water** of Watch Water Reservoir has much *Littorella uniflora* and *Ranunculus peltatus* while *Lythrum portula* occurs near the boathouse and the charophyte *Nitella flexilis* has been recorded. Grazing is excluded from the banks of the reservoir and here *Salix repens* is rather frequent with *Equisetum sylvaticum*.

Arable weeds are poorly represented in the hectad for want of habitat. *Galeopsis speciosa* is found near Longformacus and Westruther while *Lamium confertum* has been recorded near Watch Water Reservoir. Game crops near Horseupcleugh include *Secale cereale* and *Phalaris arundinacea*.

Neophytes naturalised near Longformacus include *Claytonia sibirica* by the Dye Water, *Scilla liliohyacinthus* in several places in the policies of Longformacus House and *Allium paradoxum* in the village. *Veronica polita* occurs as a garden weed at Longformacus and Westruther.

The **roadsides**, especially the B6456, have the usual halophytes, *Atriplex prostrata*, *Puccinellia distans* and *Spergularia marina*, and also, near Bedshiel, *Juncus ambiguus*.

Index of Sites NT65 Longformacus

GR - NT	Ref	Site	Habitats
6052	1	Boondreigh Burn	Acid burnsidess with a single base-rich flush
6057, 6058, 6158	2	Dye Water Cleughs	Cleughs with acid and base-rich flushes, managed by muirburn
6053, 6153	3	Harecleugh Forest	Commercial conifers with stony tracksides
6251	4	Flass Old Wood	Wet birchwood, largely destroyed
6257, 6258, 6358, 6359	5	Byreclough	Cleughs and burnsidess with heather moor, grassy knowes and flushes
6355, 6356, 6455, 6456, 6556	6	Watch Water, upper section	Acid burnsidess, intensively managed by muirburn
6457, 6458, 6558	7	Trottingshaw, Nuns' Bank	Burnsidess and rocky banks
6459, 6558, 6559, 6658	8	Horseupcleugh	Burnsidess with rocky banks
6556, 6656	9	Watch Water Reservoir	Reservoir with flushes and unburnt moorland banks
6658, 6757, 6758, 6857	10	Dye Water, Rathburne to Wrunklaw	Burnsidess with birchwood
6750, 6850	11	Dogden Moss, north edge	Raised bog with rand
6756, 6856	12	Watch Water, Rathburne to Watch Water Reservoir	Burnsidess, part wooded with rocky banks
6857, 6858, 6957	13	Longformacus	Burnsidess, moorland edge, village and mansion house policies
6950, 6951	14	Greenlaw Kaims and Burns, west section	Glacial kaims, burns and wetland (former glacial lakes), drained in part to leave flushed grassland
6954	15	Dirrington Great Law, west section	Heather moor on volcanic outcrop, intensively managed by muirburn
6857, 6957	16	Longformacus Strip	Plantation on former moorland-edge
6956	17	Dronshiel, west section	Springs and rills, drained
6958, 6959	18	Crook Burn, Dyshaugh, west section	Burnsidess with strong spring line
65	19	Sundry	Arable habitats
65	20	Sundry	Sundry habitats

Site Register NT65 Longformacus

1. Boondreigh Burn, 6052, Habitat moderately good in part ♥

Acid burnsidcs with a single base-rich flush

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>	Small	602522		1992	MEB	
	<i>Eleocharis quinqueflora</i>	Modest	601522	68	2000	MEB	
	<i>Euphrasia micrantha</i>	Modest	601522	49	2000	MEB	Deep purple flowers
	<i>Euphrasia scottica</i>		601522	68	2000	MEB	

Selected axiophytes: *Carex curta*, 605531, *Pedicularis palustris*, 601522, 602522, *Pinguicula vulgaris*, 601522

Other axiophytes: *Ajuga reptans*, *Briza media*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Dryopteris carthusiana*, *Galium uliginosum*, *Geum rivale*, *Potentilla palustris*, *Triglochin palustre*, *Veronica scutellata*

Former rare or scarce species: *Genista anglica*, 6052, 1831, J Thomson

2. Dye Water Cleughs, 6057, 6058, 6158, Habitat good in part ♥♥

Cleughs with acid and base-rich flushes, managed by muirburn

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Eleocharis quinqueflora</i>	Small	616586	23	2008	MEB, LWG	Brock's Cleugh, flush
	<i>Euphrasia micrantha</i>	20m	608587	59, 60	2008	MEB, LWG	Dye Water, steep sandy bank
	<i>Euphrasia scottica</i>	Good	616586	23	2008	MEB, LWG	Brock's Cleugh, flush
	<i>Listera cordata</i>	Three	604573	64	2008	MEB, LWG	Green Cleugh, bank with Sphagnum
			607583		1979	MEB	Green Cleugh
	<i>Lycopodium clavatum</i>	One	603584	24	2009	MEB	Meikle Law, below, rocky bank
		Three	607584	16, 26	2008	MEB, LWG	Green Cleugh, below, low mound
		One	608585	08	2009	MEB	Heron Scar, near, old track in Calluna
	<i>Sedum villosum</i>	40	604573	05, 58	2008	MEB, LWG	Green Cleugh, flush on slope
		40	605575	60, 85	2008	MEB, LWG	Green Cleugh, watery flush
		10	607581	20	2008	MEB, LWG	Green Cleugh, bryophyte flush
		One	607582	75	2008	MEB, LWG	Green Cleugh, flush

Selected axiophytes: *Pinguicula vulgaris*, 616586, *Populus tremula*, 608587, *Vaccinium vitis-idaea*, 604573, 604574, 609586

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Callitriche hamulata*, *Carex caryophylla*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Linum catharticum*, *Luzula pilosa*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Veronica scutellata*

3. Harecleugh Forest, 6053, 6153, Habitat fragmentary

Commercial conifers with stony tracksides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphasiastrum alpinum</i>	Five	612533	51, 75, 88	2008	MEB	Stony trackside ditch
		One	612534		2008	MEB	Stony trackside
	<i>Lycopodium clavatum</i>	Two	609530	46, 88	2008	MEB	Stony trackside
		Three	610531	42	2008	MEB	Stony trackside
		Three	612532	26, 38	2008	MEB	Stony trackside
		25	612533		2008	MEB	Stony trackside
		Three	612534	91	2008	MEB	Stony trackside

4. Flass Old Wood, 6251, Habitat lost

Wet birchwood, largely destroyed

Selected axiophytes: *Pedicularis palustris*, 606512, *Populus tremula* 622513, *Prunus padus* 6051Former rare or scarce species: *Listera ovata*, 6251, 1885, J Hardy, Flass Old Wood, *Osmunda regalis*, 6251, 1902, Kelly & Shaw**5. Byreclough, 6257, 6258, 6358, 6359, Habitat moderately good in part ♥**

Cleughs and burnsides with heather moor, grassy knowes and flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Antennaria dioica</i>		6358		1992	SW	Williams
	<i>Euphrasia micrantha</i>	Small	635584	61	2008	MEB	Stot Cleugh, grass in Calluna
		Small	637581	62	2008	MEB	Stot Cleugh, near foot, road verge with Calluna
	<i>Euphrasia scottica</i>	Small	634593	47	2008	MEB	Stot Cleugh
	<i>Genista anglica</i>	Small	634586		1989	MEB	Stot Cleugh
	<i>Sagina nodosa</i>	8x4m	624572	06	2008	MEB	Hall Burn, bryophyte flush
	<i>Selaginella selaginoides</i>	7x5m	631592	39	2008	MEB	Stot Cleugh, bryophyte flush

Selected axiophytes: *Geranium sylvaticum*, 635583, *Parnassia palustris*, 631592, *Pinguicula vulgaris*, 632590, *Salix repens*, 632590, *Vaccinium vitis-idaea*, 626587, 626588Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Isolepis setacea*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*Former rare or scarce species: *Platanthera bifolia*, 6258, 1956, H M Brown, *Ulex gallii*, 6358, 1956, H M Brown, *Vicia orobus*, 6258, 1929, J H Craw

6. Watch Water, upper section, 6355, 6356, 6455, 6456, 6556, Habitat moderately good ♥

Acid burnsites, intensively managed by muirburn

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia micrantha</i>	Good	648560	87	2008	MEB	With <i>Erica cinerea</i>
		Small	649560	68	2008	MEB	Ledge on bank
	<i>Euphrasia scottica</i>	Modest	640564	94	2008	MEB	Easter Grain, with hybrids
	<i>Listera cordata</i>	14	631559	25, 44	2008	MEB	Bank with Sphagnum
		Two	637557	64	2008	MEB	Bank with Sphagnum
	<i>Lycopodium clavatum</i>	Two	631559	16	2008	MEB	Stony slope
		Five	638557	97	2008	MEB	Bank with <i>Calluna</i>
			645558		1989	MEB	
		Two	647558	29	2008	MEB	
		Four	647559	40, 50	2008	MEB	Stony bank

Selected axiophytes: *Chrysosplenium alternifolium*, 630560, *Geranium sylvaticum* 651562, *Parnassia palustris*, 645558, 651562, *Solidago virgaurea*, 643557, *Vaccinium vitis-idaea*, 636550

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Eleocharis quinqueflora*, 652561, 1989, MEB, *Selaginella selaginoides*, 651562, 1989, MEB

7. Trottingshaw, Nuns' Bank, 6457, 6458, 6558, Habitat moderately good ♥

Burnsides and rocky banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Phegopteris connectilis</i>	Small	646578	95	2008	MEB, IC	Carle, wet bank

Selected axiophytes: *Equisetum sylvaticum*, 651580, *Helianthemum nummularium*, very frequent and fine on Nuns' Bank 656581, 658580

Other axiophytes: *Aira caryophyllea*, *Carex caryophyllea*, *Carex disticha*, *Conopodium majus*, *Galium uliginosum*, *Geum rivale*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Oreopteris limbosperma*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

Intrusive neophytes: *Rhododendron ponticum*, policies

Former rare or scarce species: *Diphasiastrum alpinum*, 6458, 1956, H M Brown, *Drosera rotundifolia*, 6458, 1965, AGL, *Euphrasia micrantha*, 6458, 1965, AGL, *Genista anglica*, 6457, 1967, E O Pate, *Gentianella campestris*, 6458, 1956, H M Brown, *Vicia orobus*, 6458, 1907, A M Brown

8. Horseupcleugh, 6459, 6558, 6559, 6658, Habitat fine ♥♥♥

Burnsides with rocky banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Antennaria dioica</i>	Good	653590	65, 75, 76	2008	MEB, IC	Carle, Wester Burn, with <i>Erica cinerea</i>
	<i>Gymnadenia conopsea</i>	One	661585	03	2008	MEB, PFB	Wester Burn, dry bank
	<i>Rosa pimpinellifolia</i>	Good	668583	13	2008	MEB, LWG	Rocky burnside
	<i>Salix phylicifolia</i>	One	668583	13	2008	MEB, LWG	
		One	668584		1989	MEB	
	<i>Vicia orobus</i>	Large	657587	20,30	2008	MEB, PFB	Wester Burn, with <i>Helianthemum</i>
		Three	659586	61	2008	MEB	Wester Burn
		One	659586		2008	MEB, PFB	Wester Burn, dry bank
		Six	660585		2008	MEB	Wester Burn
		Three	661585		2008	MEB, PFB	Wester Burn
		Six	663582		2008	MEB, IC	Carle, Nuns' Bank, east of
		12	664582		2008	MEB, IC	Carle, Nuns' Bank, east of
		One	669584	60	2008	MEB, LWG	Wrunklaw, near, bank below <i>Calluna</i>

Selected axiophytes: *Helianthemum nummularium*, very frequent and fine 660586, 662585Other axiophytes: *Aira caryophyllea*, *Anemone nemorosa*, *Briza media*, *Callitriche hamulata*, *Carex caryophyllea*, *Carex hostiana*, *Conopodium majus*, *Dactylorhiza maculata*, *Geum rivale*, *Helictotrichon pubescens*, *Linum catharticum*, *Lychnis flos-cuculi*, *Thymus polytrichus*, *Trifolium medium*Former rare or scarce species: *Genista anglica*, 6658, 1968, E O Pate, *Gentianella campestris*, 6658, 1968, E O Pate, *Lycopodium clavatum*, 663581, 1989, MEB, *Persicaria lapathifolia*, 6658, 1966, E O Pate, *Platanthera bifolia*, 6658, 1966, E O Pate, *Sagina nodosa*, 6559, 1966, Easter Burn, E O Pate, *Sedum villosum*, 6459, 1963, E O Pate, *Vicia orobus*, 664584, 1989, MEB**9. Watch Water Reservoir, 6556, 6656, Habitat moderately good ♥**

Reservoir with flushes and un-burnt moorland banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Littorella uniflora</i>	Large	6656		2008	MEB	At intervals on sandy/gravel shore
	<i>Lythrum portula</i>	Few	661566	89	2008	MEB	Near boat stage
	<i>Ranunculus peltatus</i>	Large	658562		2008	MEB	Mouth of burn
		Good	661566		2008	MEB	
		Large	664560		2008	MEB	Mouth of burn

Charophytes: *Nitella flexilis*, 6656, 1979, Anon, det. J A Moore, herb BMSelected axiophytes: *Equisetum sylvaticum*, 663561, *Geranium sylvaticum*, 653562, *Pinguicula vulgaris*, 651562, *Ranunculus trichophyllus*, 653563, *Salix repens*, 652562, 659562, 661562, *Solidago virgaurea*, 6556, *Vaccinium vitis-idaea*, 653562

Other axiophytes: *Anemone nemorosa*, *Callitriche hamulata*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Crepis paludosa*, *Dactylorhiza maculata*, *Iris pseudacorus*, *Potentilla palustris*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*

10. Dye Water, Rathburne to Wrunklaw, 6658, 6757, 6758, 6857, Habitat moderately good in part ♥

Burnsides with birchwood

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex laevigata</i>	Good	673583	32	2008	MEB, LWG	Flushed area
	<i>Rubus saxatilis</i>	2x0.3m	681571	49	2008	MEB, LWG	Heron's Hole, under rock by shady pool
	<i>Salix phylicifolia</i>	One	670581	48	2008	MEB, LWG	Dye Water
		One	673579	96	2008	MEB, LWG	Dye Water, islet
		Two	678577		2008	MEB, LWG	Dye Water

Charophytes: *Nitella flexilis/opaca* agg., 671583, 1989, MEB, Wrunklaw, below, only male plants seen

Selected axiophytes: *Ceratocarpus claviculata*, 672583, *Equisetum sylvaticum*, 681571, *Geranium sylvaticum*, 6757, 6758, *Gymnocarpium dryopteris*, 679577, 680572, 680576, 681571, 685571, *Helianthemum nummularium*, 669583, 673581, 681578, *Prunus padus*, 670582, 683576, *Solidago virgaurea*, 687571

Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Callitriche hamulata*, *Cardamine amara*, *Carex caryophylla*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Geum rivale*, *Hyacinthoides non-scripta*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Potentilla palustris*, *Quercus petraea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species: *Crepis mollis*, 6857, 1882, J Farquharson, *Diphysastrum alpinum*, 6758, 1956, H M Brown, *Gentianella campestris*, 6757, 1834, G Johnston, *Ophioglossum vulgatum*, 6758, 1931, A A Falconer

11. Dogden Moss, north edge, 6750, 6850, Habitat outstanding ♥♥♥♥♥

Raised bog with rand

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Drosera rotundifolia</i>		6850		2008	JM et al	Muscott
*	<i>Trichophorum cespitosum</i> nothosubsp. <i>foersteri</i>	Frequent	6850		2008	MEB et al	On moss
*	<i>Vaccinium oxycoccus</i>	Small	677500		2007	MEB	Lagg
*		Frequent	6850		2007	MEB	Lagg

Selected axiophytes: *Carex curta*, 684503, *Narthecium ossifragum*, 6850

Other axiophytes: *Dryopteris carthusiana*, *Erica tetralix*, *Geum rivale*

12. Watch Water, Rathburne to Watch Water Reservoir, 6756, 6856, Habitat good in part ♥♥

Burnsides, part wooded with rocky banks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Antennaria dioica</i>	60x30m	673568		2008	MEB	Stony bank
	<i>Cirsium heterophyllum</i>	Good	682565	38	2008	MEB	Wet wood edge
	<i>Rosa pimpinellifolia</i>	Two	680565		2008	MEB	Rock face

Selected axiophytes: *Geranium sylvaticum*, 6856, *Helianthemum nummularium*, 670569, 674568, *Populus tremula*, 683567, *Prunus padus*, 682565, 684568, *Solidago virgaurea*, 672567, 680565

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Anemone nemorosa*, *Cardamine amara*, *Carex caryophylla*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza purpurella*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana officinalis*

Intrusive neophytes: *Rhododendron ponticum*

13. Longformacus, 6857, 6858, 6957, Habitat fragmentary

Burnsides, moorland edge, village and mansion house policies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Veronica polita</i>]		692573		1989	MEB	Garden
			693573		1986	MEB	Garden

Selected axiophytes: *Campanula latifolia*, 687571, *Ceratocarpus claviculata*, 680576, [*Cystopteris fragilis*], 692572, village wall, *Equisetum sylvaticum*, 688580, *Geranium sylvaticum*, frequent and rather fine, *Prunus padus*, 6957, *Solidago virgaurea*, 689571

Intrusive neophytes: *Doronicum pardalianches*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Sedum album*, *Symphoricarpos albus*

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Cardamine amara*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Linum catharticum*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Polystichum aculeatum*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species (some localities are uncertain and could be up the valley): *Coeloglossum viride*, 6957, 1947, E K Swinton, [*Euphorbia exigua*], 6957, 1957, M McC Webster, probably introduced to vegetable garden at Longformacus House, *Genista anglica*, 6857, 1941, E K Swinton, *Lycopodium clavatum*, 6857, 1952, E K Swinton, near bridge at Rathburne, *Melampyrum pratense*, 6857, 1949, E K Swinton, *Persicaria lapathifolia*, 6957, 1948, E K Swinton, [*Plantago media*], 6957, 1946, H M Brown, probably lawn at Longformacus House, *Pyrola media*, 6857, 1886, C Stuart, banks of Dye, *Pyrola minor*, 6957, 1946, H M Brown, *Ranunculus auricomus*, 6957, 1956, H M Brown, Manse road, *Rosa pimpinellifolia*, 690572, 1988, MEB, *Salix phylicifolia*, 6857, 1966, E O Pate, Manse, *Sambucus ebulus*, 6957, 1956, H M Brown, Churchyard

14. Greenlaw Kaims and Burns, west section, 6950, 6951, Habitat good ♥♥

Glacial kaims, burns and wetland (former glacial lakes), drained in part to leave flushed grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Drosera rotundifolia</i>		6950		1989	MEB	By Dogden Moss
	<i>Eleocharis quinqueflora</i>		698508	14	2002	MEB	Bog Park Burn, ditch off
	<i>Genista anglica</i>	Eight	696512	44, 55	2008	MEB	Bog Park
*	<i>Vaccinium oxycoccos</i>		692500	71	2007	MEB	Long Kaim, lagg by
	<i>Veronica x lackschewitzii</i>		697506	78	2002	MEB	Bog Park Burn, ditch off
			697507	63	2002	MEB	Bog Park Burn
*			699500	74	2008	MEB	Fangrist Burn, near

Selected axiophytes: *Berula erecta*, 6950, frequent, *Callitriche hermaphroditica*, 697506, *Geranium sylvaticum*, 694508, *Parnassia palustris*, 697509, 698509, 699503, *Ranunculus trichophyllus*, 695510, *Salix repens*, 698507, *Viola lutea*, 687502

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Ranunculus aquatilis*, *Rhinanthus minor*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Ranunculus circinatus*, 698511, 697503, 1989, MEB

15. Dirrington Great Law, west section, 6954, Habitat moderately good ♥

Heather moor on volcanic outcrop, intensively managed by muirburn

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Euphrasia micrantha</i>		6954		1960	EBB	Bangeter, recent survey inadequate
	<i>Genista anglica</i>	Four	696547	89	2008	MEB	Most in young Calluna
	<i>Veronica catenata</i>		690547		1989	MEB	Kippetlaw Burn

Selected axiophytes: *Equisetum sylvaticum*, 692548, *Festuca filiformis*, 690545, *Vaccinium vitis-idaea*, abundant towards summit

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Alchemilla filicaulis subsp. vestita*, *Anemone nemorosa*, *Briza media*, *Carex flacca*, *Dactylorhiza maculata*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Arctostaphylos uva-ursi*, 6954, 1886, C Stuart, *Cerastium arvense*, 6955, 1931, A A Falconer, locality uncertain, *Genista anglica*, 694548, 694553, 1985, MEB, *Huperzia selago*, 6954, 1853, G Johnston, *Lycopodium clavatum*, 6955, 1985, MEB, *Pyrola media*, 6954, 1834, T Brown, *Sagina nodosa*, 6954, 1946, H M Brown, locality uncertain

16. Longformacus Strip, 6857, 6957, Habitat fragmentary

Plantation on former moorland-edge

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex muricata subsp. lamprocarpa</i>	1x1m	690576	88	2008	MEB	
	<i>Pyrola minor</i>	2x2m	689578	80	2008	MEB	Under Beech
			691576	38, 43	2008	MEB	Under Beech

Selected axiophytes: *Solidago virgaurea*, 690577, 690578, 691576**17. Dronshiel, west section, 6956, Habitat lost (but retained to east)**

Springs and rills, drained

Former rare or scarce species: *Apium inundatum*, 698565, 1969, G Grahame**18. Crook Burn, Dyshaugh, west section, 6958, 6959, Habitat good ♥♥**

Burnsides with strong spring line

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Cirsium heterophyllum</i>	Modest	699589	89, 99	2008	MEB	
*	<i>Trollius europaeus</i>	5 cells	698590		2008	MEB	Spring flush
*		Good	699590	40, 41	2008	MEB	Spring flush

Selected axiophytes: *Carex paniculata*, 696591Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Stellaria holostea*, *Trifolium medium*, *Valeriana dioica*, *Valeriana officinalis*Former rare or scarce species: *Listera ovata*, 699590, 1980, MEB**19. Sundry arable habitats NT65, Habitat fragmentary**Selected axiophytes: *Galeopsis speciosa*, 625512, Westruther, near, 6350, Westruther, 691574, Longformacus, near, *Lamium confertum*, 660563, Watch Water Reservoir, near**20. Sundry NT65, Habitat fragmentary**

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex pallescens</i>		610500		2002	DGL	Eastside, S of, trackside
	<i>Euphrasia x electa (E. micrantha x scottica)</i>		618559		2000	MEB	Blythe Edge
	[<i>Juncus ambiguus</i>]	20m	697517	68	2008	MEB	Kettleshiel, B6456 near, gravel at verge edge, roadside halophyte
	<i>Ophioglossum vulgatum</i>	Good	677517	80	2008	MEB, LWG	Millknowe Burn
		4 cells	678516		2008	MEB, LWG	Millknowe Burn
	<i>Potamogeton pusillus</i>		654503		2008	MEB	Cammerlaws Pond
	[<i>Veronica polita</i>]		632503		1989	MEB	Westruther, garden

Charophytes: *Chara globularis/virgata agg.*, 654503, 1997, J J Day et al, Cammerlaws, pond at, recorded as *C. virgata*

Selected axiophytes: *Callitriche hermaphroditica*, 654503, Cammerlaws Pond, *Carex paniculata*, 6650, Hurdlaw, *Equisetum sylvaticum*, 611507, Raecleugh, near, 680526, Dirrington Little Law, *Geranium sylvaticum*, 6358, Lamb Hill, near, 6650, Hurdlaw, *Hydrocotyle vulgaris*, 694538, Kippetlaw Moss, *Populus tremula*, 662505, Hurdlaw, *Potamogeton pectinatus*, 654504, Cammerlaws, [*Primula veris*], 606506, Spottiswoode, Northwoode Roundel, *Prunus padus*, 662506, Hurdlaw, [*Rosa rubiginosa*], 633501, Westruther School, 643511, Weddlerlie, *Salix pentandra*, 662506, Hurdlaw

Former rare or scarce species: *Botrychium lunaria*, 6050, 1869, Lady John Scott, Spottiswoode, near, *Cirsium heterophyllum*, 632500, 1989, MEB, Westruther, *Drosera rotundifolia*, 6254, 1964, DGL, Twin Law, below, *Genista anglica*, 6254, 1964, DGL, Twin Law, below, *Listera cordata*, 6759, 1956, H M Brown, Wrunklaw Moor, *Lycopodium clavatum*, 6557, 1964, DGL, Scar Law, *Lycopodium clavatum*, 602504, 2003, DGL, Spottiswoode, near, *Lycopodium clavatum*, 689552, 1985, MEB, Dirrington Lees, Spottiswoode, near, *Trientalis europaea*, 6754, 1956, H M Brown, Rawburn, Longformacus, south of, *Vaccinium oxycoccos*, 682527, 1988, MEB, Dirrington Little Law, near

NT66 Cranshaws

(Systematic sample survey 1998, further samples to 2010)

Hectad Description

Overview

Only 16% of the upland hectad NT66 is in Berwickshire. It lies between 174m by the Whiteadder Water below Smiddyhill and 451m on the slopes of Meikle Law in the heart of the Lammermuirs. Much of the land is open grouse moor or grassland on acid Silurian rocks but the southeast corner below Smiddyhill is on the Old Red Sandstone and is cultivated. In the west a modest area of land near Meikle Law drains to the Dye Water. The remainder drains to the Whiteadder Water. The Whiteadder Reservoir and the north side of the Whiteadder around 'The Bell', a birchwood, fall in the vice-county of East Lothian, though The Bell is now in the Scottish Borders Region.

There are a series of forestry shelter belts around Cranshaws House and a long-established pond. Some smaller ponds have been dug there quite recently.

Cranshaws hamlet boasts a church.

Habitats

No botanical records are held for the modest area near Meikle Law that falls in the hectad. It appears to be **species-poor moorland**.

Below Duddy Bank there are modest flushes by Crow Cleugh and Little Crow Cleugh and the heathery banks here have a good colony of *Lycopodium clavatum*, recorded here in 1967, 1983 and 2010 giving it a continuity that is unusual in Berwickshire. *Vaccinium vitis-idaea* grows nearby at 300m. Two colonies of *Sedum villosum* found in 1983 had disappeared by 2010.

Killmade Burn, with its associated cleughs, is perhaps the finest **hill burn** in Berwickshire with vestiges of woodland and small base-rich flushes. Only the east bank is in the vice-county but similar habitat occurs on both banks. There is birchwood near the foot of the burn and, much further upstream above Rough Cleugh, there is a narrow wooded gorge with a little *Prunus padus*. *Geranium sylvaticum*, *Gymnocarpion dryopteris* and *Solidago virgaurea* are also found in the gorge with *Hyacinthoides non-scripta* in the cleughs nearby. There are a series of flushes near the burn but much the most species-rich is near the foot of Rough Cleugh with *Carex dioica*, *Eriophorum latifolium*, *Euphrasia scottica* and *Selaginella selaginoides*. A little *Antennaria dioica* was seen in

1998 on a dry bank close by, but was not refound in 2010. *Sedum villosum* was found in two places by the main burn in 1998 but was only refound in very small quantity at one of these in 2000 and not at all in 2010. A steep bank near Berrybank Wood and not far from the foot of Killmade Burn has a small colony of *Vaccinium vitis-idaea*. Hinds Cleugh to the east is much less interesting.

The Whiteadder downstream of Killmade Burn has a number of haughs which are very incompletely drained and some **wetland** species are in evidence such as *Potentilla palustris*, *Ranunculus aquatilis*, *R. peltatus*, *Senecio aquaticus* and *Veronica scutellata*. The Whiteadder itself is colourful with *Mimulus* species including *M. luteus* (*sensu* Stace). Below Cranshaws the haughs are on the Old Red Sandstone and have a very different flora with **grassland** species such as *Anthyllis vulneraria*, *Leontodon hispidus* and *Rhinanthus minor*. However there is little such habitat as the haughs are cultivated. *Linaria vulgaris* grows on a crag by the Whiteadder at the foot of Howbog Burn. *Ceterach officinarum* grew on Smiddyhill Bridge in 1986, but it was lost when the bridge was repointed a few years later.

The **arable** fields are not very rich in weeds except for one steep field near Smiddyhill with *Fumaria purpurea*, *Galeopsis speciosa* and *Persicaria lapathifolium*.

The policies, shelter belts and small burns around Cranshaws House have not been much botanised. *Potamogeton obtusifolius* is in the main pond and *Rubus spectabilis* is all-too-well naturalised in a small dean by the Well Burn.

Index of Sites NT66 Cranshaws

GR - NT	Ref	Site	Habitats
6360, 6361, 6461	1	Crow Cleugh, Duddy Bank	Burnsides, moorland
6561, 6661, 6662, 6663	2	Killmade Burn, Rough Cleugh (VC 81 part, also VC 82)	Burnsides, moorland
6762	3	Hinds Cleugh	Burnsides, moorland
6663, 6763	4	Berrybank Wood, Whiteadder below (VC 81 part, also VC 82)	Burnsides
6862, 6863	5	St Agnes, Whiteadder near	Burnsides
6761, 6861, 6961, 6962	6	Cranshaws	Burnsides, policies, pond, ruderal
6960, 6961	7	Smiddyhill, Howbog	Burnsides
66	8	Sundry	Arable habitats

Site Register NT66 Cranshaws

1. Crow Cleugh, Duddy Bank, 6360, 6361, 6461, Habitat fragmentary

Burnsides, moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>	Large	636609	55, 64, 65	2010	MEB	

Selected axiophytes: *Festuca filiformis*, 635610, *Vaccinium vitis-idaea*, 636611

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Luzula pilosa*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Stellaria holostea*, *Thymus polytrichus*, *Veronica scutellata*

Former rare or scarce species: *Lycopodium clavatum*, 636610, 1983, MEB, 636611, 1983, MEB, burnt heather, *Sedum villosum*, 636609, 1983, MEB, 636610, 1983, MEB

2. Killmade Burn, Rough Cleugh (VC 81 part, also VC 82), 6561, 6661, 6662, 6663, Habitat fine ♥♥♥

Burnsides, moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Antennaria dioica</i>	Five	663625	30	2002	MEB, ENHS	
	<i>Carex dioica</i>		6662		1998	MEB	
	<i>Eriophorum latifolium</i>	Large	662624	98, 99	2010	MEB	
	<i>Euphrasia scottica</i>		662624	98	2010	MEB	
	<i>Genista anglica</i>		668624		1998	MEB	In fairly old heather
	<i>Lycopodium clavatum</i>		661617	15, 20	2010	MEB	Scarlaw Cleugh, edge of burnt heather
			664627		1986	MEB	Heathery burnside
	<i>Sedum villosum</i>		665629		1998	MEB	Not refound 2010
		Modest	665631	51	2000	MEB, BNC	Not refound 2010
	<i>Selaginella selaginoides</i>	One	662624	99	2010	MEB	

Selected axiophytes: *Festuca filiformis*, 663625, 665630, *Geranium sylvaticum*, 661623, *Gymnocarpium dryopteris*, 663626, *Parnassia palustris*, 662624, 663626, *Pinguicula vulgaris*, 6662, *Prunus padus*, 664628, *Solidago virgaurea*, 661623, 662624, 663623

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Anemone nemorosa*, *Briza media*, *Carex caryophylla*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata* subsp. *ericetorum*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

3. Hinds Cleugh, 6762, Habitat fragmentary

Burnsides, moorland

Selected axiophytes: *Geranium sylvaticum*, 6762

Other axiophytes: *Achillea ptarmica*, *Briza media*, *Carex pulicaris*, *Conopodium majus*, *Galium uliginosum*, *Geum rivale*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Thymus polytrichus*

4. Berrybank Wood, Whiteadder below (VC 81 part, also VC 82), 6663, 6763, Habitat fragmentary

Burnsides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ranunculus peltatus</i>		6663		1998	MEB	Ox-bow

Selected axiophytes: *Vaccinium vitis-idaea*, 668633

Other axiophytes: *Potentilla palustris*, *Ranunculus aquatilis*, *Veronica scutellata*

5. St Agnes, Whiteadder near, 6862, 6863, Habitat fragmentary

Burnsides

Selected axiophytes: *Geranium sylvaticum*, 685631, Cranshaws Smiddy, Whiteadder Water near, *Populus tremula*, 683632, Cranshaws Smiddy, by

Other axiophytes: *Senecio aquaticus*

6. Cranshaws, 6761, 6861, 6961, 6962, Habitat fragmentary

Burnsides, policies, pond, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Potamogeton obtusifolius</i>		681619		1997	JJD	Day and 'CC', Cranshaws Pond
	<i>Ranunculus peltatus</i>		681619		1997	JJD	Day and 'CC', Cranshaws Pond

Selected axiophytes: *Equisetum sylvaticum*, 680616, Well Burn, *Geranium sylvaticum*, 694613

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Carex disticha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Lychnis flos-cuculi*, *Stellaria holostea*, *Trifolium medium*, *Valeriana dioica*, *Veronica scutellata*

Intrusive neophytes: *Doronicum pardalianches*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Symphoricarpos albus*, [*Rubus spectabilis* is also intrusive]

Former rare or scarce species: *Genista anglica*, 6761, 1889, J Hardy, Cranshaws Castle, above

7. Smiddyhill, Howbog , 6960, 6961, Habitat fragmentary

Burnsides

Selected axiophytes: *Anthyllis vulneraria*, 697612, *Chenopodium bonus-henricus*, 6961, *Geranium sylvaticum*, 693615, *Pinguicula vulgaris*, 6960, Howbog

Other axiophytes: *Briza media*, *Carex flacca*, *Crepis paludosa*, *Geum rivale*, *Leontodon hispidus*, *Linum catharticum*, *Rhinanthus minor*, *Stellaria holostea*, *Thymus polytrichus*

8. Sundry arable habitats NT66, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Fumaria purpurea</i>		697613		1998	MEB	Smiddyhill Bridge
	<i>Persicaria lapathifolia</i>		696613		1998	MEB	Smiddyhill Bridge

Selected axiophytes: *Galeopsis speciosa*, 6961, Smiddyhill Bridge

NT73 Birgham

(Systematic sample survey 1995, further samples to 2009)

Hectad Description

Overview

Only 9% of the hectad NT73 is in Berwickshire. It lies between 18m by the Tweed below Birgham Haugh and 85m at Newton Don. It falls into two separate main sections: that around the mansion at Newton Don and that around the village of Birgham. Separate again are some tiny parcels of land which are not considered here.

Stichill Linn on the Eden Water at Newton Don marks the boundary between the basalt lavas of the Kelso Traps and the Carboniferous sandstones and is an unexpectedly dramatic feature in a gentle landscape. The basalt is exposed on the banks above the north side of the burn and at knowes in the fields towards Stichill which fall in Roxburghshire. The park at Newton Don lies on the Carboniferous. The Carboniferous sandstones continue east to Birgham and, just below Birgham, there is a limestone feature on the north bank of the Tweed at the boundary with hectad NT83.

Newton Don is set in fine landscape and there is botanical interest in its policies. Birgham Wood stands on the site of former moorland. It is a plantation with oak as well as conifers within which there is some wetland. There is scrubby woodland on the banks of the River Tweed below Lochton and Springhill and again just below Birgham Haugh while the aquatic flora of the river is some interest.

The village of Birgham is the only settlement.

Habitats

Newton Don has **wooded burnside and a park**. Its flora was noted in some detail in the *History* of the Berwickshire Naturalists' Club in 1893 by W Wood with further notes in 1938 by J Brown but there are difficulties in guessing the exact areas botanised by these men and thus in knowing which records related to Berwickshire and which to Roxburghshire. Species that have apparently been lost from the woods include *Epipactis helleborine*, *Listera ovata* and *Pyrola minor*, but these are just the sort of species that could have been overlooked since.

Potentilla argentea has long been known as a speciality of Stichill Linn and it just survives on the Roxburghshire bank. It is not known for certain whether it ever grew on the Berwickshire bank. The wooded burnside still have a varied flora with *Campanula latifolia*, *Chrysosplenium alternifolium*, *Sanicula europaea* and *Senecio aquaticus*. The grassland in the park has a bank with a well-preserved flora including *Opioglossum vulgatum*, *Primula veris* and *Saxifraga granulata*. Nearby, a variety of bluebells has naturalised. It appears that *Hyacinthoides non-scripta*, *H. hispanica* and *H. x massartiana* have all been planted, as more or less discrete patches of each can be found, but there has also been hybridization.

The **pond** has silted up and is completely dominated by *Glyceria maxima*. First recorded here in 1938, a first for the Tweed catchment, its introduction here has probably led to it spreading all too abundantly to many places by the lower Tweed, though interestingly it was not recorded by the Tweed until 1981. This is also one of the policies to which *Heracleum mantegazzianum* is thought to have been deliberately introduced, though Riddell, by the Ale Water in Roxburghshire, is generally considered to have been the first point of introduction in the area for that species.

The **walled garden** is home to two *Veronica* species that are weeds of this specialised habitat, *V. peregrina* and *V. polita*.

Birgham Wood is part of a complex of former bogs and sandy moorland, once known as Birgham Muir, that falls in four hectads, but mainly NT73, NT74 and NT84. Only Birgham Wood is described here. The northwest part is mainly conifer plantation but there is a strip on the southwest side with old oaks and some pine, beech and birch. Here there are fine colonies of *Pyrola minor*. The wet woodland tracks are home to a large population of *Mentha arvensis*. The southeast part of the wood is wet and there is some willow carr, however a pond has recently been dug here and some of the best wetland communities have been lost. All the *Carex vesicaria* and half the *Cirsium heterophyllum* have been casualties though a large patch of *Cirsium heterophyllum* remains to the northeast of the pond and to the southwest there is a splendid colony of *Equisetum x litorale* with *Carex riparia* nearby. *Prunus padus* and *Viburnum opulus* have been amongst recent plantings. The lane at the southwest end of the wood has a colony of *Sedum telephium*, but this is considered to have arisen from garden material dumped there at some time in the past.

In scrub by the **River Tweed** at Lochton there is a small colony of *Lathraea squamaria* with *Carex acuta* at the river's edge. Just upstream there is a thicket of willows by the river. Here, in a glade, there is a small colony of *Poa palustris* on bare alluvium. A little downstream below Springhill *Potamogeton perfoliatus*, *P. x salicifolius* and *Ranunculus x kelchoensis* have been found in the river. The wood below Birgham Haugh has large specimens of *Prunus padus*, but these appear to have been introduced. There are wet seepages with *Eupatorium cannabinum*, the upstream limit for this species. A **limestone outcrop** at the hectad boundary has *Cerastium arvense*, *Echium vulgare* and *Galium boreale* together with *Allium carinatum* as an incomer. *Ranunculus fluitans* is in the river nearby.

A **grass bank** between Birgham Haugh and the village has *Geranium pusillum* with *Medicago arabica* as a naturalised introduction, perhaps derived from plants that occurred as wool aliens by the river, though this species can also be introduced when lime is spread on fields.

The lane below the **village** of Birgham has colonies of *Ballota nigra*, *Malva neglecta*, *Silybum marianum* and *Symphytum orientale*. *Buddleja davidii* has recently naturalised away from the houses.

Chrysanthemum segetum was seen as an **arable weed** near Newton Don in 1981 but has not been found since. *Persicaria lapathifolium* grows in a damp field corner near the pond that now marks the site of the former Lochton or Crawboat Loch.

Index of Sites NT73 Birgham

GR - NT	Ref	Site	Habitats
7036, 7037, 7136, 7137	1	Newton Don	Policies, burnsidings, grassland
7738	2	Lochton, River Tweed	Riverside
7838	3	Springhill, River Tweed	Riverside
7938	4	Birgham Haugh	Woodland, grassland, riverside
7838, 7839, 7939	5	Birgham	Ruderal
7939, 7940, 8040	6	Birgham Wood (part NT74, NT84)	Mixed woodland on former sandy moorland with fen area and pond
73	7	Sundry	Arable habitats
73	8	Sundry	Sundry habitats

Site Register NT73 Birgham

1. Newton Don, 7036, 7037, 7136, 7137, Habitat good in part ♥♥

Policies, burnsidings, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex divulsa</i> subsp. <i>leersii</i>	Modest	712373	01	2002	MT	Tebble
	[<i>Euonymus europaeus</i>]		7137		2002	MEB, ENHS	Planted
	[<i>Geranium lucidum</i>]		706375		1995	MEB	Stichill Linn, probable introduction
	<i>Mycelis muralis</i>		7137		1995	MEB	
	<i>Ophioglossum vulgatum</i>	Large	711374		1995	MEB	Two colonies

Selected axiophytes: *Agrimonia eupatoria*, 704373, *Campanula latifolia*, 7136, 7137, *Chrysosplenium alternifolium*, 706375, *Cystopteris fragilis*, 706375, *Primula veris*, 7137, [*Prunus padus*], 7137, planted, *Saxifraga granulata*, 7137

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Allium ursinum*, *Callitriche hamulata*, *Cardamine amara*, *Carex caryophylla*, *Carex flacca*, *Conopodium majus*, *Geum rivale*, *Hypericum hirsutum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Sanicula europaea*, *Senecio aquaticus*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species [some records may relate to fields on the north side of Stichill Linn in VC 80 Roxburghshire]: *Arabis hirsuta*, 7037, 1893, W Wood, *Chelidonium majus*, 7037, 1893, W Wood, [*Convolvulus arvensis*], 7037, 1893, W Wood, *Daucus carota* subsp. *carota*, 7037, 1893, W Wood, *Dianthus deltoides*, 7037, 1893, W Wood, *Epipactis helleborine*, 7037, 1874, A Brotherston, *Galium boreale*, 7037, 1893, W Wood, *Galium mollugo*, 7037, 1893, W Wood, *Hippuris vulgaris*, 7037, 1938, J Brown, *Hypericum maculatum* subsp. *obtusiusculum*, 7037, 1938, J Brown, *Listera ovata*, 7037, 1938, J Brown, *Malva moschata*, 7037, 1893, W Wood, *Myosotis ramosissima*, 7037, 1893, W Wood, *Plantago media*, 7037, 1893, W Wood, *Potentilla argentea*, 7037, 1893, W Wood, *Pyrola minor*, 7037, 1893, W Wood, *Sagina apetala* subsp. *apetala*, 7037, 1893, A Brotherston, *Stachys officinalis*, 7037, 1893, W Wood, *Valerianella locusta*, 7037, 1893, W Wood, *Viburnum opulus*, 7037, 1893, W Wood

2. Lochton, River Tweed, 7738, Habitat fragmentary

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Allium vineale</i>		7738		1995	MEB	Recent colonist
	<i>Hypericum x desetangsii</i>		778386		1999	MEB	
	<i>Lathraea squamaria</i>	Small	777385	82	2005	MEB	Clump at foot of <i>Acer pseudoplatanus</i> with <i>Fraxinus</i> above, former elm bank
	<i>Malva neglecta</i>		775385		1995	MEB, PFB	

Selected axiophytes: *Carex acuta*, 776384, *Potamogeton pectinatus*, 775385, [*Prunus padus*], 7738, planted, *Saxifraga granulata*, 7738, *Silene vulgaris*, 774383, *Stellaria nemorum*, 7738

Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Brachypodium sylvaticum*, *Carex acutiformis*, *Mercurialis perennis*, *Ranunculus bulbosus*, *Scirpus sylvaticus*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

Former rare or scarce species: *Sanguisorba officinalis*, 7738, 1874, A Brotherston, island in Tweed, *Scabiosa columbaria*, 7738, 1874, A Brotherston, Tweed banks, near

3. Springhill, River Tweed, 7838, Habitat fragmentary

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium arvense</i>		786383		1995	MEB	
*	<i>Potamogeton x salicifolius</i>		785385		1995	MEB	
*			787384	31	2006	MEB, PFB	
*	<i>Ranunculus x kelchoensis</i>		787384	31	2006	MEB, PFB	

Selected axiophytes: *Carex acuta*, 785385, *Potamogeton pectinatus*, 785385, *Potamogeton perfoliatus*, 785385, *Ranunculus fluitans*, 788382, *Saxifraga granulata*, 787384

Other axiophytes: *Ononis repens*, *Origanum vulgare*

4. Birgham Haugh, 7938, Habitat moderately good in part ♥

Woodland, grassland, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Allium vineale</i>		792389	24	2006	MEB	Low limestone rock
*			799389		1983	MEB	
*	<i>Cerastium arvense</i>		799389		1983	MEB	
	[<i>Chelidonium majus</i>]		793388		1995	MEB	
	[<i>Convolvulus arvensis</i>]		794389	43	2007	MEB	
*	<i>Echium vulgare</i>		799389		1983	MEB	
	<i>Erodium cicutarium</i>		794381		1983	MEB	
*	<i>Galium boreale</i>		799389		1983	MEB	
	<i>Geranium pusillum</i>		794389	43	2007	MEB	Bank in field
*	<i>Potamogeton x salicifolius</i>		795388		1995	MEB	

Selected axiophytes: *Campanula latifolia*, 799389, *Elymus caninus*, 7938, *Knautia arvensis*, 783398, 799389, *Potamogeton pectinatus*, 795388, *Prunus padus*, 795389, *Ranunculus fluitans*, 7938, *Stellaria nemorum*, 7938

Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Crepis paludosa*, *Eupatorium cannabinum*, *Iris pseudacorus*, *Mercurialis perennis*, *Ononis repens*, *Ranunculus aquatilis*, *Ranunculus bulbosus*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Sedum album*

Former rare or scarce species: *Clinopodium vulgare*, 7938, 1834, Dr R D Thomson, *Gymnadenia conopsea*, 7938, 1916, A H Evans, *Lathraea squamaria*, 7938, 1954, Mrs E K Swinton, under elms and laurels, *Potamogeton pusillus*, 7938, 1971, Dr N T H Holmes, *Potamogeton x olivaceus*, 7938, 1971, Dr N T H

Holmes, *Sanguisorba officinalis*, 7938, 1853, Dr G Johnston, in the bed of the Tweed below Birgham, sparingly

5. Birgham, 7838, 7839, 7939, Habitat fragmentary

Ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ballota nigra</i>		793390		2007	MEB	
	[<i>Centaurea cyanus</i>]		786389		2009	MEB	Sown
			795393		2009	MEB	Sown
	[<i>Chrysanthemum segetum</i>]		786389		2009	MEB	Sown
			795393		2009	MEB	Sown
	[<i>Convolvulus arvensis</i>]		794390		1995	MEB	
	<i>Malva neglecta</i>		794390		1995	MEB	

Intrusive neophytes: *Buddleja davidii*

Former rare or scarce species: [*Geranium lucidum*], 7939, 1834, introduction, Dr R D Thomson, *Malva moschata*, 7939, 1836, Dr F Douglas, native or introduced

6. Birgham Wood (part NT74, NT84), 7939, 7940, 8040, Habitat good in part ♥♥

Mixed woodland on former sandy moorland with fen area and pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex vesicaria</i>		802401		1993	MEB	Possibly lost to new pond
	<i>Cirsium heterophyllum</i>	10 cells	801401		2009	MEB	Second colony lost to new pond
	<i>Equisetum x litorale</i>	Large	799399		2009	MEB	
		Large	799400		2009	MEB	
	<i>Galium palustre subsp. elongatum</i>		800400	25	2009	MEB	Fen
	<i>Mentha arvensis</i>		797400	48	2009	MEB	Ride
			797401	34, 44	2009	MEB	Ride
			797402	28	2010	MEB, ENHS	
	<i>Pyrola minor</i>	5 cells	794401		2009	MEB	Under birch, oak
		8 cells	795400		2009	MEB	Under birch, oak, pine
		8 cells	795401		2009	MEB	Under birch, oak
		10 cells	796399		2009	MEB	Under birch, oak, beech
			796400	02	2009	MEB	
			798401		1983	MEB	
	<i>Potamogeton pusillus</i>		800400	82	2009	MEB	New pond
	[<i>Viburnum opulus</i>]	Two	799400	44, 87	2009	MEB	Planted
			802401		1993	MEB	Planted

Selected axiophytes: *Agrimonia eupatoria*, 794402, *Campanula latifolia*, 797399, *Carex riparia*, 799399, 800400, 802401, [*Prunus padus*], 799400, 800401, planted, [*Sedum telephium*], 797397, 797398, wood edge, probable neophyte

Other axiophytes: *Alisma plantago-aquatica*, *Carex disticha*, *Geum rivale*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Sanicula europaea*, *Veronica montana*

Intrusive neophytes: *Hyacinthoides x massartiana*, *Symphoricarpos albus*

Former rare or scarce species: *Cirsium heterophyllum*, 800400, 1983, MEB, *Genista tinctoria*, 7940, 1834, Dr G Johnston, Birgham Moor, 8040, 1961, AGL, *Gentianella campestris*, 7940, 1834, Dr G Johnston, Birgham Moor, *Radiola linoides*, 7940, 1878, A Brotherston, Birgham Moor, *Viola tricolor subsp. tricolor*, 796400, 1985, MEB, 802401, 1993, MEB

7. Sundry arable habitats NT73, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Persicaria lapathifolia</i>		784393		1995	MEB	Lochton or Crawboat Loch
	<i>Veronica polita</i>	Modest	707374		1990	MEB	Newton Don Walled Garden
	<i>Viola tricolor subsp. tricolor</i>	One	774383		2005	MEB	Lochton, near, cereal crop

Selected axiophytes: *Lamium amplexicaule*, 707374, 7037, Newton Don, 785393, 7839, Lochton Burn, *Lamium confertum*, 785393, 7839, Birgham, near, 788392, 7839, Birgham, near

Former rare or scarce species: *Aethusa cynapium*, 7037, 1893, W Wood, Newton Don, *Anthriscus caucalis*, 7037, 1893, W Wood, Newton Don, *Centaurea cyanus*, 7037, 1893, W Wood, Newton Don, *Chrysanthemum segetum*, 705362, 1981, MEB, Newton Don, turnips and potatoes, *Euphorbia exigua*, 7938, 1834, Dr R D Thomson, Birgham Haugh, *Valerianella dentata*, 7738, 1874, A Brotherston, Lochton, fields at

8. Sundry NT73, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Rumex maritimus</i>	Six	783387		2008	LWG	Springhill, on small tip of dumped soil

Selected axiophytes: *Carex riparia*, 774389, 7738, Lochton Pond

Former rare or scarce species: *Anagallis tenella*, 7738, 1853, Miss A Hunter, Lochton or Crawboat Loch, *Hypericum humifusum*, 7839, 1834, Dr R D Thomson, St Foin, Birgham

NT74 Greenlaw

(Systematic sample survey 1998, further samples to 2009)

Hectad Description

Overview

99% of the hectad NT74 is in Berwickshire. It lies between 82m by the Blackadder Water below Bogend and 285m at Kyles Hill.

Marchmont, much of Greenlaw Moor, Greenlaw and a strip south towards Hume lie on the upper Old Red Sandstone, while Eccles, Leitholm and Charterhall lie on the Carboniferous sandstones. Intrusive rocks outcrop at Kyles Hill, around Hume and near Lintmill Bridge.

A great deal of the hectad is productive arable land with very little botanical interest. Greenlaw Moor is much the largest block of semi-natural habitat. The Marchmont estate nearby has a wide variety of habitats in small parcels, some associated with the Howe Burn. The Blackadder Water is the principal river and although it becomes eutrophic below Greenlaw it has some modestly interesting botanical habitats along its banks. The former moorland and wetland at Birgham Moor is largely lost, leaving Birgham Wood and the partly-drained wetlands of Bishop's Bog and Horse

Bog. The intrusive rocks of the Kelso Traps provide the best grassland habitats in the hectad at Hume Mill, Hume Castle, Hume Craigs and Lintmill Bridge.

The town of Greenlaw is the main settlement, with villages at Eccles and Leitholm.

The disused railway from Greenlaw to Duns follows the Blackadder Water and the Howe Burn.

Habitats

Greenlaw Moor harbours an important winter goose roost at Hule Moss but is profoundly dispiriting to the botanist, especially the section in this hectad. The formerly fine flush at the head of the Flourishwalls Burn was damaged by drainage a number of years ago, a breach of the SSSI regulations. Although *Blysmus compressus*, *Dactylorhiza incarnata*, *Sagina nodosa* and *Selaginella selaginoides* survive there for the present, their numbers are reduced and their future is uncertain. Only a small section of the rich burnside communities by the Fangrist Burn with *Berula erecta* and *Blysmus compressus* fall in the hectad. Hule Moss itself is a eutrophic reservoir and the more natural moss to the east with *Lythrum portula* is just a small feature. The rest of the moor is over-managed grouse moor where the temporary reappearance of *Genista anglica* in 2002 and *Platanthera bifolia* in 2000 are but poignant reminders of what might have been. Across the A6105, Woodheads Strip and Blaeberry Plantation lie on former moorland and there is some *Vaccinium myrtillus* with *Pyrola minor*, which is favoured rather than hindered by shade of the old beeches in the strip.

At **Marchmont**, to the south, the mansion lies on a ridge between the Swardon Burn and the Howe Burn, giving the setting for the fine avenue that runs two kilometres northeast from the house. There are woodland and wetland habitats by the burns with *Allium ursinum*, *Carex paniculata*, *Equisetum sylvaticum*, *Hypericum hirsutum*, *Valeriana dioica* and *V. officinalis*. The walled vegetable garden was in cultivation when visited in 1998 and *Lamium amplexicaule*, *L. confertum* and *Veronica polita* were noted there. The charophyte *Chara globularis/virgata* agg. is plentiful in a pond.

The **Blackadder Water** is now too eutrophic for most aquatic species and *Ranunculus circinatus* was last seen there in 1973. However an enigmatic hybrid clone of *Ranunculus* is still quite frequent whose parents have been repeatedly suggested to be *R. circinatus* and *R. fluitans*. No molecular studies have been made to confirm this. This clone is not known elsewhere in Britain or further afield. The riversides near Sisterpath are moderately rich with *Agrimonia eupatoria*, *Carex paniculata*, *Chrysosplenium alternifolium* and *Saxifraga granulata*. *Sparganium emersum* is recorded near Fogo, as is *Campanula latifolia*. *Butomus umbellatus* has now become quite frequent by the Blackadder.

There is a complex of modified habitats that marks the former **Birgham Moor** with Birgham Wood the most interesting. This is described under hectad NT73. Bishop's Bog still has *Carex riparia*, *Salix pentandra* and *Solanum dulcamara* while Horse Bog also has *Carex riparia*.

The knowes in a small meadow at Hume Mill have an excellent **grassland** community. *Dianthus deltoides* is accompanied by *Helianthemum chamaecistus*, *Koeleria macrantha*, *Myosotis ramosissima*, *Saxifraga granulata*, *Scleranthus annuus*, *Trifolium striatum* and *Vicia lathyroides* with *Iris pseudacorus* by the burn. The building of Hume Castle modified the eminence on which it stands, but *Malva neglecta* is now naturalised there and small populations of *Geranium pusillum*, *Scleranthus annuus*, *Stellaria pallida* and *Vicia lathyroides* survive. To the north of the houses, Hume Craigs have similar communities in small quantity. Most of the craigs are acid, with *Montia fontana* subsp. *chondrosperma* and *Stellaria pallida* much more widespread than *Sherardia arvensis*, *Trifolium striatum* and *Vicia lathyroides*. *Viola lutea* and *V. tricolor* are also present.

Catabrosa aquatica occurs in a spring. A further outcrop of the Kelso traps is to be seen in the railway cutting near Lintmill Bridge and on a knowe to the south of the Blackadder nearby. This is now the only known station in Berwickshire for *Plantago media* as a native. Other notable species are *Anthyllis vulneraria*, *Cerastium semidecandrum*, *Dianthus deltoides*, *Knautia arvensis*, *Silene vulgaris* and *Trifolium arvense*.

Other **wetland** habitats are few. The wetland by the Rumbleton Burn (see also hectad NT64) has *Catabrosa aquatica* in a runnel and *Dactylorhiza incarnata* in a flush with *Carex paniculata* and *Menyanthes trifoliata* in fen. *Saxifraga granulata* and *Viola lutea* occur on the knowes adjacent. A pond by the farm at Greenlawdean is a station for *Potamogeton obtusifolius*. *Senecio aquaticus* occurs by the Lambden Burn. The pond at Rowchester House has an elaborate Japanese-style bridge with a splendid specimen of *Platanus orientalis* nearby but is not otherwise of botanical interest. Eccles Pools are believed to have a post-glacial origin as kettlehole lakes, but this is hardly evident today though *Carex riparia* and *C. vesicaria* are present.

There are some farmhouses and mansions with **policies** of interest. At Hassington there was formerly fairly pristine habitat in small elm wood where *Tulipa sylvestris* and an attractive pale form of *Primula vulgaris* are naturalised. However the wych elms have largely succumbed to Dutch elm disease and *Allium paradoxum* has invaded. The policies at Charterhall have not been properly botanised nor have those at Anton's Hill, but *Milium effusum* is known at the latter. This grass is probably an introduction as it is associated with *Luzula luzuloides*. However *Allium ursinum* is plentiful alongside, a rather surprising occurrence for a species that tends to specialise in burn-sides in Berwickshire, so there is some evidence of woodland history here.

The **arable weeds** of the hectad are very much in decline. *Anagallis arvensis* has become rare and *Lamium amplexicaule*, *L. confertum* and *L. hybridum* are scarce. *Sinapis alba* occurs as residue from game crops.

Lactuca virosa occurred as a casual by Puncheon Bridge in 1999, the only recent record away from its usual haunts on cliffs and banks near the River Tweed.

Index of Sites NT74 Greenlaw

GR - NT	Ref	Site	Habitats
7040	1	Hume Mill	Grassland on intrusive rocks
7041	2	Hume Castle	Grassland on intrusive rocks
7041	3	Hume Craigs, east section	Grassland on intrusive rocks
7045	4	Rumbleton Burn (see NT64)	Wet meadow, heath, disused railway
7045, 7046, 7145, 7146	5	Greenlaw, Greenlaw Dean, lower section	Ruderal, riverside, grassland
7047	6	Greenlaw Dean Pond	Pond
7047, 7048, 7049, 7147, 7148, 7149, 7248, 7249, 7349	7	Greenlaw Moor, Flourishwalls Burn, Hule Moss, Kyles Hill	Moorland, flushes, reservoir
7248, 7249, 7349	8	Woodheads Strip, Blaeberry Plantation	Plantation on former moorland
7241, 7341, 7342	9	Lambden Burn	Burnside grassland
7343, 7344	10	Rowchester House	Policies
7246, 7346, 7446, 7447	11	Lintmill Bridge	Grassland on intrusive rocks, riverside, disused railway
7347, 7348, 7448, 7548, 7549, 7649	12	Marchmont, Howe Burn, upper section	Policies, wetland, grassland
7441	13	Hassington Wood	Former policies
7446, 7447, 7546, 7547, 7647	14	Charterhall House, Charterhall Wood	Policies, plantation
7645, 7646	15	Charterhall Aerodrome	Grassland
7547, 7548, 7648	16	Sisterpath	Riverside
7641	17	Eccles	Ruderal
7741	18	Eccles Pools	Former kettlehole lakes
7649, 7749	19	Fogo, Caldra	Riverside
7840	20	Bishop's Bog (FERNYRIG BOG)	Mire, part drained
7843	21	Anton's Hill	Policies
7844, 7944	22	Leitholm	Ruderal
7940	23	Birgham Wood (see NT73)	Plantation on former moorland
7940	24	Horse Bog	Mire, part drained
7841, 7941	25	Fernyrig, Paxton Wood, Crown Gorse	Plantations on former moorland
7849, 7949	26	Cairns Mill	Riverside
74	27	Sundry	Arable habitats
74	28	Sundry	Sundry habitats

Site Register NT74 Greenlaw

1. Hume Mill, 7040, Habitat fine ♥♥♥

Grassland on intrusive rocks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		707406		1998	MEB	
	<i>Dianthus deltoides</i>	Large	707406		1998	MEB	
	<i>Montia fontana subsp. chondrosperma</i>		707406		1998	MEB	
	<i>Myosotis ramosissima</i>		707406		1998	MEB	
	<i>Scleranthus annuus</i>		7040		1998	DJMCC	
	<i>Trifolium striatum</i>		707406		1998	MEB	
	<i>Vicia lathyroides</i>		707406		1998	MEB	

Selected axiophytes: *Helianthemum nummularium*, 707406, *Lamium amplexicaule*, 707406, *Saxifraga granulata*, 707406, *Stellaria pallida*, 707406

Other axiophytes: *Aira caryophyllea*, *Alchemilla filicaulis subsp. vestita*, *Carex caryophyllea*, *Conopodium majus*, *Geum rivale*, *Helictotrichon pratense*, *Iris pseudacorus*, *Koeleria macrantha*, *Ranunculus bulbosus*, *Thymus polytrichus*, *Trifolium medium*, *Vulpia bromoides*

2. Hume Castle, 7041, Habitat moderately good in part ♥

Grassland on intrusive rocks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		704413		1998	MEB	Habitat much degraded by added nitrogen
	<i>Geranium pusillum</i>		705414		1998	DW	Wood
	[<i>Malva neglecta</i>]		705414		1998	DW	Wood, naturalised
	<i>Scleranthus annuus</i>		705414		1983	MEB	
	<i>Vicia lathyroides</i>	Modest	704413	17	2006	MEB	On ledges

Selected axiophytes: *Lamium amplexicaule*, 704413, *Saxifraga granulata*, 705414, *Stellaria pallida*, 704413, 704419

Former rare or scarce species: *Myosotis ramosissima*, 7041, 1956, Miss H M Brown, *Trifolium striatum*, 7041, 1965, Miss J Blance

3. Hume Craigs, east section, 7041, Habitat good in part ♥♥

Grassland on intrusive rocks

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Catabrosa aquatica</i>		7041		1998	DW, DJMcC	Wood
	<i>Cerastium semidecandrum</i>		7041		1998	DW, DJMcC	Wood
	[<i>Geranium lucidum</i>]		705415	21	2007	MEB	Introduction
	<i>Montia fontana subsp. chondrosperma</i>	Large	701417	25	2007	MEB	
			701417	26	2007	MEB	
		Modest	702414	98	2006	MEB	
			702417	82	2007	MEB	
	<i>Scleranthus annuus</i>	One	702414	98	2006	MEB	
		Small	704414	07	2006	MEB	
	<i>Sherardia arvensis</i>		7041		1998	DW, DJMcC	Wood
	<i>Trifolium striatum</i>	Small	7041		1998	DW, DJMcC	Wood
	<i>Vicia lathyroides</i>	Small	702414	98	2006	MEB	
		Small	703414	87	2006	MEB	Near top of rocks, rather acid habitat with <i>Rumex acetosella</i>
	<i>Viola tricolor subsp. tricolor</i>		7041		1998	DW, DJMcC	Wood

Selected axiophytes: *Festuca filiformis*, 7041, *Lamium amplexicaule*, 7041, *Rosa rubiginosa*, 7041, *Saxifraga granulata*, 700417, 704414, *Stellaria pallida*, 700417, 701417, 703417, *Viola lutea*, 7041

Other axiophytes: *Carex caryophyllea*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza purpurella*, *Helictotrichon pratense*, *Koeleria macrantha sens. lat.*, *Lychnis flos-cuculi*, *Ranunculus bulbosus*, *Thymus polytrichus*

Intrusive neophytes: *Allium paradoxum*, near houses, *Hyacinthoides x massartiana*, near houses

Former rare or scarce species: *Sedum villosum*, 7041, 1872, J Hardy, formerly grew here

4. Rumbleton Burn (see NT64), 7045, Habitat moderately good ♥

Wet meadow, heath, disused railway

5. Greenlaw, Greenlaw Dean, south end, 7045, 7046, 7145, 7146, Habitat fragmentary

Ruderal, riverside, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Genista anglica</i>		7046		1990	PSL, COB	Lusby, top of bank, south side slopes
*	<i>Ranunculus circinatus x fluitans</i>		711457		2005	MEB	
*			712457		2005	MEB	
*			712458		2005	MEB	
*			714459		2005	MEB	
*			714460		2005	MEB	
*			717460	31	2005	MEB	
	<i>Viburnum opulus</i>		7146		1997	MEB	Planted

Selected axiophytes: *Berula erecta*, 708460, 716460, *Geranium sylvaticum*, 7046, *Helianthemum nummularium*, 7046, *Polygala vulgaris*, 704466, [*Prunus padus*], 705465, planted, *Saxifraga granulata*, 7046

Other axiophytes: *Anemone nemorosa*, *Carex acutiformis*, *Festuca pratensis*, *Geum rivale*, *Iris pseudacorus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Stellaria holostea*, *Thymus polytrichus*, *Veronica scutellata*

Intrusive neophytes: *Allium paradoxum*, *Heracleum mantegazzianum*, *Rhododendron ponticum*, *Rosa rugosa*

Former rare or scarce species: [*Geranium lucidum*], 7045, 1969, AGL, Old Red Sandstone scaurs near bridge, *Ranunculus circinatus*, 7046, 1973, NTHH, 7146, 1973, NTHH

6. Greenlaw Dean Pond, 7047, Habitat fragmentary

Pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Potamogeton obtusifolius</i>		704470		1998	MEB	

7. Greenlaw Moor, Flourishwalls Burn, Hule Moss, Kyles Hill, 7047, 7048, 7049, 7147, 7148, 7149, 7248, 7249, 7349 Habitat good in part ♥♥

Moorland, flushes, reservoir

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Blasmus compressus</i>		701496	24	2000	MEB	Moorland flush with <i>Briza media</i>
*			702496	94	2000	MEB	Moorland flush with <i>Pinguicula vulgaris</i>
*			720485		1998	JW, RWMC	Waddell
*	<i>Dactylorhiza incarnata</i>		720485		1995	MEB	
*	<i>Eleocharis quinqueflora</i>		720485		1995	MEB	
*	<i>Euphrasia micrantha</i>		718489		1998	JW, RWMC	Waddell
*	<i>Euphrasia scottica</i>		719485		1998	JW, RWMC	Waddell
*			720485		1995	MEB	
*	<i>Genista anglica</i>	Ten	706485		2002	AMcB	McBride, Heriots Dyke, on dyke east of disused rifle range
*	<i>Lythrum portula</i>	Modest	719493		1998	JW, RWMC	Waddell, moss east of Hule Moss
*	<i>Platanthera bifolia</i>	Two	719487		2000	COB	Flush with <i>Dactylorhiza fuchsii</i> and <i>D. maculata</i>
*	<i>Sagina nodosa</i>	Large	720485		2002	MEB, PFB	
*	<i>Selaginella selaginoides</i>		720485		1995	MEB	

Selected axiophytes: *Berula erecta*, 7049, *Carex curta*, 713490, 718492, *Hydrocotyle vulgaris*, 7149, *Parnassia palustris*, 720485, *Pinguicula vulgaris*, 720485

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis* subsp. *vestita*, *Briza media*, *Carex caryophyllea*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Isolepis setacea*, *Linum*

catharticum, *Luzula pilosa*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Potentilla palustris*, *Ranunculus aquatilis*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Filago vulgaris*, 7349, 1956, AGL, on moor, *Listera cordata*, 7149, 1960, AGL, *Listera ovata*, 7248, 1963, DGL, *Lycopodium clavatum*, 7148, 1838, Dr C Stuart, *Lythrum portula*, 721488, 1952, G Grahame, *Sagina nodosa*, 721488, 1952, G Grahame, *Sedum villosum*, 721488, 1952, G Grahame

8. Woodheads Strip, Blaeberry Plantation, 7248, 7249, 7349, Habitat fragmentary

Plantation on former moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Pyrola minor</i>	4x3m	734496	66, 99	2009	MEB	Mossy ground under beech with bilberry, also at passing place, shoots coming up through gravel
			737498	28, 38, 39	2009	MEB	Mossy bank under beech and oak

Selected axiophytes: *Geranium sylvaticum*, 729491

Former rare or scarce species: *Lycopodium clavatum*, 7349, 1952, AGL, *Pyrola media*, 7249, 1853, Dr G Johnston

9. Lambden Burn, 7241, 7341, 7342, Habitat fragmentary

Burnside grassland

Other axiophytes: *Senecio aquaticus*, *Trifolium medium*

10. Rowchester House, 7343, 7344, Habitat fragmentary

Policies

Other axiophytes: *Galium odoratum*, *Geum rivale*, *Iris pseudacorus*, *Veronica montana*

Intrusive neophytes: *Doronicum pardalianches*, *Fallopia japonica*, *Rhododendron ponticum*, *Symphoricarpos albus*

11. Lintmill Bridge, 7246, 7346, 7446, 7447, Habitat moderately good ♥

Grassland on intrusive rocks, riverside, disused railway

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		7246		1996	PSL	Lusby
	<i>Dianthus deltoides</i>	20	731462	88, 89, 99	2005	MEB	Rock outcrop
		Five	732463	14	2005	MEB	Railway cutting, rock outcrop, at very top of bank
	[<i>Geranium lucidum</i>]		734464		1994	PSL	Lusby, probable introduction
	<i>Plantago media</i>	Twelve	734464	71	2005	MEB	With <i>Dactylorhiza</i> sp.
	<i>Rumex conglomeratus</i>		7346		2004	RVL, TJP	
	<i>Spergularia rubra</i>		7346		1997	ML	Little, disused railway, on cinders
	<i>Trifolium arvense</i>		731462	88	2005	MEB	

Selected axiophytes: *Anthyllis vulneraria*, 731462, 732463, *Berula erecta*, 7346, *Carex riparia*, 7346, *Knautia arvensis*, 734464, *Menyanthes trifoliata*, 7246, *Saxifraga granulata*, 7346, *Silene vulgaris*, 731463

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Briza media*, *Carex acutiformis*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Iris pseudacorus*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Ononis repens*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Vulpia bromoides*

Intrusive neophytes: *Sedum album*

Former rare or scarce species: *Filago vulgaris*, 7349, 1952, AGL, roadside

12. Marchmont, Howe Burn, upper section, 7347, 7348, 7448, 7548, 7549, 7649, Habitat moderately good in part ♥

Policies, wetland, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Blysmus compressus</i>	Small	742488		1998	MEB, OMS	Stewart
	<i>Veronica polita</i>		744484		1998	MEB	Walled garden

Charophytes: *Chara globularis/virgata* agg., 754490, 1998, MEB, recorded as *C. globularis*, pond, large colony

Selected axiophytes: *Carex paniculata*, 755492, *Equisetum sylvaticum*, 755492, 761495, *Geranium sylvaticum*, 747486, *Lamium amplexicaule*, 744484, walled garden, *Lamium confertum*, 744484, walled garden, *Saxifraga granulata*, 7549

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Allium ursinum*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Hypericum hirsutum*, *Iris pseudacorus*, *Isolepis setacea*, *Leontodon hispidus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Phyllitis scolopendrium*, *Sanicula europaea*, *Stellaria holostea*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Valeriana officinalis*

Intrusive neophytes: *Rhododendron ponticum*

13. Hassington Wood, 7441, Habitat fragmentary

Former policies [with *Tulipa sylvestris* long-naturalised]

Intrusive neophytes: *Allium paradoxum*

14. Charterhall House, Charterhall Wood, 7446, 7447, 7546, 7547, 7647, Habitat fragmentary

Policies, plantation

Other axiophytes: *Ajuga reptans*, *Carex flacca*, *Crepis paludosa*, *Lychnis flos-cuculi*, *Senecio aquaticus*

Intrusive neophytes: *Crocsmia x crocosmiiflora*, *Rhododendron ponticum*, *Symphoricarpos albus*

15. Charterhall Aerodrome, 7645, 7646, Habitat fragmentary

Grassland [only visited out of season]

16. Sisterpath, 7547, 7548, 7648, Habitat moderately good ♥

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Malva moschata</i>]		7547		1998	MEB, JM	Muscott, probable introduction

Selected axiophytes: *Agrimonia eupatoria*, 7547, *Carex paniculata*, 7547, *Chrysosplenium alternifolium*, 754478, *Saxifraga granulata*, 753478, 757479

Other axiophytes: *Alchemilla filicaulis subsp. vestita*, *Brachypodium sylvaticum*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Festuca gigantea*, *Geum rivale*, *Hypericum hirsutum*, *Iris pseudacorus*, *Leontodon hispidus*, *Ranunculus aquatilis*, *Rhinanthus minor*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Symphoricarpos albus*

Former rare or scarce species: *Scutellaria galericulata*, 7548, 1956, Miss H M Brown

17. Eccles, 7641, Habitat fragmentary

Ruderal

Intrusive neophytes: *Doronicum pardalianches*, *Hyacinthoides x massartiana*

18. Eccles Pools, 7741, Habitat fragmentary

Former kettlehole lakes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex vesicaria</i>		771413		1979	COB, MEB	

Selected axiophytes: *Carex riparia*, 771413, 771415, *Solanum dulcamara*, 771413

Other axiophytes: *Alisma plantago-aquatica*, *Carex disticha*, *Geum rivale*, [*Quercus petraea*], planted, *Trifolium medium*

19. Fogo, Caldra, 7649, 7749, Habitat fragmentary

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Carex pendula</i>]		773494		1998	MEB	Introduction
*	<i>Ranunculus circinatus x fluitans</i>		772492	19	2005	MEB	
*			773493	99	2005	MEB	
*			774494	72	2005	MEB	
*	<i>Sparganium emersum</i>		7649		1995	AC	Cooney, as 769491, but this seems to be site centroid

Selected axiophytes: *Campanula latifolia*, 7649

Other axiophytes: *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Galium odoratum*, *Mercurialis perennis*, *Phyllitis scolopendrium*

Intrusive neophytes: *Crassula helmsii*, ornamental pond, *Hyacinthoides x massartiana*

Former rare or scarce species: *Ranunculus circinatus*, 7749, 1973, NTHH

20. Bishop's Bog (Fernityg Bog), 7840, Habitat moderately good ♥

Mire, part drained

Selected axiophytes: *Carex riparia*, 785405, *Salix pentandra*, 7840, *Solanum dulcamara*, 7840Other axiophytes: *Alisma plantago-aquatica*, *Dryopteris carthusiana*, *Geum rivale*, *Iris pseudacorus*Intrusive neophytes: *Heracleum mantegazzianum*

Former rare or scarce species: *Hippuris vulgaris*, 7840, 1831, Dr R D Thomson, *Listera ovata*, 780400, 1979, COB, MEB, *Oenanthe aquatica*, 7840, 1838, Rev T Knight, *Potamogeton coloratus*, 7840, 1838, Dr R D Thomson, *Potamogeton gramineus*, 7840, 1829, Dr R D Thomson, *Potentilla anglica*, 7840, 1831, Dr R D Thomson, *Ranunculus lingua*, 7840, 1834, Dr R D Thomson, *Rumex conglomeratus*, 7840, 1979, COB, MEB, *Sagina nodosa*, 7840, 1845, Dr R D Thomson, *Samolus valerandi*, 7840, 1834, Miss E Bell, *Schoenoplectus lacustris*, 7840, 1834, Dr R D Thomson, *Utricularia vulgaris sens. lat.*, 7840, 1834, Dr R D Thomson

21. Anton's Hill, 7843, Habitat fragmentary

Policies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Milium effusum</i>		784434		1999	MEB	Probable well-naturalised introduction, associated with <i>Luzula luzuloides</i>

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Conopodium majus*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Polystichum aculeatum*

Intrusive neophytes: *Symphoricarpos albus*

Former rare or scarce species: *Cirsium heterophyllum*, 7843, 1853, Miss E Bell, Miss A Hunter, *Galium boreale*, 7843, 1834, Miss E Bell, *Galium mollugo*, 7843, 1834, Miss A Hunter, Miss E Bell, field near, *Senecio erucifolius*, 7843, 1831, Dr R D Thomson

22. Leitholm, 7844, 7944, Habitat fragmentary

Ruderal

Selected axiophytes: *Solanum dulcamara*, 7844**23. Birgham Wood, 7940 (see NT73), Habitat good in part ♥♥**

Plantation on former moorland

24. Horse Bog, 7940, Habitat moderately good ♥

Mire, part drained

Selected axiophytes: *Carex riparia*, 7940Other axiophytes: *Crepis paludosa*, *Geum rivale*Former rare or scarce species: *Listera ovata*, 7940, 1979, COB, MEB**25. Fernyrig, Paxton Wood, Crown Gorse, 7841, 7941, Habitat fragmentary**

Plantations on former moorland

[No relevant species data held]

26. Cairns Mill, 7849, 7949, Habitat fragmentary

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Ranunculus circinatus x fluitans</i>		7949		2004	RVL, TJP	

Other axiophytes: *Iris pseudacorus*Former rare or scarce species: *Potamogeton pusillus*, 7949, 1973, NTHH**27. Sundry arable habitats NT74, Habitat fragmentary**

Selected axiophytes: *Anagallis arvensis*, 715475, A6105, Marchmont, 776424, Orange Lane, beans, 7840, Bishop's Bog, near, *Galeopsis speciosa*, 704434, Hume Castle, rape near, *Lamium amplexicaule*, 7246, Lintmill, near, 7648, Sisterpath, near, 788453, Kames West Mains, *Lamium confertum*, 7648, Sisterpath, near, 709415, Hume, near, 719462, Greenlaw, near, 737437, Cowrig, 782485, Fogorig, near, 783447, Leitholm, near, 784425, Grizlerig, near, 789439, Leitholm, broccoli field, *Lamium hybridum*, 782485, Fogorig, near, 789439, Leitholm, broccoli field

Former rare or scarce species: *Persicaria lapathifolia*, 7749, 1967, Mrs E O Pate, Caldra, *Silene noctiflora*, 7940, 1959, I McWhan, Horse Bog, near

28. Sundry NT74, Habitat fragmentary

	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Lactuca virosa</i>]		788417		1999	MEB	Puncheon Bridge, casual
	<i>Spergularia rubra</i>		7045		2000	MEB	A6105 between Gordon and Greenlaw
		15m	722486		1998	RWMC	A6105, Flourishwalls Plantation
	<i>Vicia sativa</i> subsp. <i>segetalis</i>		788417		1999	MEB	Puncheon Bridge

Selected axiophytes: *Agrimonia eupatoria*, 756410, Eccles, near

Former rare or scarce species: *Galium boreale*, 7442, 1831, Dr R D Thomson, Hardacres, bog south of, *Genista tinctoria*, 7841, 1831, Rev A Baird, Whiterig, near Eccles, *Hypericum humifusum*, 7742, 1834, Dr R D Thomson, Bankhead Wood, Eccles, *Listera ovata*, 7442, 1845, Dr R D Thomson, Hardacres, 777401, 1979, MEB, Bishop's Bog, near, *Nuphar lutea*, 7845, 1831, Dr R D Thomson, Kames, pond at, introduced, *Pyrola minor*, 7742, 1883, J Hardy, Orange Lane, Bankhead wood, *Senecio erucifolius*, 7742, 1831, Dr R D Thomson, Orange Lane, roadside south of, 7842, 1845, Dr R D Thomson, Grizelrig, *Sherardia arvensis*, 7948, 1939, WFS Berwickshire County Botanical Record, Ryslaw, *Torilis nodosa*, 7949, 1882, Dr C Stuart, Bogend, on a bridge, *Trollius europaeus*, 7442, 1834, Dr R D Thomson, Hardacres, bog south of

NT75 Duns (resurveyed 2008)

Hectad Description

Overview

All of the hectad NT75 is in Berwickshire. It lies between 75m on the Whiteadder Water below Cumledge and 360m at Hardens Hill.

This is a geologically diverse hectad. While the Upper Old Red Sandstone underlies the larger part of the hectad, there are acid Silurian rocks to the northwest towards Ellemford Bridge and Carboniferous sandstones to the east below Preston on the Whiteadder Water and between Gavinton and Nisbet Hill to the southeast. Intrusive rocks form prominent features at Harelaw Craigs, with its recently-closed road-stone quarry, at Cockburn Law continuing across the Whiteadder to Stoneshiel Hill, at Kyles Hill by Greenlaw Moor and most notably at Dirrington Great Law.

The botanical interest reflects this geological diversity and the species list is the richest for any Berwickshire hectad away from the coast. Nevertheless the habitats are mainly fragmented or, in the case of moorland, much degraded. The moorland, generally species-poor, contains pockets with unexpectedly rich communities. Of considerable local interest are the modest woodland remnants, along the Langton Burn, a few of the other burns and the Whiteadder. Further botanical interest is found in the policies of Duns Castle, most of which are generously made open to the public.

Although Duns is the county town of Berwickshire there is little industrial activity and the ruderal habitats around the town are limited, while the spoil heaps at Harelaw Craigs quarry have modest interest only. Given the variety of soils, the scarcer arable weeds are surprisingly weakly represented.

Habitats

Moorland habitats include part of Greenlaw Moor. The moor itself is burnt with obsessive rigour and has lost almost all its diversity. The only redeeming feature is Polwarth Moss which has what is probably the largest colony of *Salix repens* in Berwickshire. However the area to the west of the Greenlaw Kaims at Cleckinshaw is a network of burns and flushes at the site of a former glacial lake with *Blysmus compressus* by the Fangrist Burn (an outlier of the main colonies downstream) and *Carex dioica*, *Dactylorhiza incarnata*, *Eleocharis quinqueflora*, *Euphrasia scottica*, *Sagina nodosa*, and *Selaginella selaginoides* in the flushes where *Parnassia palustris* is rather fine. The burns have *Berula erecta*, *Ranunculus trichophyllus* and *Veronica x lackschewitzii*. To the north of Bedshiel there is a colony of *Cirsium heterophyllum* by the Kettleshiel Burn.

At the foot of Dirrington Great Law there are springs beside the burn at Dronshiel. Here *Apium inundatum* still prospers at the spring-head with the charophyte *Chara globularis/virgata* agg. but other species, including *Sedum villosum*, have been lost to drainage. The hill itself, of which only part is in the hectad, has an extensive colony of *Vaccinium vitis-idaea*. Hardens Hill and Langton Edge have lost their moorland to forestry but *Lycopodium clavatum* occurs by the tracks. Just to the north an area of good moorland does survive. This is grazed by sheep and cattle and had a much more diverse flora than Greenlaw Moor but suffered an unfortunate fire in 2007. *Empetrum nigrum* was particularly plentiful. Below the moor there are a series of deep cleughs through the Old Red Sandstone conglomerate. Here at Hells Cleugh, Cat Cleugh, Rams Cleugh and by the White Burn are a very fine series of flushes with abundant *Pinguicula vulgaris* and frequent *Parnassia palustris*. *Carex dioica* and *Selaginella selaginoides* are quite well represented with *Euphrasia scottica* and a

very little *Eriophorum latifolium* and *Narthecium ossifragum*. Similar habitat occurs by the Back Burn above The Hardens, but its extent and diversity are much more modest.

Hen Toe Bog is drained and planted with conifers but *Lycopodium clavatum* and a single plant of *Diphysastrum alpinum* have colonised the tracksides. Cockburn Law has but limited heather and no species of individual interest are known there. The former moorland east from Stoneshiel Hill along Bunkle Edge is all ploughed or planted.

Wetland habitats other than the moorland flushes and the riversides are few. Part of the *Trollius europaeus* site at Crook Burn, Dyshaugh, falls in the hectad and there is modest interest by the Howe Burn with *Berula erecta* and *Solanum dulcamara*. The Hen Poo at Duns Castle is an artificial lake on a former wetland site where the main species of interest may all be introductions. These include *Acorus calamus*, *Nuphar lutea*, *Ranunculus lingua*, *Schoenoplectus lacustris*, *Typha angustifolia* and *T. latifolia*. The pondweeds are inadequately surveyed, as the water's edge is treacherous with a floating mat of vegetation where *Menyanthes trifoliata* and *Potentilla palustris* flourish.

First and foremost among the **woodland** and riverside sites are Langtonlees Cleugh and the woodlands down the Langton Burn to Gavinton. At Langtonlees there has been much habitat loss over the years and the moorland, grassland and extensive flush system are all but destroyed with *Carex pallescens* up the Wellcleugh Burn almost the only locally scarce species that may survive, though it could not be refound in 2008. The cleugh itself is still delightful but is just a narrow strip in a deep gorge. The birch, oak, ash and elm are accompanied by *Populus tremula* and *Prunus padus* and a wide range of herbaceous plants including *Cirsium heterophyllum*, *Gymnocarpion dryopteris*, *Melica uniflora* and *Rubus saxatilis*. However it is the commoner species like *Allium ursinum*, *Anemone nemorosa*, *Geranium sylvaticum*, *Mercurialis perennis* and *Primula vulgaris* present in a varied succession of micro-habitats that gives the cleugh its character. The woodlands lower down the burn are considerably modified but retain areas with a good ground flora. *Carex remota* is occasional while *Campanula latifolia*, *Chrysosplenium alternifolium*, *Equisetum sylvaticum* and *Polystichum aculeatum* are more frequent. *Doronicum pardalianches* is invasive downstream of the ruins of Langton House. The same type of woodland, though more modified, occurs below Gavinton.

Duns Castle has extensive woodland that has been managed in small blocks for many years and is much more varied than most plantations. The Oxendean Burn has carpets of *Allium ursinum* though the *Ulmus glabra* once associated with it is much reduced. Elsewhere in the woods several colonies of *Pyrola minor* are found. It occurs most typically under beech, but one colony is just under a bench seat by a woodland walk and another on a series of steps along the walkway. *Geranium sylvaticum* is widespread but *Equisetum sylvaticum* is scarce while *Milium effusum* and *Poa chaixii* are naturalised introductions. The *Carex sylvatica* found with these two grasses and elsewhere could be native or introduced or both.

There are a series of woodland fragments by the Whiteadder Water. At Hoardweel there is extensive juniper scrub but the former moorland-edge setting has been lost so, although the bushes themselves are impressive, the habitat as a whole is not. Good woodland occurs near the river between Cockburn and Cockburn Mill Ford. A small dean at Cockburn has abundant *Hyacinthoides non-scriptus* while the riverside has *Campanula latifolia*, *Chrysosplenium alternifolium*, *Geranium sylvaticum*, *Prunus padus*, *Saxifraga granulata*, *Solidago virgaurea* and *Stellaria nemorum*. Similar fragments are found at Almaheart and near Preston Bridge. At Cumledge the soils change to the Carboniferous and *Elymus caninus* is remarkably plentiful but otherwise the flora is similar. The *Malva moschata* on the river gravels at Cumledge is probably an introduction. *Doronicum pardalianches* is invasive along all the banks of the Whiteadder that fall

in the hectad often with *Claytonia sibirica* and *Symphytum tuberosum*. *Myrrhis odorata* is quite frequent in woodland and riverside habitats.

Only a short stretch of the Blackadder at Nisbet Hill falls in the hectad. Here the **aquatic** hybrid *Ranunculus circinatus* x *fluitans* occurs with *Berula erecta* and the naturalised *Butomus umbellatus*.

Grassland habitats away from the moorland edges are just fragments by the riverside and road verges. *Helianthemum nummularium* is occasional on knowes by the Whiteadder while *Knautia arvensis* is known only on a road verge near Peelrig. There is a colony of *Viola lutea* at the hill fort at Raeleugh Hill Head, all with the yellow flowers usual in Berwickshire.

Given the variety of soils, **arable weeds** are weakly represented. *Galeopsis speciosa* and *Lamium amplexicaule* are scarce while *Lamium confertum* is more widespread.

Ruderal habitats around the town of Duns support *Aethusa cynapium* and *Fumaria officinalis* subsp. *wirtgenii*. Gavinton boasts *Montia fontana* subsp. *chondrosperma* on the path to the church and *Veronica agrestis* and *V. polita* in gardens. Of the neophytes *Allium paradoxum* is now widespread around Duns and by the Whiteadder below Preston, *Pseudofumaria lutea* is long-established on walls at Duns and has recently been joined there by *Buddleja davidii*. *Reseda luteola* is plentiful in Harelaw Craigs quarry.

Recent **game crops** have included *Melilotus alba* and *M. officinalis* near Grueldykes.

The **roadsides** have the usual halophytes, *Atriplex prostrata*, *Puccinellia distans* and *Spergularia marina*, and also *Juncus ambiguus* with *Sagina maritima* along the B6456 near Bedshiel.

Index of Sites NT75 Duns

GR - NT	Ref	Site	Habitats
7050, 7051	1	Greenlaw Kaims and Burns, east section (Cleckinshaw)	Glacial kaims, burns and wetland (former glacial lakes)
7051, 7052	2	Kettleshiel Burn	Flushed burnside
7055, 7056	3	Dronshiel, east section	Springs and burnside
7058	4	Crook Burn, Dyshaugh, east section	Burnside with strong spring line
7151	5	Foul Burn Bridge	Flushes, much drained
7050, 7051, 7150, 7151, 7250, 7250, 7350	6	Greenlaw Moor and Kyles Hill, north section	Moorland, much degraded, with a small intact peat bog at Polwarth Moss
7054, 7055	7	Dirrington Great Law, east section	Heather moor on volcanic outcrop, intensively managed by muirburn
7352, 7353, 7452, 7552, 7553	8	Langtonlees	Flushed grassland and heath, cleugh woodland, modified dean woodland
7354, 7454	9	Hardens Hill	Moorland edge, part forested, and burnside
7354, 7355, 7454, 7455	10	Hells Cleugh	Series of base-rich flushes in cleughs
7454, 7555	11	Langton Edge	Forestry on former moorland
7459, 7460, 7560	12	Hen Toe Bog (part NT76)	Forestry on former moorland
7652	13	Gavinton	Burnside woodland and ruderal
7653, 7654, 7753, 7754	14	Harelaw Craigs	Grassland and rocky knowes, now quarried and part forested
7659	15	Cockburn Law	Moorland, moorland edge, rocky knowes, now much modified
7750	16	Howe Burn, lower section	Burnside and wetland
7754, 7755, 7854, 7855	17	Duns Castle	Policies including artificial loch, dean woodland and forestry
7658, 7757, 7758, 7759	18	Cockburn Mill	Rocky riverside with woodland, wetland and grassy knowes
7853, 7854, 7953	19	Duns	Roadside verges, ruderal
7856	20	Preston Bridge	Riverside and woodland
7857	21	Almaheart, Primrose Hill	Riverside (formerly also grassland and wetland)
7859, 7959	22	Hoardweel	Juniper scrub on burnside banks
7950, 7951	23	Nisbet Hill	Riverside
7956	24	Cumledge	Riverside woodland
7957, 7958, 7959	25	Preston	Former grassland, moorland
75	26	Sundry	Arable habitats
75	27	Sundry	Sundry habitats

Site Register NT75 Duns

1. Greenlaw Kaims and Burns, east section (Cleckinshaw), 7050, 7051, Habitat good in part ♥♥

Glacial kaims, burns and wetland (former glacial lakes), drained in part to leave flushed grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Blysmus compressus</i>	7x1m	700500	17	2008	MEB	Ledge by Fangrist Burn
*	<i>Carex dioica</i>	Few	700502	57	2008	MEB	Flush
*	<i>Dactylorhiza incarnata</i> <i>subsp. incarnata</i>	Three	700502	56, 68	2008	MEB	Flush
*	<i>Dactylorhiza incarnata</i> <i>subsp. pulchella</i>	One	700502	56	2008	MEB	Flush
*	<i>Eleocharis</i> <i>quinqueflora</i>		701503		1990	MEB	
*	<i>Euphrasia scottica</i>	Few	700502	57	2008	MEB	
		Few	703507	81	2008	MEB	Spring
	<i>Potamogeton pusillus</i>		707513		2002	MEB	Polwarth Moss Burn Pond
*	<i>Sagina nodosa</i>	Few	703507	81	2008	MEB	One flower seen
*			704506		1990	MEB	
*	<i>Selaginella</i> <i>selaginoides</i>	Few	700502	56	2008	MEB	Flush
	<i>Veronica catenata</i>		700502		1990	MEB	May be hybrid
			700515		1989	MEB	May be hybrid, Kettleshiel Burn
			701512		1989	MEB	May be hybrid, Kettleshiel Burn
*			703507		1990	MEB	May be hybrid
*			704507		1987	MEB	May be hybrid, spring and ditch
*			704508		1987	DW	Walton, may be hybrid
*	<i>Veronica x</i> <i>lackschewitzii</i>		703507	91	2002	MEB	
*			703511	15	2002	MEB	Polwarth Moss Burn

Selected axiophytes: *Berula erecta*, 7050, *Helianthemum nummularium*, 701501, 703501, *Menyanthes trifoliata*, 705507, *Parnassia palustris*, 700502, 700503, 701503, 702503, *Pedicularis palustris*, 700505, 702506, 702507, 703507, 705508, *Pinguicula vulgaris*, 700502, *Ranunculus trichophyllus*, 700500, 701502, *Salix repens*, 7050

Other axiophytes: *Achillea ptarmica*, *Briza media*, *Callitriche hamulata*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Dryopteris carthusiana*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Iris pseudacorus*, *Leontodon hispidus*, *Luzula pilosa*, *Potentilla palustris*, *Ranunculus aquatilis*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

2. Kettleshiel Burn, 7051, 7052, Habitat fragmentary

Flushed burnsides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cirsium heterophyllum</i>	5x2m	700519	17	2008	MEB	West side of burn

Selected axiophytes: *Callitriche hermaphroditica*, 700518, 706522, *Ranunculus trichophyllus*, 700518, *Salix repens*, 7052

Other axiophytes: *Briza media*, *Carex disticha*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Linum catharticum*, *Rhinanthus minor*, *Triglochin palustre*, *Valeriana dioica*

Former rare or scarce species: *Sparganium emersum*, 700518, 1989, MEB

3. Dronshiel, east section, 7055, 7056, Habitat fragmentary

Springs and burnsides, part drained

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Apium inundatum</i>	Good	703560	94	2004	MEB	Ditches in spring head
		Good	704560	03, 05	2004	MEB	Ditches in spring head

Charophytes: *Chara globularis/virgata* agg., 704560, 10m cell 03, 2004, MEB, recorded as *C. globularis*, pools in spring head, fertile, modest colony

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis* subsp. *vestita*, *Carex caryophyllea*, *Carex disticha*, *Conopodium majus*, *Festuca pratensis*, *Galium uliginosum*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Potentilla palustris*

Former rare or scarce species: *Drosera rotundifolia*, 7055, 1956, H M Brown, [*Filago vulgaris*], 7055, 1950, F Brady, habitat unknown, *Gymnadenia conopsea*, 7055, 1956, H M Brown, [*Linnaea borealis*], 7056, 1891, H H Craw, pine plantation, [*Pyrola minor*], 7056, 1884, J Hardy, pine plantation, *Sagina nodosa*, 7055, 1960, F H Perring and BSBI party, *Sedum villosum*, 7055, 1950, F Brady, 7056, 1966, E O Pate

4. Crook Burn, Dyshaugh, east section, 7058, Habitat good in part ♥♥

Burnsides with strong spring line

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Trollius europaeus</i>	8 cells	701588		2008	MEB	Very wet bank

Other axiophytes: *Ajuga reptans*, *Briza media*, *Carex disticha*, *Crepis paludosa*, *Festuca pratensis*, *Galium uliginosum*, *Helictotrichon pubescens*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Trifolium medium*

5. Foul Burn Bridge, 7151, Habitat lost

Flushes, much damaged by drainage

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Callitriche hamulata*, *Dryopteris carthusiana*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Ranunculus aquatilis*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Apium inundatum*, 7151, 1960, AGL, *Selaginella selaginoides*, 7151, 1960, AGL

6. Greenlaw Moor and Kyles Hill, north section, 7050, 7051, 7150, 7151, 7250, 7250, 7350, Habitat moderately good in part ♥

Moorland much degraded by excessive muirburn, drainage and forestry, with a small intact peat bog at Polwarth Moss

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Listera ovata</i>		732506		1990	MEB	
*	<i>Veronica catenata</i>		720517		1990	MEB	Could be hybrid, occasional

Selected axiophytes: *Berula erecta*, 7051, *Equisetum sylvaticum*, 732504, *Gymnocarpium dryopteris*, 732503, *Pedicularis palustris*, 729503, *Ranunculus trichophyllus*, 702511, *Salix repens*, 704511, Greenlaw Kaims, 707510, 708510, 708511, 708512, 709510, 709511, 709512, 710511, Polwarth Moss, best colony in Berwickshire

Other axiophytes: *Ajuga reptans*, *Callitriche hamulata*, *Carex flacca*, *Carex pulicaris*, *Dactylorhiza fuchsii*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Iris pseudacorus*, *Isolepis setacea*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Potentilla palustris*, *Trifolium medium*

Intrusive neophytes: *Fallopia japonica*, quarry

Former rare or scarce species: *Arctostaphylos uva-ursi*, 7250, 1858, W Darnell, *Diphasiastrum alpinum*, 7250, 1885, J Hardy, *Filago vulgaris*, 7151, 1956, AGL, habitat unknown, *Genista anglica*, 7250, 1885, J Hardy, *Gnaphalium sylvaticum*, 7250, 1959, I McWhan, *Listera cordata*, 7250, 1968, E O Pate, *Lycopodium clavatum*, 7250, 1962, DGL, [*Mycelis muralis*], 7250, 1962, DGL, casual in quarry

7. Dirrington Great Law, east section, 7054, 7055, Habitat moderately good ♥

Heather moor on volcanic outcrop, intensively managed by muirburn

Selected axiophytes: *Vaccinium vitis-idaea*, 700548, 700549, 700550, plentiful

8. Langtonlees, 7352, 7353, 7452, 7552, 7553, Habitat excellent in part ♥♥♥♥

Flushed grassland and heath at Wellcleugh Burn, degraded by drainage and tree planting, fine cleugh woodland at Langtonlees Cleugh, upper section, modified dean woodland at Langtonlees Cleugh, lower section, modified dean woodland at Langton Wood

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex pallescens</i>		738523		1990	MEB	Wellcleugh Burn
			744524		1990	MEB	Wellcleugh Burn
*	<i>Carex remota</i>	One	740522	47	2008	MEB	
*		Colony	745522	16	2008	MEB	Foot of rivulet
*	<i>Cirsium heterophyllum</i>	2x2m	741527	25	2008	MEB	Under <i>Corylus</i>
*	<i>Melica uniflora</i>	Large	739523	25, 36	2008	MEB	
*		Large	740522	17	2008	MEB	Steep bank
*	<i>Ranunculus auricomus</i>		738528		1992	DGL	Blackrig Burn
*			740523		1995	DGL	
*	<i>Rubus saxatilis</i>	Two	740522	37	2000	MEB	On ledges of wet cliff
*	<i>Viburnum opulus</i>		741523		1995	DGL	

Selected axiophytes: *Campanula latifolia*, 739524, 739525, 7452, 757529, *Carex paniculata*, 744524, *Chrysosplenium alternifolium*, 739524, 741525, 750526, 751530, *Equisetum sylvaticum*, 738529, 740528, 745522, *Geranium sylvaticum*, 7352, 7452, 751528, *Gymnocarpium dryopteris*, 739523, 739524, 740525, *Helianthemum nummularium*, 737529, 738528, *Orchis mascula*, 738528, *Populus tremula*, 739523, *Prunus padus*, 739523, 740525, 755530, *Salix pentandra*, 741527, *Salix repens*, 738521, *Vicia sylvatica*, 7452

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex acutiformis*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Erica tetralix*, *Festuca gigantea*, *Galium odoratum*, *Galium uliginosum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Rhinanthus minor*, *Sanicula europaea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana dioica*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Rhododendron ponticum*, lower sections

Former rare or scarce species: *Botrychium lunaria*, 7352, 1931, A A Falconer, *Crepis mollis*, 7452, 1832, T Brown, *Euphrasia micrantha*, 7352, 1910, G C Druce, *Gymnadenia conopsea*, 7352, 1873, C Stuart, *Hypericum humifusum*, 7452, 1956, H M Brown, *Listera cordata*, 7353, 1916, G C Druce, [*Malva*

moschata], 7552, 1831, T Brown, introduction, *Melica nutans*, 7352, 1931, A A Falconer, *Neottia nidus-avis*, 7452, 1953, AGL, *Ophioglossum vulgatum*, 7452, 1872, C Stuart, *Phegopteris connectilis*, 7452, 1958, DGL, *Platanthera chlorantha*, 7352, 1867, F Douglas, *Pseudorchis albida*, 7352, 1867, F Douglas, *Pyrola minor*, 7452, 1963, DGL, *Sagina nodosa*, 7352, 1886, C Stuart, *Saxifraga hirculus*, 7352, 1900, F R Tennant, *Sedum villosum*, 7352, 1872, C Stuart, [*Sherardia arvensis*], 7452, 1952, AGL, possibly arable adjacent

9. Hardens Hill, 7354, 7454, Habitat fragmentary

Moorland edge, part forested, and burnside

Selected axiophytes: *Ceratocarpus claviculata*, 741543, forestry ride, *Pinguicula vulgaris*, 747546, 748547, Back Burn

Other axiophytes: *Ajuga reptans*, *Briza media*, *Carex disticha*, *Carex flacca*, *Crepis paludosa*, *Iris pseudacorus*, *Leontodon hispidus*, *Luzula pilosa*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Sanicula europaea*, *Thymus polytrichus*, *Valeriana officinalis*

Intrusive neophytes: *Crococsmia x crocosmiiflora*, near car park

Former rare or scarce species: *Botrychium lunaria*, 7354, 1956, H M Brown, *Lycopodium clavatum*, 7354, 1963, DGL, *Ulex gallii*, 7354, 1967, E O Pate

10. Hells Cleugh, 7354, 7355, 7454, 7455, Habitat fine ♥♥♥

Series of base-rich flushes in cleughs cut into Old Red Sandstone conglomerate

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>		740548	95	2006	MEB	Hells Cleugh
			740550	81	2005	MEB	Hells Cleugh
			741548	06	2005	MEB	Hells Cleugh
			742554	91	2005	MEB	Cat Cleugh
			743553	67	2005	MEB	Cat Cleugh
			743554	21	2005	MEB	Cat Cleugh
	<i>Carex laevigata</i>	Colony	734555	05	2006	MEB	White Burn
	<i>Eriophorum latifolium</i>	Four	741549	20	2005	MEB	Hells Cleugh, in flush
		One	744559	22	2006	MEB	Rams Cleugh
	<i>Euphrasia scottica</i>		739550	73	2005	MEB	Hells Cleugh
		Good	740550	78	2005	MEB	Hells Cleugh
	<i>Selaginella selaginoides</i>		740550	57, 65	2005	MEB	Hells Cleugh
		3 cells	742554		2005	MEB	Cat Cleugh

Selected axiophytes: *Equisetum sylvaticum*, 743553, *Geranium sylvaticum*, 748547, *Narthecium ossifragum*, 741549, *Parnassia palustris*, 734556, 735556, 739549, 740548, 740549, 740550, 741549, 741559, 742554, 743554, 747546, *Pinguicula vulgaris*, 733554, 733555, 734556, 738550, 738558, 740550, 741548, 741549, 741554, 742554, 743553

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Anemone nemorosa*, *Briza media*, *Carex caryophylla*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Galium uliginosum*, *Geum rivale*, *Isolepis setacea*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Oreopteris limbosperma*, *Potentilla palustris*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*

11. Langton Edge, 7454, 7555, Habitat fragmentary

Forestry on former moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>		745548	86, 87	2008	MEB	Forestry trackside and ditch banks
			746548	07, 59	2008	MEB	Forestry trackside and ditch banks
			747549	83	2008	MEB	Forestry trackside and ditch banks
			748549	15	2008	MEB	Forestry trackside and ditch banks
		One	750552	13	2009	MEB	Forestry trackside and ditch banks

Former rare or scarce species: *Pyrola minor*, 7555, 1931, A A Falconer**12. Hen Toe Bog (part NT76), 7459, 7460, 7560, Habitat fragmentary**

Forestry on former moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphasiastrum alpinum</i>	One	751601	16	2008	MEB	Open stony bank with <i>Calluna</i>
	<i>Euphrasia micrantha</i>	Large	753603	67	2010	MEB	Forestry trackside and ditch banks
	<i>Lycopodium clavatum</i>		746598	59	2008	MEB	Forestry trackside and ditch banks
			746599	90	2008	MEB	Forestry trackside and ditch banks
		5 cells	747599		2008	MEB	Forestry trackside and ditch banks
			748599	47, 89	2008	MEB	Forestry trackside and ditch banks
			749600	96	2008	MEB	Forestry trackside and ditch banks
		One	750601	51	2008	MEB	Forestry trackside and ditch banks
		Modest	751602	71, 86	2008	MEB	Forestry trackside and ditch banks

13. Gavinton, 7652, Habitat fragmentary

Burnside woodland and ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Montia fontana</i> subsp. <i>chondrosperma</i>]	Large	7652	07	2008	MEB	Weed on gravel path in churchyard
	[<i>Veronica polita</i>]		765522		1990	MEB	Old bridge, gone 2008 but probably elsewhere in village as weed

Selected axiophytes: *Campanula latifolia*, 765523, *Chrysosplenium alternifolium*, 7652, *Prunus padus*, 760525Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Festuca gigantea*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Lysimachia nemorum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Veronica montana*Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Crassula helmsii*, weed in garden pond, *Doronicum pardalianches*, *Fallopia japonica*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Sedum album*, *Symphoricarpos albus*,Former rare or scarce species: *Carex remota*, 7652, 1961, DGL, *Galium mollugo*, 7652, 1961, AGL, [*Malva moschata*], 7652, 1952, AGL, introduction, *Neottia nidus-avis*, 7652, 1961, DGL, 765521, 1942, G Grahame, [*Sambucus ebulus*], 7652, 1953, AGL, introduction**14. Harelaw Craigs, 7653, 7654, 7753, 7754, Habitat fragmentary**

Grassland and rocky knowes, now much quarried and part forested

Former rare or scarce species: [*Anagallis arvensis* subsp. *foemina*], 7753, 1872, C Stuart, casual, *Botrychium lunaria*, 7653, 1931, A A Falconer, *Gnaphalium sylvaticum*, 7655, 1960, AGL, *Hypericum humifusum*,

768553, 1954, G Grahame, *Lythrum portula*, 7655, 1955, G Grahame, *Ophioglossum vulgatum*, 7653, 1931, A A Falconer, *Sherardia arvensis*, 7654, 1964, DGL, *Trifolium arvense*, 7753, 1960, AGL, *Trifolium scabrum*, 7753, 1960, AGL, *Trifolium striatum*, 7753, 1960, AGL, *Vicia lathyroides*, 7753, 1960, AGL

15. Cockburn Law, 7659, Habitat fragmentary

Moorland, moorland edge, rocky knowes, now much modified

Former rare or scarce species: *Genista anglica*, 7659, 1956, AGL, *Gentianella campestris*, 7659, 1893, A Anderson, [*Geranium lucidum*], 7659, 1893, A Anderson, introduction, [*Lepidium campestre*], 7659, 1902, A Anderson, possible introduction, *Listera cordata*, 7659, 1853, G R Tate, *Lycopodium clavatum*, 7659, 1853, G R Tate

16. Howe Burn, lower section, 7750, Habitat fragmentary

Burnsides and wetland, part drained

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Veronica catenata</i>		775506		1990	MEB	Could be hybrid

Selected axiophytes: *Berula erecta*, 773504, *Saxifraga granulata*, 776507, *Solanum dulcamara*, 775506

Other axiophytes: *Cardamine amara*, *Carex acutiformis*, *Conopodium majus*, *Festuca gigantea*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species: *Bidens cernua*, 7750, 1831, T Brown, *Sparganium emersum*, 7750, 1853, G Henderson, *Utricularia vulgaris sens. lat.*, 7750, 1831, T Brown

17. Duns Castle, 7754, 7755, 7854, 7855, Habitat good in part ♥♥

Policies including artificial loch, dean woodland and forestry in small blocks with high tree species diversity,

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
†	<i>Galium palustre subsp. elongatum</i>		779547	67	2008	MEB	Hen Poo
†	<i>Lemna trisulca</i>		778546		1997	MEB	Hen Poo
†	<i>Milium effusum</i>		783542	14	2008	MEB	Probable introduction
	[<i>Montia fontana subsp. chondrosperma</i>]		777544	38	2004	MEB	Weed in Castle yard
†	<i>Nuphar lutea</i>		778546		1997	MEB	Hen Poo, presumed introduction
†			780550		2008	MEB	Hen Poo, presumed introduction
†			780552		2008	MEB	Hen Poo, presumed introduction
†	<i>Potamogeton obtusifolius</i>		778546		1997	JJD	Day, Hen Poo
†	<i>Pyrola minor</i>	2 patches	778556		2009	MEB	Colonel's Walk
†		3x3m	779551	67	2008	MEB	Near Hen Poo
†		2 patches	779557	59, 66	2008	MEB	Colonel's Walk
†	<i>Ranunculus lingua</i>	Large	779546		2008	MEB	In floating mat of vegetation, Hen Poo, presumed introduction
†		Large	779547		2008	MEB	In floating mat of vegetation
†		Large	780548		2008	MEB	In floating mat of vegetation
†		Large	780549		2008	MEB	In floating mat of vegetation
†		Few	780550		2008	MEB	In floating mat of vegetation
†	<i>Schoenoplectus lacustris</i>		779546		2008	MEB	In floating mat of vegetation
†			779547		2008	MEB	In floating mat of vegetation
†			780549		2008	MEB	In floating mat of vegetation
†			780550		2008	MEB	In floating mat of vegetation

Selected axiophytes: *Carex curta*, 778546, *Chrysosplenium alternifolium*, 780558, *Equisetum sylvaticum*, 777555, *Geranium sylvaticum*, 7754, 7755, 7855, *Menyanthes trifoliata*, 778546, 780549, 780552, *Potamogeton pectinatus*, 779546, *Primula veris*, 779545, *Prunus padus*, 7754, *Salix pentandra*, 778546, *Saxifraga granulata*, 783553, *Zannichellia palustris*, 778546

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Alisma plantago-aquatica*, *Allium ursinum*, *Anemone nemorosa*, *Cardamine amara*, *Carex caryophylla*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Potentilla palustris*, *Sanicula europaea*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana officinalis*, *Veronica montana*, *Veronica scutellata*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: [*Clinopodium acinos*], 7755, 1874, J Hardy, former status unknown, *Gnaphalium sylvaticum*, 7755, 1956, AGL, 73545, 1953, G Grahame, *Listera ovata*, 7755, 1952, AGL, *Lycopodium clavatum*, 779553, 779558, 1979, A Willmot, *Lythrum portula*, 7754, 1958, E K Swinton, [*Malva moschata*], 7755, 1956, AGL, introduction, *Mentha arvensis*, 7854, 1966, E O Pate, [*Nymphoides peltata*], 7754, 1881, J Ferguson, presumed introduction, *Phegopteris connectilis*, 7756, 1939, E K Swinton, *Plantago media*, 778543, 1986, MEB, 781543, 1956, G Grahame, *Pyrola minor*, 781551, 1949, G Grahame, *Rumex conglomeratus*, 7754, 1979, MEB, [*Scleranthus annuus*], 7754, 1960, DGL, habitat unknown, [*Sherardia arvensis*], 7854, 1946, AGL, habitat unknown

18. Cockburn Mill, 7658, 7757, 7758, 7759, Habitat good in part ♥♥

Rocky riverside with woodland, wetland and grassy knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex remota</i>		776581		1990	MEB, PFB	
	<i>Clinopodium vulgare</i>		7758		1973	DGL	Bank opposite, no recent survey
	[<i>Veronica polita</i>]		775578		1990	MEB	Weed at roadside

Selected axiophytes: *Campanula latifolia*, 7757, 774582, *Chrysosplenium alternifolium*, 760581, 770586, 771587, 774572, 775570, *Geranium sylvaticum*, 7757, 7758, *Helianthemum nummularium*, 7757, 771590, *Prunus padus*, 7758, *Saxifraga granulata*, 7758, *Solidago virgaurea*, 7758, *Stellaria nemorum*, 7757, 7758

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Polystichum aculeatum*, *Quercus petraea*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Sanicula europaea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Rosa rugosa*

Former rare or scarce species: *Dactylorhiza incarnata*, 776581, 1990, MEB, PFB, [*Galeopsis angustifolia*], 7758, 1866, J Anderson, probable introduction, [*Geranium lucidum*], 7758, 1931, A A Falconer, introduction, [*Malva moschata*], 7757, 1961, AGL, introduction, *Stachys arvensis*, 7758, 1893, J Hardy, *Trifolium arvense*, 7757, 1965, J Blance, *Trifolium striatum*, 7757, 1967, E O Pate

19. Duns NT7853, 7854, 7953, Habitat fragmentary

Roadside verges and ruderal habitats

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Aethusa cynapium</i>]	One	7953		1990	MEB	Weed in industrial estate
		Several	785536		1990	MEB	Weed in Duns Park
		Two	787538	36	2008	MEB	Garden weed
	[<i>Convolvulus arvensis</i>]		7953		1990	MEB	Weed in industrial estate
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		791537		2004	MEB	Building site
	<i>Hypericum x</i> <i>desetangii</i>		793532		2004	MEB	Backcross with <i>H. perforatum</i>

Selected axiophytes: *Lamium amplexicaule*, 7953, 785536, *Lamium confertum*, 792537Other axiophytes: *Allium ursinum*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Sanicula europaea*Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Centranthus ruber*, town wallsFormer rare or scarce species: [*Arenaria serpyllifolia subsp. leptoclados*], 7853, 1910, G C Druce, probable casual, [*Chelidonium majus*], 7853, 1931, A A Falconer, garden weed, probably formerly cultivated, *Daucus carota subsp. carota*, 7853, 1931, A A Falconer, [*Erodium cicutarium*], 792532, 1999, MEB, casual, [*Euonymus europaeus*], 7953, 1968, E O Pate, probably planted *Malva neglecta*, 789547, 1952, G Grahame, [*Sison amomum*], 7853, 1931, A A Falconer, cultivated**20. Preston Bridge, 7856, Habitat moderately good in part ♥**

Riverside and woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Polystichum setiferum</i>	One	784566	33	2008	MEB	Baramill Wood

Selected axiophytes: *Campanula latifolia*, 7856, *Chenopodium bonus-henricus*, 786567, naturalised archaeophyte, *Chrysosplenium alternifolium*, 782567, 785567, 786567, 787567, *Geranium sylvaticum*, 7856, *Ranunculus fluitans*, or hybrid, 7856, 1973, *Saxifraga granulata*, 787567, *Solidago virgaurea*, 786567, *Stellaria nemorum*, 7856Other axiophytes: *Adoxa moschatellina*, *Aira caryophyllea*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Crepis paludosa*, *Galium odoratum*, *Geum rivale*, *Helictotrichon pratense*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Rhinanthus minor*, *Sanicula europaea*, *Stellaria holostea*, *Veronica montana*Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*, *Sedum album*Former rare or scarce species: *Carex remota*, 782567, 1956, G Grahame, Preston Haugh, lower, *Clinopodium vulgare*, 783568, 1950, G Grahame, Almaheart, *Pyrola minor*, 789561, 1960, F H Perring, Cumledge, near, *Ranunculus auricomus*, 7856, 1931, A A Falconer, [*Trifolium arvense*], 7856, 1893, A Anderson, possibly casual**21. Almaheart, Primrose Hill, 7857, Habitat fragmentary**

Riverside (formerly also grassland and wetland)

Selected axiophytes: *Ranunculus fluitans*, or hybrid, 7857, 1973, *Solidago virgaurea*, 783570Other axiophytes: *Dactylorhiza fuchsii*, *Rhinanthus minor*

Intrusive neophytes: *Fallopia japonica*, *Heracleum mantegazzianum*

Former rare or scarce species: *Erodium cicutarium*, 7857, 1878, J Anderson, *Littorella uniflora*, 7857, 1837, J Baird, [*Malva moschata*], 7857, 1949, G Grahame, introduction, *Sherardia arvensis*, 7857, 1967, E O Pate, *Ulex gallii*, 7857, 1968, M McC Webster, *Viola hirta*, 7857, 1872, J A Johnson

22. Hoardweel, 7859, 7959, Habitat good in part ♥♥

Juniper scrub on burnside banks at former moorland edge

Selected axiophytes: *Juniperus communis subsp. communis*, 785596, 786596, 787596, 787597, 788596, 788597, 789596, 108 bushes, *Populus tremula*, 7859, *Solidago virgaurea*, 786599

Other axiophytes: *Carex disticha*, *Geum rivale*, *Helictotrichon pratense*, *Rhinanthus minor*

Former rare or scarce species: *Botrychium lunaria*, 7959, 1906, J J M L Aiken, *Cerastium arvense*, 7859, 1931, A A Falconer, *Genista anglica*, 7859, 1893, A Anderson, *Valerianella locusta*, 7959, 1853, G Johnston

23. Nisbet Hill, 7950, 7951, Habitat fragmentary

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Ranunculus circinatus x fluitans</i>		798501	84	2005	MEB	
*			799503		2005	MEB	

Selected axiophytes: *Berula erecta*, 799503, 799504, 799505, *Ranunculus fluitans*, or hybrid, 7950, 1973

Other axiophytes: *Carex acutiformis*, *Iris pseudacorus*

Former rare or scarce species: *Hippuris vulgaris*, 7951, 1965, J Blance, *Plantago media*, 7950, 1931, A A Falconer, *Potamogeton pusillus*, 7950, 1973, N T H Holmes, *Ranunculus circinatus*, 7950, 1973, N T H Holmes

24. Cumledge, 7956, Habitat fragmentary

Riverside woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Malva moschata</i>]	Two	792565		2008	MEB	Probable introduction nearby

Selected axiophytes: *Campanula latifolia*, 792563, *Elymus caninus*, 7956, *Ranunculus fluitans*, or hybrid, 7956, 1973, *Saxifraga granulata*, 795564, *Stellaria nemorum*, 7956

Other axiophytes: *Festuca gigantea*

Intrusive neophytes: *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Rhododendron ponticum*

Former rare or scarce species: *Clinopodium vulgare*, 7956, 1893, A Anderson, *Daucus carota subsp. carota*, 7956, 1961, AGL, [*Dianthus deltoides*], 7956, 1947, AGL, presumed garden escape, [*Medicago minima*], 7956, 1868, J Hardy, presumed casual at mill

25. Preston, 7957, 7958, 7959, Habitat lost

Former grassland and moorland edge

Intrusive neophytes: *Allium paradoxum*

Former rare or scarce species: *Botrychium lunaria*, 7958, 1931, A A Falconer, *Cerastium arvense*, 7958, 1931, A A Falconer, *Clinopodium vulgare*, 7957, 1893, A Anderson, [*Euonymus europaeus*], 796573, 1955, G Grahame, possibly planted, *Galium mollugo*, 7957, 1955, AGL, *Galium mollugo*, 7959, 1891, J Anderson, *Hypericum humifusum*, 7959, 1893, A Anderson, *Listera cordata*, 7958, 1916, A A Falconer, *Lycopodium clavatum*, 796585, 1953, G Grahame, [*Sambucus ebulus*], 7957, 1872, J Anderson, introduction

26. Sundry arable habitats NT75, Habitat fragmentary

Selected axiophytes: *Galeopsis speciosa*, 726594, Rigfoot, *Lamium amplexicaule*, 7757, Cockburn Mill Ford, near, 7757, Cockburn Mill Ford, near, 779518, Middlefield, *Lamium confertum*, 7758, Cockburn, 7850, Crunklaw, near, 736527, Leescleugh, near, 753522, Swain Loan, 778580, Cockburn Mill Ford, near, 780514, Middlefield, 783573, Primrosehill, 785569, Preston Bridge, near, 795590, Preston, near

Former rare or scarce species: *Centaurea cyanus*, 7652, 1963, DGL, Gavinton, *Centaurea cyanus*, 7653, 1962, DGL, Harelaw Craigs, *Centaurea cyanus*, 7757, 1931, A A Falconer, Cockburn Mill, *Chrysanthemum segetum*, 7853, 1931, A A Falconer, Duns, *Mentha arvensis*, 7652, 1960, AGL, Gavinton, *Ranunculus arvensis*, 7259, 1966, G Cowe, Whitchester House, near, *Silene noctiflora*, 7852, 1958, I McWhan, Cheeklaw, near, *Viola tricolor subsp. tricolor*, 7652, 1952, AGL, Gavinton

27. Sundry NT75, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Drosera rotundifolia</i>	Small	726532	35	2005	MEB	Henlaw Bogs, shallow peat
	[<i>Juncus ambiguus</i>]	Few	713518	23	2008	MEB	Kettlehiel, B6456 near, much less than in 2002, roadside halophyte
		Few	714518	43	2008	MEB	Kettlehiel, B6456 near, much less than in 2002
	<i>Trichophorum cespitosum nothosubsp. foersteri</i>	Small	726532	35	2005	MEB	Henlaw Bogs, shallow peat

Charophytes: *Nitella flexilis*, 706577, 1979, Anon, Longformacus, Dye Water below, det. J A Moore, herb BM

Former rare or scarce species: *Apium inundatum*, 7350, 1931, A A Falconer, Polwarth, nr, *Carduus nutans*, 7350, 1956, E K Swinton, Polwarth Moor, *Cirsium heterophyllum*, 707575, 1967, G Grahame, Blacksmill Burn, *Coeloglossum viride*, 7451, 1872, C Stuart, Choicelee, *Echium vulgare*, 755582, 1953, G Grahame, Burnhouses, *Galium mollugo*, 7554, 1931, A A Falconer, Hardens Reservoir, *Galium mollugo*, 789526, 1947, G Grahame, Cheeklaw Brae, *Listera ovata*, 7158, 1968, E O Pate, Whitchester, *Listera ovata*, 7851, 1931, A A Falconer, Middlefield, near, *Listera ovata*, 795529, 1946, G Grahame, Peelrig Strip, *Potamogeton obtusifolius*, 758548, 1954, G Grahame, Hardens Dam, *Pyrola minor*, 7955, 1931, A A Falconer, Kaysmuir, *Sedum villosum*, 7157, 1831, T Brown, Whitchester, near, *Sedum villosum*, 7254, 1831, T Brown, Duns and Longformacus, hill between, *Sparganium emersum*, 7451, 1952, AGL, Choicelee, *Valerianella locusta*, 7852, 1961, AGL, Cheeklaw, [*Viburnum opulus*], 799529, 1946, G Grahame, Peelrig Strip, probably planted

NT76 Abbey St Bathans (resurveyed 2005, 2009, 2010)

Hectad Description

Overview

79% of the hectad NT76 is in Berwickshire. It lies between 45m at the burn below Pease Bridge and 365m on the slopes of Heart Law.

Most of the hectad lies above 150m on acid Silurian rocks but these meet deposits of the Upper Old Red Sandstone at the Heriot Water and Tower Dean in the north and marginally near Ellemford Bridge. There is a small area of sand from post-glacial deposits between Stockbridge and Cockburnspath.

This is not a species-rich hectad and the botanical interest has been depleted by the loss of almost all the moorland to improved grassland and conifer forestry, some of it but recently. However enough remains of the oakwoods around Abbey St Bathans to leave an attractive entity that offers excellent displays of woodland flowers in the spring. Even better oakwoods were formerly present at Penmanshiel, but most of this wood is now planted with conifers. However the lower part is dean woodland of quite high botanical interest.

The small settlement at Abbey St Bathans boasts a church. There is very little arable ground.

Habitats

The **woodlands** are the main botanical feature. Following the Whiteadder down from Ellemford Bridge there is only fragmentary interest in Roughside Wood, Greenhope Wood and Scrogie Wood but the Frampath Burn is an attractive cleugh, albeit no longer set in moorland, with *Gymnocarpion dryopteris*. The screes at Mountjoy Wood have, rather surprisingly, lost *Cryptogamma crispa* but there is much *Ceratocarpus clavicaulata* which is something of a feature of the area.

Just above Abbey St Bathans the Monynut Water joins the Whiteadder Water. While the source of the Monynut Water is in East Lothian, it flows into the vice-county of Berwickshire at Nether Monynut below which there are a series of good oakwoods on the east bank. The oaks themselves have not been exhaustively studied but it appears that not all the native oaks are *Quercus petraea* as there are signs of introgression with *Quercus robur*. The latter is also present, but probably mainly as plantings. Crooked Bank and Laughing Law are largely scrub and grassland with some good colonies of *Helianthemum nummularium*. Brush Wood is somewhere between an oakwood and wood pasture and here the primroses and anemones are particularly impressive with *Geranium sylvaticum* and *Prunus padus* by the burn. The woodland cover is more complete at Godscroft Wood and Bankend Wood where *Solidago virgaurea* becomes a feature on rocks near the burn. *Prunus padus* remains prominent along the waterside for some kilometres by the Monynut and Whiteadder Waters.

Below the junction of the two waters, Shannabank Wood has good habitat, especially along the White Burn as the section opposite Abbey St Bathans House is compromised by amenity plantings though *Adoxa moschatellina* and *Chrysosplenium alternifolium* are evidence of less acid conditions. *Meconopsis cambrica* and *Sambucus racemosa* have naturalised quite widely. Butterwell Wood has the only colony of *Lathraea squamaria* ever recorded anywhere on the Whiteadder, which is strange, as apparently suitable habitat is widespread. *Ranunculus auricomus* is also present, but in small quantity. This species is surprisingly scarce in Berwickshire as a whole. Below Retreat

House there is a bend in the river with fine habitat on both banks and on islets in the river. Retreat Wood still has a fair colony of *Melampyrum pratense* which has quite recently disappeared from all the other woods in the series, apparently as a result of eutrophication, with grasses becoming more dominant. The islets support the only colony of *Salix myrsinifolia* in Berwickshire (one bush may survive near Grantshouse). *Populus tremula* grows nearby. Across the river, Wild Wood is much wetter and quite a wide riverside strip is dominated by alder. Here *Cardamine amara*, *Carex laevigata* and *C. remota* are found with *Phegopteris connectilis* and *Viburnum opulus* on the bank above. *Hyacinthoides non-scripta* is locally dominant but the *Symphytum tuberosum* at the waterside is considered to be a naturalised introduction along with *Claytonia sibirica* and some more intrusive neophytes. Below this, an attractive stretch of rocky riverside leads to Elba, where Strait Leap is the name given to a gorge at the bend in the river. *Populus tremula* grows on the rocks with a good colony of *Ranunculus auricomus* above in which the flowers are mostly perfect, rather than with the reduced number of petals so often seen. There are a few native junipers in the oaks above and more have recently been planted. At some distance from the Whiteadder lies Aikyside Wood, a uniformly acid oakwood. There is flushed grassland alongside with a large colony of *Carex laevigata* and traces of the moorland now lost from the slopes adjacent. However a colony of over three hundred large junipers survives. A photograph taken in 1960 shows these to have been truly magnificent, but they are now ageing and the habitat has deteriorated sadly with the spread of bracken and brambles.

There was formerly good woodland habitat in the upper part of the Pease Burn watershed at Blackburnrig, Edmond's and Bowshiel Deans. Very little undisturbed habitat remains there. *Gymnocarpion dryopteris* just survives in Blackburnrig Dean and in one of the side cleughs at Bowshiel Dean where it grows with *Melica uniflora*. Although Bowshiel Dean does have some small stands of old oaks and a few heathery banks, the wet burnside is arguably as interesting with *Callitriche hamulata*, *Senecio aquaticus* and *Veronica scutellata*. The charophyte *Nitella flexilis/opaca* agg. is found in a pond. Penmanshiel Wood was one of the Berwickshire sites most visited by nineteenth century botanists but much the greater part of the oakwood and all the adjacent moorland have been lost. The side cleughs have a little remnant oakwood and here *Milium effusum* was recorded in 1989. *Chrysosplenium alternifolium* is frequent near the burn with *Ceratocarpus clavicaulata* above. The banks of the railway cutting have a large colony of *Ulex gallii* but this is associated with *Cytisus multiflorus*, so the *Ulex* may also be an introduction especially as it was not found by the nineteenth century botanists, despite it being known to them elsewhere. Only the upper part of Pease Dean is in the hectad. It is contiguous with Penmanshiel Wood but is marked by the point where the burn drops abruptly into a gorge. The gorge is mixed woodland of oak, ash and elm and is notable for a large colony of *Polystichum setiferum* which is thought to have extended recently away from the most sheltered recesses. Similarly, only the upper part of Tower Dean is in the hectad. This is much the most natural part with good oakwood and is again notable for *Polystichum setiferum*. *P. aculeatum* is surprisingly scarce. The upper part of the Tower Burn is known as the Heriot Water. Its banks have a good deal of alder and occasional flushes with remnants of a moorland flora including such species as *Carex pulicaris* and *C. viridula* subsp. *brachyrrhyncha*. Hoprigshiels Wood is a more notable stand of alder with a characteristic ground flora including *Ajuga reptans*, *Cardamine amara*, *Iris pseudacorus* and *Lysimachia nemorum*.

The conifer plantations at Catch Hill, Dunter Law and Dungallass Common occupy **former moorland** and are now most notable for the clubmosses *Diphasiastrum alpinum* and *Lycopodium clavatum* together with *Euphrasia micrantha*, all three being found on stony tracksides. Small moorland fragments survive nearby. An unexpected survival is *Genista anglica* at Ecclaw Hill in a small area of heather with acidic flush communities. At Blackford Rig there are **base-rich flushes** with *Eleocharis quinqueflora*, *Euphrasia scottica*, *Pedicularis palustris* and *Pinguicula vulgaris* in a partly drained field and another flushed burnside above the Dye Water below Little Dod has similar species over a wider area joined by *Dactylorhiza incarnata* subsp. *incarnata*, *Selaginella*

selaginoides and *Narthecium ossifragum*. A comparable small area of wetland survives by Hen Toe Bridge with *Parnassia palustris* and *Pedicularis palustris*, though the *Parnassia* was not refound in 2010.

Apart from these flushes there is little **wetland**. Bits and pieces of wetland near the Eye Water at Quixwood Moor still yield *Menyanthes trifoliata* with *Oreopteris limbosperma* on the banks nearby.

There is next to no natural **grassland** away from the burn-sides with any degree of species-richness. At Edin's Hall above the Wild Wood *Carex caryophyllea* and *Stellaria pallida* are present in grassland near the remains of the broch. At Glen Fin there are sandy knowes with tiny populations of *Erodium cicutarium* and *Spergularia rubra*.

There are a few **arable** fields on sandy ground between Tower Bridge and Stockbridge. Here *Anagallis arvensis*, *Lamium amplexicaule*, *L. confertum* and *L. hybridum* occur with *Amsinckia micrantha* as a recent arrival.

A wildflower mix has been sown recently where the Cockburnspath bypass on the A1 passes through a rock cutting. Only part of the cutting is in the hectad. Here *Galium mollugo* and *Stachys officinalis* have naturalised well. The usual roadside halophytes occur on the A1 and *Atriplex littoralis* has colonised the A6112 near Drakemire.

Index of Sites NT76 Abbey St Bathans

GR - NT	Ref	Site	Habitats
7063, 7163	1	Blackford Rig, Philip Burn	Burnside flushes
7161, 7261	2	Catch Hill	Conifer plantation
7162, 7262	3	Dunter Law	Conifer plantation
7266, 7267, 7366	4	Dunglass Common	Conifer plantation
7366	5	Little Dod, Eye Water below	Burnside flushes
7468	6	Hoprigshiels Wood	Alder Wood
7360, 7460, 7461	7	Roughside Wood	Conifer plantation, riverside
7361	8	Greenhope Wood	Scrub, plantation, riverside
7461	9	Scrogie Wood	Scrub, plantation, riverside
7460, 7560	10	Hen Toe Bog (see NT75)	Conifer plantation
7460, 7561	11	Abbey Hill	Former moorland
7461	12	Frampath Burn	Cleugh woodland
7461, 7561	13	Mountjoy Wood	Conifer plantation, screes, riverside
7560	14	Hen Toe Bridge	Burnside flushes
7660, 7661	15	Ellerburn Wood	Conifer plantation, dean woodland
7264, 7363, 7364	16	Crooked Bank, Laughing Law	Scrub, acid grassland
7363, 7463	17	Brush Wood, Godscroft Wood	Oak and mixed woodland, riverside
7462, 7562	18	Bankend Wood	Oak and mixed woodland, riverside
7562, 7661, 7662	19	Shannabank Wood	Oak and mixed woodland, riverside
7563, 7662	20	Edgar's Cleugh	Scrub, burnside
7661, 7761	21	Butterwell Wood	Oak and mixed woodland, riverside
7760	22	Retreat Wood	Oak and mixed woodland, riverside
7760	23	Wild Wood	Wet woodland, riverside
7860	24	Elba Wood	Oak and mixed woodland, riverside
7860	25	Avenue Wood, White Gate Wood	Plantation, riverside
7860, 7960, 7961	26	Aikyside Wood	Oak woodland, juniper scrub
7567	27	Ecclaw Hill	Moorland bank, burnside flushes
7667, 7767, 7768, 7866, 7867, 7967	28	Edmond's Dean, Bowshiel Dean	Cleughs, scrub, conifer plantation, burnside, pond
7764, 7864	29	Quixwood Moor, Landsend Wood, Eye Water	Burnside flushes, former moorland, conifer plantation
7769	30	Heriot Water	Scrub, conifer plantation, burnside
7764, 7765, 7865, 7965, 7966	31	Butterdean Wood, Blackburnrig Dean	Conifer plantation, dean woodland, former grassland
7868, 7969	32	Glen Fin	Acid grassland on sandy knowes
7966, 7967, 7968, 7969	33	Pease Dean, upper section, Penmanshiel Wood	Conifer plantation, dean woodland, cleughs
7769, 7869	34	Tower Dean, upper section	Dean woodland
76	35	Sundry	Arable habitats
76	36	Sundry	Sundry habitats

Site Register NT76 Abbey St Bathans

1. Blackford Rig, Philip Burn, 7063, 7163, Habitat moderately good in part ♥

Burnside flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Eleocharis quinqueflora</i>	Small	703635	73	2010	MEB	Cattle-plodged flush
	<i>Euphrasia scottica</i>	Small	703635	73	2010	MEB	Cattle-plodged flush

Selected axiophytes: *Pedicularis palustris*, 703635, 704635, Blackford Rig, 709634, 710634, 710635, 711635, Philip Burn, *Pinguicula vulgaris*, 703635, Blackford Rig

Other axiophytes: *Achillea ptarmica*, *Briza media*, *Carex disticha*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Erica tetralix*, *Galium uliginosum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Oreopteris limbosperma*, *Triglochin palustre*, *Veronica scutellata*

2. Catch Hill, 7161, 7261, Habitat fragmentary

Conifer plantation

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>		716616	85	2008	MEB	Stony banks by forestry track
			717616	79	2008	MEB	Stony banks by forestry track
		9 cells	718616		2008	MEB	Stony banks by forestry track
		3 cells	719616		2008	MEB	Stony banks by forestry track
		5 cells	720616		2008	MEB	Stony banks by forestry track
		7 cells	721616		2008	MEB	Stony banks by forestry track
			722616	07, 28	2008	MEB	Stony banks by forestry track

3. Dunter Law, 7162, 7262, Habitat fragmentary

Conifer plantation

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphysastrum alpinum</i>	One	714628	86	2010	MEB	Stony banks by forestry track
	<i>Euphrasia micrantha</i>	Modest	712629	80	2010	MEB	By forestry track
			713626	70	2010	MEB	By forestry track
	<i>Lycopodium clavatum</i>		711623	87,98	2008	MEB	By forestry track
			711625	65	2010	MEB	By forestry track
			712624	10, 99	2010	MEB	By forestry track
			712625	90	2010	MEB	By forestry track
		3 cells	712628		2008	MEB	Stony banks by forestry track
		3 cells	712629		2008	MEB	Stony banks by forestry track
			713625	57	2008	MEB	Stony banks by forestry track
		13 cells	713629		2008	MEB	Stony banks by forestry track
			714629	22	2008	MEB	Stony banks by forestry track
		5 cells	715627		2010	MEB	Stony banks by forestry track
			715628	28	2008	MEB	Stony banks by forestry track
			716627	06, 26	2008	MEB	Stony banks by forestry track
		3 cells	717627		2008	MEB	Stony banks by forestry track
		3 cells	718627		2008	MEB	Stony banks by forestry track
		7 cells	719626		2008	MEB	Stony banks by forestry track
			720625	89, 99	2008	MEB	Stony banks by forestry track
		9 cells	720626		2008	MEB	Stony banks by forestry track
		11 cells	721625		2008	MEB	Stony banks by forestry track

	<i>Lycopodium clavatum</i>	3 cells	722624		2008	MEB	Stony banks by forestry track
			722625	01, 10	2008	MEB	Stony banks by forestry track
		4 cells	723624		2008	MEB	Stony banks by forestry track

Other axiophytes: *Achillea ptarmica*, *Carex viridula* subsp. *brachyrrhyncha*, *Erica tetralix*, *Luzula pilosa*, *Oreopteris limbosperma*, *Veronica scutellata*

4. Dunglass Common, 7266, 7267, 7366, Habitat fragmentary

Conifer plantation

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Diphasiastrum alpinum</i>	Two	724671	98, 99	2010	MEB	By forestry track
		One	727668	32	2010	MEB	By forestry track
	<i>Lycopodium clavatum</i>		724671	98	2010	MEB	By forestry track
			724672	71, 91	2008	MEB	Stony banks by forestry track
		4 cells	725670		2008	MEB	Stony banks by forestry track
		5 cells	725671		2008	MEB	Stony banks by forestry track
			726668	25, 94	2008	MEB	Stony banks by forestry track
		3 cells	730666		2008	MEB	Stony banks by forestry track
			730667	00	2008	MEB	Stony banks by forestry track
		3 cells	731666		2008	MEB	Stony banks by forestry track
		5 cells	738665		2010	MEB	Stony banks by forestry track

Selected axiophytes: *Equisetum sylvaticum*, 737663, Dunglass Common, near, *Narthecium ossifragum*, 729660, Corse Law

Other axiophytes: *Achillea ptarmica*, *Cardamine amara*, *Carex flacca*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Luzula pilosa*, *Oreopteris limbosperma*

5. Little Dod, Eye Water below, 7366, Habitat good ♥♥

Burnside flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>	Small	735668	16	2010	MEB	Flush
	<i>Dactylorhiza incarnata</i> subsp. <i>incarnata</i>	Modest	735668	46, 56	2010	MEB	Flush
	<i>Eleocharis quinqueflora</i>	Small	735668	16	2010	MEB	Flush
	<i>Euphrasia scottica</i>	Modest	734668	95, 96	2010	MEB	Flush
		Modest	735668	05, 56	2010	MEB	Flush
	<i>Selaginella selaginoides</i>	Small	735668	06	2010	MEB	Flush

Selected axiophytes: *Narthecium ossifragum*, 734668, *Pinguicula vulgaris*, 734668, 735668

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Briza media*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Linum catharticum*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*

6. Hoprigshiels Wood, 7468, Habitat moderately good ♥

Alder Wood

Other axiophytes: *Ajuga reptans*, *Cardamine amara*, *Iris pseudacorus*, *Lysimachia nemorum*

Former rare or scarce species: *Carex laevigata*, 7468, 1853, J Hardy, *Carex pallescens*, 7468, 1853, J Hardy

7. Roughside Wood, 7360, 7460, 7461, Habitat fragmentary

Conifer plantation, riverside

Former rare or scarce species: *Lycopodium clavatum*, 7360, 1991, G McDougall

8. Greenhope Wood, 7361, Habitat fragmentary

Scrub, plantation, riverside

Selected axiophytes: *Ceratocarpus claviculata*, 735615

Other axiophytes: *Geum rivale*, *Mercurialis perennis*

9. Scrogie Wood, 7461, Habitat fragmentary

Scrub, plantation, riverside

Selected axiophytes: *Ceratocarpus claviculata*, 744615

Other axiophytes: *Ajuga reptans*, *Quercus petraea*, *Stellaria holostea*

Intrusive neophytes: *Doronicum pardalianches*

10. Hen Toe Bog (see NT75), 7460, 7560, Habitat fragmentary

Conifer plantation

11. Abbey Hill, 7460, 7561, Habitat fragmentary

Former moorland

Former rare or scarce species: *Genista anglica*, 7460, 1945, AGL

12. Frampath Burn, 7461, Habitat moderately good ♥

Cleugh woodland

Selected axiophytes: *Gymnocarpium dryopteris*, 746611, 746612

Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Crepis paludosa*, *Luzula pilosa*, *Stellaria holostea*, *Valeriana dioica*, *Valeriana officinalis*,

13. Mountjoy Wood, 7461, 7561, Habitat fragmentary

Conifer plantation, screes, riverside

Selected axiophytes: *Ceratocarpus claviculata*, 749615, 750615, 751615, 751616, *Gymnocarpium dryopteris*, 751615

Other axiophytes: *Achillea ptarmica*, *Callitriche hamulata*, *Cardamine amara*, *Carex caryophylla*, *Crepis paludosa*, *Isolepis setacea*, *Senecio aquaticus*

Former rare or scarce species: *Cryptogramma crispa*, 7461, 1831, Rev T Brown, *Phegopteris connectilis*, 7561, 1902, A Kelly, W Shaw

14. Hen Toe Bridge, 7560, Habitat fragmentary

Burnside flushes

Selected axiophytes: *Parnassia palustris*, 754600, *Pedicularis palustris*, 750605Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Erica tetralix*, *Galium uliginosum*, *Lychnis flos-cuculi*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre***15. Ellerburn Wood, 7660, 7661, Habitat moderately good in part ♥**

Conifer plantation, dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Phegopteris connectilis</i>	Large	762607	20	2000	MEB	Steep, wet, north-facing slopes
		Large	763607	63	2000	MEB	Steep, wet, north-facing slopes

Selected axiophytes: *Gymnocarpium dryopteris*, 762607, 768612Other axiophytes: *Carex acutiformis*Former rare or scarce species: *Cerastium arvense*, 7661, 1937, Miss H M Brown, *Mycelis muralis*, 7661, 1954, AGL, wall top by road, approaching the TOOT sign, *Rosa pimpinellifolia*, 763607, 1951, G Grahame**16. Crooked Bank, Laughing Law, 7264, 7363, 7364, Habitat moderately good ♥**

Scrub, acid grassland

Selected axiophytes: *Festuca filiformis*, 7364, *Geranium sylvaticum*, 7363, *Helianthemum nummularium*, 730639, 730640, 732639, *Polygala vulgaris*, 7364Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Carex caryophyllea*, *Carex disticha*, *Conopodium majus*, *Geum rivale*, *Luzula pilosa*, *Quercus petraea*, *Ranunculus bulbosus*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana dioica*, *Valeriana officinalis*Former rare or scarce species: *Cerastium arvense*, 7364, 1982, Miss E H Jackson**17. Brush Wood, Godscroft Wood, 7363, 7463, Habitat fine ♥♥♥**

Oak and mixed woodland, wood-pasture, riverside

Selected axiophytes: *Agrimonia eupatoria*, 7363, *Geranium sylvaticum*, 7363, *Helianthemum nummularium*, 7363, *Prunus padus*, 7363, 745630, *Solidago virgaurea*, 7363Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Carex caryophyllea*, *Carex disticha*, *Conopodium majus*, *Geum rivale*, *Luzula pilosa*, *Quercus petraea*, *Ranunculus bulbosus*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana dioica*, *Valeriana officinalis*Former rare or scarce species: *Gentianella campestris*, 7463, 1953, Miss E Davidson, *Melampyrum pratense*, 7363, 1842, G Darling, *Ranunculus auricomus*, 7463, 1967, Mrs E O Pate

18. Bankend Wood, 7462, 7562, Habitat fine ♥♥♥

Oak and mixed woodland, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Hypericum humifusum</i>	Small	752626	70	2005	MEB	Top of scree by domestic TV mast

Selected axiophytes: *Ceratocarpus claviculata*, 752625, *Geranium sylvaticum*, 744628, *Helianthemum nummularium*, 752626, *Prunus padus*, 750626, 754623, 756623, *Solidago virgaurea*, 749627, 753625

Former rare or scarce species: *Pyrola media*, 7562, 1831, Dr G Johnston, abundant, wooded and heathy bank above the school house

19. Shannabank Wood, 7562, 7661, 7662, Habitat fine ♥♥♥

Oak and mixed woodland, riverside

Selected axiophytes: *Anthyllis vulneraria*, 755623, *Chrysosplenium alternifolium*, 760622, *Geranium sylvaticum*, 7662, *Prunus padus*, 757624, 762620, *Solidago virgaurea*, 7662, 763619

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Crepis paludosa*, *Geum rivale*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Quercus petraea*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*

Intrusive neophytes: *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: *Melampyrum pratense*, 7662, 1970, COB, *Pyrola media*, 7662, 1913, W B Boyd, *Ranunculus auricomus*, 7662, 1970, COB

20. Edgar's Cleugh, 7563, 7662, Habitat fragmentary

Scrub, burnsides

Selected axiophytes: *Geranium sylvaticum*, 768626

Other axiophytes: *Ajuga reptans*, *Conopodium majus*, *Geum rivale*

21. Butterwell Wood, 7661, 7761, Habitat good in part ♥♥

Oak and mixed woodland, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Lathraea squamaria</i>	3 clumps	769614	03	2005	MEB	On <i>Ulmus</i>
*	<i>Ranunculus auricomus</i>	Small	769613		2005	MEB	

Selected axiophytes: *Chrysosplenium alternifolium*, 769613, *Geranium sylvaticum*, 769611, 769613, *Prunus padus*, 769611, 769613

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Polystichum aculeatum*, *Quercus petraea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Doronicum pardalianches*, *Rhododendron ponticum*

Former rare or scarce species: *Melampyrum pratense*, 7661, 1970, COB, *Mycelis muralis*, 769615, 1950, G Grahame

22. Retreat Wood, 7760, Habitat fine in part ♥♥♥

Oak and mixed woodland, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex remota</i>		7760		1998	MEB, PFB	
*	<i>Melampyrum pratense</i>	Modest	772604	58	2006	MEB	In <i>Luzula sylvatica</i> by bottom path
*		5x5m	772605	76, 79	2005	MEB	Under <i>Quercus</i> below track
*		10x10m	772606	32	2005	MEB	In <i>Vaccinium myrtillus</i> below track
*		10x10m	773606	02, 48	2005	MEB	In <i>Vaccinium myrtillus</i> above track
*		5x5m	773607	70	2005	MEB	Under bracken
*	<i>Salix myrsinifolia</i>		771605	96, 99	2006	MEB	Rocky islets in river
*			772606	41	2006	MEB	Rocky islets in river

Selected axiophytes: *Campanula latifolia*, 771605, *Equisetum sylvaticum*, 770608, *Geranium sylvaticum*, 772605, 773605, *Populus tremula*, 772605, *Prunus padus*, 7760, *Saxifraga granulata*, 772606, *Silene vulgaris*, 7760, *Solidago virgaurea*, 7760

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Anemone nemorosa*, *Cardamine amara*, *Conopodium majus*, *Crepis paludosa*, *Geum rivale*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Quercus petraea*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*

Former rare or scarce species: *Blysmus compressus*, 7760, 1854, J Hardy, *Pyrola minor*, 7760, 1970, COB, *Ranunculus auricomus*, 7760, 1970, COB

23. Wild Wood, 7760, Habitat excellent in part ♥♥♥♥

Wet woodland, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex laevigata</i>	6x5m	770606	80	2006	MEB	
*			771604	59	2006	MEB	At rivulet on bend in river
*	<i>Carex remota</i>		771604	59	2006	MEB	At rivulet on bend in river
*		Large	775604		1998	MEB	
*	<i>Phegopteris connectilis</i>		772604		1998	MEB, JW	Waddell
*	<i>Salix myrsinifolia</i>		772604	29	2006	MEB	Rocky islets in river
*			772605	30	2006	MEB	Rocky islets in river
*			773605	00	2006	MEB	Rocky islets in river
*	<i>Viburnum opulus</i>		771604		1995	RMcB	McBeath, apparently native
*		Five	775604		1995	PSL	Lusby

Selected axiophytes: *Chrysosplenium alternifolium*, 7760, *Gymnocarpium dryopteris*, 772604, *Prunus padus*, 771604, *Stellaria nemorum*, 772604

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Cardamine amara*, *Carex acutiformis*, *Conopodium majus*, *Crepis paludosa*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Leontodon hispidus*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Oreopteris limbosperma*, *Polystichum aculeatum*, *Quercus petraea*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana officinalis*

Intrusive neophytes: *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Symphoricarpos albus*, *Fallopia japonica*

Former rare or scarce species: *Cirsium heterophyllum*, 7760, 1921, J H Craw, *Melampyrum pratense*, 7760, 1970, COB

24. Elba Wood, 7860, Habitat fine ♥♥♥

Oak and mixed woodland, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Ranunculus auricomus</i>	25x2m	786603	89	2005	MEB	Flowers mostly perfect
*	<i>Spergularia rubra</i>		785604		1998	MEB	

Selected axiophytes: *Elymus caninus*, 7860, *Equisetum sylvaticum*, 788607, *Juniperus communis*, 788606, seven native bushes (with recent plantings), *Populus tremula*, 787603, *Solidago virgaurea*, 785604

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Anemone nemorosa*, *Conopodium majus*, *Helictotrichon pratense*, *Leontodon hispidus*, *Luzula pilosa*, *Ononis repens*, *Quercus petraea*, *Rhinanthus minor*, *Stellaria holostea*, *Valeriana officinalis*

Intrusive neophytes: *Fallopia japonica*

Former rare or scarce species: *Melampyrum pratense*, 7860, 1970, COB

25. Avenue Wood, White Gate Wood, 7860, Habitat fragmentary

Plantation, riverside

Selected axiophytes: *Saxifraga granulata*, 785605

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Cardamine amara*, *Conopodium majus*, *Geum rivale*, *Luzula pilosa*, *Mercurialis perennis*, *Quercus petraea*, *Stellaria holostea*

Intrusive neophytes: *Doronicum pardalianches*, *Heracleum mantegazzianum*

26. Aikyside Wood, 7860, 7960, 7961, Habitat fine in part ♥♥♥

Oak woodland, juniper scrub

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex laevigata</i>		791609	78	2005	MEB	
*		8 cells	792609		2005	MEB	
*		Modest	793608	39, 59, 97	2005	MEB	
*		Small	793609	10	2005	MEB	
*	<i>Hypericum humifusum</i>	Small	792609	55	2005	MEB	

Selected axiophytes: *Gymnocarpium dryopteris*, 795609, *Helianthemum nummularium*, 791609, 791610, 792609, *Juniperus communis*, 789606, 790606, 790607, 790608, 791608, 791609, 792608, 792609, 793608, 793609, 794608, 312 native bushes (with recent plantings), *Narthecium ossifragum*, 792609

Other axiophytes: *Carex acutiformis*, *Crepis paludosa*, *Dactylorhiza maculata*, *Galium uliginosum*, *Isolepis setacea*, *Valeriana officinalis*

Former rare or scarce species: *Melampyrum pratense*, 7960, 1893, A Anderson, *Pyrola media*, 7960, 1883, A Anderson

27. Ecclaw Hill, 7567, Habitat moderately good in part ♥

Moorland bank, burnside flushes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Genista anglica</i>	12x3m	752672	13, 23	2010	MEB	

Other axiophytes: *Achillea ptarmica*, *Anemone nemorosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Erica tetralix*, *Galium uliginosum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Veronica scutellata*,

Former rare or scarce species: *Sedum villosum*, 7567, 1834, Rev A Baird

28. Edmond's Dean, Bowshiel Dean, 7667, 7767, 7768, 7866, 7867, 7967, Habitat moderately good in part ♥

Cleughs, scrub, conifer plantation, burnside, pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Melica uniflora</i>	Small	789669	25	2010	MEB	Reedy Burn, rocks below waterfall

Charophytes: *Nitella flexilis/opaca* agg., 782673, 1998, MEB, pond in dean

Selected axiophytes: *Campanula latifolia*, 7867, Bowshiel, *Ceratocarpus claviculata*, 7867, Bowshiel, 769678, 771680, Edmond's Dean, 777676, 778675, 778676, Blawearie Dean, near, *Geranium sylvaticum*, 7667, Edmond's Dean, *Gymnocarpium dryopteris*, 789669, Reedy Burn, near foot, *Solidago virgaurea*, 769677, 770676, Nuts Cleugh

Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Anemone nemorosa*, *Callitriche hamulata*, *Cardamine amara*, *Conopodium majus*, *Galium odoratum*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Quercus petraea*, *Ranunculus aquatilis*, *Senecio aquaticus*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*, *Veronica scutellata*

Former rare or scarce species: *Apium inundatum*, 7867, 1839, J Hardy, *Littorella uniflora*, 784673, 1960, G Grahame, *Potamogeton obtusifolius*, 782672, 1960, Dr F H Perring, *Ranunculus peltatus*, 784678, 1997, J J Day et al, *Rubus saxatilis*, 7867, 1839, J Hardy

29. Quixwood Moor, Landsend Wood, Eye Water, 7764, 7864, Habitat fragmentary

Burnside flushes, former moorland, conifer plantation

Selected axiophytes: *Geranium sylvaticum*, 776645, 781640, *Menyanthes trifoliata*, 782640

Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Anemone nemorosa*, *Carex flacca*, *Dactylorhiza purpurella*, *Galium uliginosum*, *Luzula pilosa*, *Oreopteris limbosperma*, *Potentilla palustris*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*

Former rare or scarce species: *Lythrum portula*, 7764, 1853, J Hardy, *Platanthera bifolia*, 7764, 1883, A Anderson

Former charophytes: *Nitella flexilis/opaca* agg., 7764, 1853, G Johnston, Eye Water about a mile below Blackburn

30. Heriot Water, 7769, Habitat fragmentary

Scrub, conifer plantation, burnside

Selected axiophytes: *Carduus tenuiflorus*, 775694

Other axiophytes: *Achillea ptarmica*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Lychnis flos-cuculi*, *Lysimachia nemorum*

Intrusive neophytes: *Impatiens glandulifera*

31. Butterdean Wood, Blackburnrig Dean, 7764, 7765, 7865, 7965, 7966, Habitat fragmentary

Conifer plantation, dean woodland, former grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex laevigata</i>		791658		1999	MEB	Blackburnrig Wood
	<i>Carex remota</i>		7966		1999	MEB	Blackburnrig Wood
	<i>Trientalis europaea</i>	20 shoots	778649	59	2010	MEB	Butterdean Wood
		One shoot	778650	64	2010	MEB	Butterdean Wood

Selected axiophytes: *Chrysosplenium alternifolium*, 7966, *Equisetum sylvaticum*, 786657, *Geranium sylvaticum*, 7865, *Gymnocarpium dryopteris*, 794659

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Anemone nemorosa*, *Bromopsis ramosa*, *Cardamine amara*, *Carex disticha*, *Crepis paludosa*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Luzula pilosa*, *Lysimachia nemorum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Quercus petraea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Former rare or scarce species: *Botrychium lunaria*, 7963, 1853, J Hardy, Butterdean Mill, old pastures above, *Carex pallescens*, 7865, 1853, J Hardy, *Carduus nutans*, 7965, 1839, J Hardy, Blackburnrig Dean, field near, possibly casual, *Carex spicata*, 7965, 1916, A H Evans, *Coeloglossum viride*, 7865, 1853, J Hardy, pastures to the north of, tolerably abundant but scattered, on the south one specimen only, *Crepis mollis*, 7965, 1839, J Hardy, north side, rare, *Festuca vivipara*, 7965, 1839, J Hardy, *Gentianella campestris*, 7765, 1839, J Hardy, Blackburn Mill, old pastures above, *Listera cordata*, 7965, 1851, Dr G Johnston, *Listera ovata*, 7965, 1853, J Hardy, *Melica nutans*, 7965, 1886, Dr C Stuart, *Melica uniflora*, 7965, 1960, AGL, *Phegopteris connectilis*, 7965, 1852, Dr G Johnston, confined to the north exposure, only in one place but abundant, *Pyrola media*, 7965, 1886, Dr C Stuart, *Pyrola minor*, 7965, 1839, J Hardy, *Rubus saxatilis*, 7965, 1839, J Hardy, *Trollius europaeus*, 7965, 1839, J Hardy, *Viburnum opulus*, 7965, 1839, J Hardy, *Vicia orobus*, 7765, 1853, J Hardy, lost to cultivation by 1856

32. Glen Fin, 7868, 7969, Habitat fragmentary

Acid grassland on sandy knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex remota</i>	12 clumps	790687	87, 88	2010	MEB	Under <i>Alnus</i>
	<i>Erodium cicutarium</i>	One	790690	11	2010	MEB	
	<i>Spergularia rubra</i>		790689		1993	MEB	

Other axiophytes: *Allium ursinum*, *Anemone nemorosa*, *Conopodium majus*, *Quercus petraea*, *Stellaria holostea*, *Veronica montana*

33. Pease Dean, upper section, Penmanshiel Wood, 7966, 7967, 7968, 7969, Habitat excellent in part ♥♥♥♥

Conifer plantation, dean woodland, cleughs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex remota</i>	Two	790697	32	2010	MEB	High on steep wet bank
	<i>Milium effusum</i>		797683		1989	MEB	North Cleugh
*	<i>Polystichum setiferum</i>	Large	789696	93	2010	MEB	Side burn
*		Large	790695	37, 39	2010	MEB	
*		4 cells	790696		2010	MEB	West bank
*		4 cells	790697		2010	MEB	West bank
*		Large	791697	06, 09, 28	2010	MEB	West bank, mainly
	<i>Ulex gallii</i>	5 cells	795670		2002	MEB	With <i>U. europaeus</i> , <i>Cytisus scoparius</i> , <i>C. multiflorus</i> , <i>Calluna vulgaris</i> , <i>Teucrium scorodonia</i> , possible introduction
			795671	93	2002	MEB	
		5 cells	796671		2002	MEB	
			796672	30	2002	MEB	

Selected axiophytes: *Campanula latifolia*, 791698, 797678, *Ceratocarpus claviculata*, 795684, 796676, 796681, 796683, 797665, 797674, 797679, *Chrysosplenium alternifolium*, 790696, 793686, 794684, 794685, 795683, 799672, Sisterpath Cleugh, *Elymus caninus*, 790697, *Equisetum telmateia*, 791691, *Geranium sylvaticum*, 797679, *Orchis mascula*, 791698, *Solidago virgaurea*, 797675, 797675

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Galium odoratum*, *Isolepis setacea*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*

Former rare or scarce species: *Carex laevigata*, 7967, 1853, J Hardy, 7968, 1853, J Hardy, *Carex remota*, 7968, 1853, J Hardy, *Crepis mollis*, 7968, 1855, J Hardy, eastern part, *Euonymus europaeus*, 7969, 1930, WFS Berwickshire County Botanical Record, *Gnaphalium sylvaticum*, 796682, 1989, MEB, forestry ride, three heads possibly from one plant, *Listera ovata*, 7968, 1856, J Hardy, *Melampyrum pratense*, 7967, 1853, Dr G Johnston, *Melica uniflora*, 7967, 1891, J Hardy, 7969, 1891, J Hardy, *Polypodium interjectum*, 7969, 1968, Miss E P Beattie, *Pyrola media*, 7968, 1886, Dr C Stuart, *Rosa pimpinellifolia*, 7968, 1881, J Hardy, *Scutellaria galericulata*, 7967, 1839, J Hardy, haugh at foot of, lost to railway 1854, 7968, 1956, Miss H M Brown, *Viburnum opulus*, 7967, 1839, J Hardy, 7969, 1944, WFS Berwickshire County Botanical Record, *Vicia orobus*, 7966, 1920, Rev J J M L Aiken

34. Tower Dean, upper section, 7769, 7869, Habitat fine in part ♥♥♥

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
†	<i>Melica uniflora</i>		784699		1989	MEB, PFB	
†			785699		2000	MEB	
	<i>Polystichum setiferum</i>	6 cells	781695		2010	MEB	Foot of bank
		7 cells	782696		2010	MEB	Foot of bank
†		4 cells	784697		2009	MEB	
†		Large	784698	43, 81, 88	2009	MEB	
†		Small	784699	82	2009	MEB	
†		Small	785699	37, 63	2009	MEB	
†	[<i>Viburnum opulus</i>]	One	785699	44	2009	MEB	Planted

Selected axiophytes: *Campanula latifolia*, 782697, *Ceratocarpus claviculata*, 781695, *Equisetum telmateia*, 784698, *Rosa rubiginosa*, 7769, *Silene vulgaris*, 7769

Other axiophytes: *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Carex flacca*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Galium uliginosum*, *Isolepis setacea*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Stellaria holostea*, *Trifolium medium*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*

35. Sundry arable habitats NT76, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Sherardia arvensis</i>		777622		1991	JW	Winham, Abbey St Bathans, set-aside
		Large	784613		1991	JW	Winham, Blackerstone, set-aside

Selected axiophytes: *Anagallis arvensis*, 770695, Stockbridge, near, *Lamium amplexicaule*, 7661, Abbey St. Bathans, 770695, Stockbridge, near, 799698, Penmanshiel Wood, above, *Lamium confertum*, 7661, Abbey St. Bathans, 765653, Blackburn Mill, 789697, Pease Dean, near, 799698, Penmanshiel Wood, above, *Lamium hybridum*, 799698, Penmanshiel Wood, above

Former rare or scarce species: *Persicaria lapathifolia*, 7869, 1839, J Hardy, Cockburnspath Tower, near, *Stachys arvensis*, 7562, 1856, J Hardy, Monynut Water, near, 7968, 1893, J Hardy, Penmanshiel

36. Sundry NT76, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]	Large	790614	75	2001	MEB	Drakemire, A6112 near
	[<i>Galium mollugo</i>]	Large	782699		2009	MEB	Cockburnspath bypass, A1, sown
	<i>Hypericum maculatum</i> <i>subsp. obtusiusculum</i>	5 clumps	797664	48	2010	MEB	Penmanshiel, turning to, A1
	<i>Lycopodium clavatum</i>	One	751638	59	2010	MEB	Luckie Shiel, road to
	[<i>Rosa pimpinellifolia</i>]		762619		2010	MEB	Abbey St Bathans, planted by footbridge
	<i>Scleranthus annuus</i>		770694		1998	MEB	Stockbridge, nr
	<i>Spergularia rubra</i>	Small	785639		2010	MEB	Landsend Wood, forestry track
	[<i>Stachys officinalis</i>]	Small	782699	56	2009	MEB, PFB	Cockburnspath bypass, A1, sown

[<i>Viburnum opulus</i>]		788637	76	2010	MEB	Landsend Wood, planted
<i>Vicia sativa</i> subsp. <i>segetalis</i>		7867		1998	MEB	Bowshiel
		7869		1998	MEB	Tower Bridge, old A1

Charophytes: *Nitella flexilis/opaca* agg., 784678, 1997, J J Day, Bowshiel, pond at farm

Selected axiophytes: *Chenopodium bonus-henricus*, 762619, Abbey St Bathans, *Chrysosplenium alternifolium*, 751698, Berwick Burn, *Cystopteris fragilis*, 7661, Abbey St. Bathans, *Geranium sylvaticum*, 728600, Ellemford Bridge, *Hydrocotyle vulgaris*, 762680, Ecclaw, near, *Juniperus communis*, 765648, Quixwood, roadside near, one bush, *Menyanthes trifoliata*, 7465, Luckie Shiel, north of, [*Populus tremula*], 752639, Luckie Shiel, road to, planted, *Rosa rubiginosa*, 779699, Chesterfield Road, *Stellaria pallida*, 770695, Stockbridge, near, 772603, Edin's Hall

Former rare or scarce species: *Antennaria dioica*, 799626, 1951, G Grahame, Quixwood Moor, *Apium inundatum*, 7665, 1839, J Hardy, Blackburn Mill, *Botrychium lunaria*, 7763, 1853, J Hardy, St David's Cairn, *Carex remota*, 7469, 1853, J Hardy, Berwick Burn, [*Clinopodium acinos*], 7668, 1853, J Hardy, Ecclaw, abundantly in a grass field between here and Edmonston, casual, *Eleocharis quinqueflora*, 7668, 1839, J Hardy, Ewieside, [*Galium mollugo*], one, 787656, 1982, MEB, Blackburnrig Dean, near, reseeded field, casual, *Genista anglica*, 7961, 1949, G Grahame, Drakemire, *Lythrum portula*, 7869, 1833, Rev A Baird, Tower Farm, Cockburnspath, *Scutellaria galericulata*, 795632, 1951, G Grahame, Drakemire and Quixwood, between, *Spergularia rubra*, 7966, 1853, Dr G Johnston, Grantshouse, near, *Vicia orobus*, 7260, 1894, A H Evans, Ellemford, Whiteadder at

NT77 Cockburnspath (resurveyed 2009)

Hectad Description

Overview

Only 8% of the coastal hectad NT77 is land that falls in Berwickshire. It lies between sea level and 140m near Hoprig. This is an interesting area with a distinct geology. It lies on the Upper Old Red Sandstone and Carboniferous Sandstones, partly overlaid by fluvio-glacial sand and gravel. The farmland is cut by dramatic deans and the coast is varied with sandy bays, shingle, cliffs and sea braes. Pease Bay has a caravan development and Cove a small picturesque harbour. Cockburnspath itself is a village of character close to the A1 trunk road and the mainline railway. Sand and gravel are extracted nearby.

Habitats

At Dunglass Dean, of which only the south side is in Berwickshire, the hill burn drops into a modest dean that deepens swiftly to a dramatic sandstone gorge. The **dean woodland** is much modified by plantings except in the gorge which is remarkable for a profusion of ferns. However there is little species diversity: while there is abundant *Phyllitis scolopendrium*, *Polystichum aculeatum* and *P. setiferum* are notably rare. This has historically been one of just two significant stations for *Carex pendula*, though this species is now establishing in a few other places from introductions. Well-naturalised *Fuchsia magellanica* is an unexpected feature of the dean. Pease and Tower Deans are two further dean woodlands that join near their foot. Only part of the deans falls in the hectad. Despite the intrusion of a road crossing, Pease Dean has the more natural woodland of oak, ash and elm. Tower Dean has suffered partial conversion to conifers but is now being restored by the Scottish Wildlife Trust and here *Polystichum setiferum* now has much its best station in Berwickshire, as what was always a good colony has spread dramatically out of the confines of the gorge onto the wooded banks, possibly assisted by climate change. *P. aculeatum* is

also well-represented and the hybrid occurs. The woodland ground flora is quite varied in both deans. *Adoxa moschatellina*, *Cardamine amara*, *Chrysosplenium alternifolium* and *Veronica montana* are well represented. *Campanula latifolia* and *Equisetum telmateia* are present. *Allium paradoxum* in Pease Dean and *Impatiens glandulifera* in Tower Dean are recent incomers.

The **sea braes** are now all un-grazed and there is much rank grassland. The modest areas of shorter turf are associated with cliff-edges and their area seems to have been reduced by eutrophication from the fields above. They remain attractive with *Armeria maritima*, *Leontodon hispidus*, *Ononis repens* and *Plantago maritima*. *Astragalus danicus* was not refound in 2009, but there is a little *Centaurium erythraea* near Cove. Coastal heath is represented only by patches of *Calluna* at Hawk's Heugh. There are some flushes with *Dactylorhiza purpurella*, *Carex flacca* and *Succisa pratensis* with a very little *Carex pulicaris*, others are carpeted by tall herbs with large patches of *Eupatorium cannabinum*. *Populus tremula* occurs on cliffs by Cove Harbour and *Asplenium marinum* a little to the south. The braes continue inland at the foot of Tower Dean and here, beyond the caravans, the sandy grassland was grazed until relatively recently and supported modest populations of *Erodium cicutarium*, *Filago minima*, *F. vulgaris*, *Myosotis ramosissima* and *Sherardia arvensis*. These populations have now been lost to coarse grasses and whins except at the very edge of the escarpment.

The **seashore** is interesting with a diversity of communities, albeit often in small quantity. The sand at Pease Bay has recently been re-colonised by *Cakile maritima* in some quantity and there are modest dunes with *Ammophila arenaria*, *Leymus arenarius* and *Elytrigia juncea*. One plant of *Beta maritima* ssp. *maritima* was seen in shingle at the back of the north part of the bay in 2009 and *Salsola kali* has occurred as a casual in the past. The two bays at Ramsheugh have more shingle than sand and there are fragments of saltmarsh among the rocks. *Glaucium flavum* is plentiful on the shingle, except where *Centranthus ruber* has colonised, and the saltmarsh has *Blysmus rufus*, *Carex extensa* and *Spergularia media*. One plant of *Aster tripolium* has recently established and *Suaeda maritima* and *Parapholis strigosa* have both occurred transitorily in the past. *Seriphidium maritimum* likewise appears to be somewhat transitory, being currently known only at a headland south of Cove Harbour. *Vicia lathyroides* is not prospering with only single plants being recently seen or suspected in sand at Ramsheugh and Cove Harbour. *Valerianella locusta* fares little better in the same habitat.

The fields are sandy enough to support a diverse **arable weed** flora, but there is little suitable cropping and the scarcer species are mostly encountered around Cockburnspath itself or on the sand and gravel workings. Species present include *Chrysanthemum segetum*, *Fumaria capreolata*, *F. densiflora* and *F. purpurea*. Sandy banks at Cockburnspath also support a **neutral grassland** flora with *Chenopodium bonus-henricus*, *Geranium pusillum*, *Malva neglecta* and *Silene vulgaris*. *Agrimonia eupatoria* occurs in just a few places at field boundaries while *Vicia sativa* subsp. *segetalis* is more widespread and perhaps an introduction.

The A1 trunk road now bypasses Cockburnspath through a rock cutting. Here the **roadside** banks have been sown with a wildflower mix and species established include *Campanula trachelium*, *Cytisus striatus*, *Galium mollugo* and *Stachys officinalis*.

Index of Sites NT77 Cockburnspath

GR - NT	Ref	Site	Habitats
7570, 7571, 7671, 7772	1	Dunglass Dean (VC 81 part, also VC 82)	Dean woodland including a deep sandstone gorge
7670, 7771	2	Cockburnspath	Ruderal habitats
7772	3	Dunglass Dean, near foot	Former coastal grassland
7772	4	Ramsheugh Bay, Reed Point	Sand, shingle and a very small saltmarsh
7871	5	Cove, Cove Harbour	Coastal grassland on braes, cliffs, sandy beach, hamlet and harbour
7870, 7970	6	Pease Dean, lower section, Tower Dean, lower section	Dean woodland
7870, 7970	7	Pease Dean, escarpment and burn foot grassland	Sandy grassland
7871, 7970	8	Pease Bay, Ewelairs	Sandy beach and coastal grassland on braes
77	9	Sundry	Arable habitats
77	10	Sundry	Sundry habitats

Site Register NT77 Cockburnspath

1. Dunglass Dean (VC 81 part, also VC 82), 7570, 7571, 7671, 7772, Habitat good in part ♥♥

Dean woodland including a deep sandstone gorge. The woodland above the gorge is much modified by plantings.

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex pendula</i>	Modest	7571		1983	MEB	
		Modest	763713		2009	MEB	
		Modest	763715		2009	MEB	Just above waterfall
		Modest	767717	66	2009	MEB	
		Small	769719	22	2009	MEB	By path along top of dean
		Modest	770720	29	2009	MEB	
		Modest	770721	48	2009	MEB	
		Six	771725	85, 90	2009	MEB	Near mouth of burn
	<i>Carex remota</i>	One	752700	19	2009	MEB	Berwick Burn
		Modest	758711	99	2009	MEB	Dean Mill Bog
	<i>Epilobium roseum</i>	Small	771721		1998	MEB, LWG	
	<i>Geranium pusillum</i>	One	765714	25	2009	MEB	At foot of seat by path
	<i>Polypodium interjectum</i>		767717		1998	MEB	On fallen tree [likely plants on tree high over burn, 2009]
	<i>Polystichum setiferum</i>		7671		1834	AB	Baird [One in VC 82 by Berwick Burn, 752703, 10m cell 98, 2009]

Selected axiophytes: *Chrysosplenium alternifolium*, 752700, 752703, Berwick Burn, 755708, 756711, 757711, 761712, 768717, Dunglass Burn, *Equisetum telmateia*, 756711, *Saxifraga granulata*, 755710, 757711, Dunglass Burn

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Crepis paludosa*, *Eupatorium cannabinum*, *Galium*

odoratum, *Hyacinthoides non-scripta*, *Lysimachia nemorum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Rhododendron ponticum*

Former rare or scarce species: [*Hypericum humifusum*], 7671, 1878, J Hardy, habitat unknown, *Melica nutans*, 7671, 1916, A H Evans, *Melica uniflora*, 7671, 1886, Dr C Stuart, *Neottia nidus-avis*, 7671, 1937, Miss M I Hope, *Pyrola media*, 7671, 1886, Dr C Stuart

2. Cockburnspath, 7670, 7771, Habitat fragmentary

Ruderal habitats around village, some on sandy soils

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Chelidonium majus</i>]		768707	33	2009	MEB, PFB	Double flowers, introduction
	[<i>Convolvulus arvensis</i>]		770707	38	2009	MEB, PFB	Weed, introduction
			774709	27	2009	MEB, PFB	Weed, introduction
	<i>Fumaria capreolata</i>	Small	774710	50	2009	MEB, PFB	Det. Dr H McHaffie
	<i>Fumaria densiflora</i>		775711	17	2000	MEB	
	<i>Fumaria purpurea</i>	Large	774711	50	2000	MEB	
	[<i>Geranium lucidum</i>]		774711	51	2009	MEB, PFB	Foot of wall, introduction
	<i>Geranium pusillum</i>		776716	71	2009	MEB, PFB	Under seat by road
	<i>Hordeum murinum</i>		769707		1998	MEB	
	[<i>Malva moschata</i>]		7771		2009	MEB, PFB	Introduction
	<i>Malva neglecta</i>		768707	54	2009	MEB, PFB	Bank, status uncertain
			770708	91	2009	MEB, PFB	Bank, status uncertain
			772709	66	2009	MEB, PFB	Bank, status uncertain
	[<i>Mycelis muralis</i>]		774711	51	2009	MEB, PFB	Foot of wall, introduction
	<i>Vicia sativa subsp. segetalis</i>		775711	17	2000	MEB	

Selected axiophytes: *Carduus tenuiflorus*, 769707, *Chenopodium bonus-henricus*, 768707, 769707, 770708, naturalised introduction, [*Rosa rubiginosa*], 769707, hybrids, status uncertain, *Silene vulgaris*, 769707, 774710, 776716

Intrusive neophytes: *Buddleja davidii*, *Centranthus ruber*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: *Filago vulgaris*, 776716, 1998, MEB, railway yard, [*Hyoscyamus niger*], 7771, 1956, Miss H M Brown, introduction, *Stachys arvensis*, 7771, 1853, J Hardy, gardens

3. Dunglass Dean, near foot, 7772, Habitat lost

Apparently not the sea braes at Ramsheugh Bay, though this is uncertain. Some coastal grassland has been lost. Some records relate to ruderal habitats round buildings and some may relate to VC 82

Former rare or scarce species: [*Artemisia absinthium*], 7772, 1956, AGL, introduction, *Carex muricata* subsp. *lamprocarpa*, 7671, 1916, Rev J J M L Aiken, *Dianthus deltoides*, 7772, 1839, J Hardy, *Erodium cicutarium*, 7772, 1956, AGL, *Malva neglecta*, 7772, 1956, AGL, *Trifolium scabrum*, 7771, 1916, Rev J J M L Aiken, [*Valerianella dentata*], 7771, 1916, J Hardy

4. Ramsheugh Bay, Reed Point, 7772, Habitat fine ♥♥♥

Two bays with sand, shingle and a very small saltmarsh, notable for *Glaucium flavum* on the shingle

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Aster tripolium</i>	One	777722	53	2009	MEB	Probable recent colonist
*	<i>Blysmus rufus</i>	2.0x0.5m	778722	21	2009	MEB	
*	<i>Carex distans</i>		777722	53, 72	2009	MEB	Back of beach
*		6 cells	778722		2009	MEB	Back of beach
*	<i>Carex extensa</i>	4 cells	777722		2009	MEB	
*		3 cells	778721		2009	MEB	
*		4 cells	778722		2009	MEB	
*	<i>Carex pendula</i>	3 cells, 15	773722		2009	MEB	
*		One	777721	76	2009	MEB	Flush
*	<i>Erophila majuscula</i>		774722		1998	MEB	
*	<i>Glaucium flavum</i>	5 cells, 400	773723		2009	MEB	Many immature rosettes
*		8 cells, 300	773723		2009	MEB	Many immature rosettes
*		10	774722	39	2009	MEB	Many immature rosettes
*		50	774722	29	2009	MEB	Many immature rosettes
*		5 cells, 300	774723		2009	MEB	Many immature rosettes
*		3 cells, 150	774723		2009	MEB	Many immature rosettes
*		one	777722	91	2009	MEB	
*		30	778721	29	2009	MEB	Many immature rosettes
*		4 cells, 50	778721		2009	MEB	Many immature rosettes
*		3 cells, 170	778722		2009	MEB	Many immature rosettes
*		100	778722	10, 11	2009	MEB	Many immature rosettes
*	<i>Glaux maritima</i>		775723		1995	CD	Dixon
*		3 cells	777722		2009	MEB	
*			778721	77	2009	MEB	
*			778722	21	2009	MEB	And nearby
*	<i>Honckenya peploides</i>	3 cells	771725		2009	MEB	Sand bar at mouth of Dunglass Burn
*			775723		1995	CD	Dixon
*		30x20m	778721		2009	MEB	
*	<i>Juncus gerardii</i>	Large	775723		1995	CD	Dixon
*		Large	778722		1998	MEB	
*	<i>Myosotis ramosissima</i>		774722		1998	MEB	
*			775723		1995	CD	Dixon
*	<i>Puccinellia maritima</i>		777722	72	2009	MEB	
*			778721	77	2009	MEB	
*			778722	40	2009	MEB	

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*	<i>Spergularia media</i>	3 cells, 12	778721		2009	MEB	
*			778722	52	2009	MEB	
*	<i>Triglochin maritimum</i>		778721	59, 69	2009	MEB	
*		3 cells	778722		2009	MEB	
*	<i>Valerianella locusta</i>	3 cells, 5	773723		2009	MEB	
*			774722		1998	MEB	
*			775723		1995	CD	Dixon
*	<i>Vicia lathyroides</i>		7772		1916	JJMLA	Aiken [one probable plant 774723, 10m cell 10, not in flower, 2009]

Selected axiophytes: *Anthyllis vulneraria*, 7772, *Asplenium marinum*, 780720, 1981, *Carduus tenuiflorus*, 7772, *Carex otrubae*, 773723, 777721, 778721, 780722, *Equisetum telmateia*, 780722, *Ligusticum scoticum*, 779722, 1984, *Orchis mascula*, 780722, *Pinguicula vulgaris*, 774722, *Saxifraga granulata*, 775723, 780722, *Stellaria pallida*, 774722, 776722

Other axiophytes: *Aira caryophyllea*, *Allium ursinum*, *Armeria maritima*, *Brachypodium sylvaticum*, *Carex flacca*, *Cochlearia officinalis*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Koeleria macrantha*, *Koeleria macrantha*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Silene uniflora*, *Thymus polytrichus*

Intrusive neophytes: *Centranthus ruber*, *Impatiens glandulifera*

Former rare or scarce species: *Echium vulgare*, 7772, 1907, Rev J J M L Aiken, *Elytrigia juncea*, 7772, 1839, J Hardy, *Parapholis strigosa*, 778721, 1984, Miss H Stace, *Seriphidium maritimum*, 7772, 1893, A Anderson, [*Smyrniolum olusatrum*], 7772, 1917, Sir George Taylor, probably casual, *Suaeda maritima*, 7772, 1940, WFS, *Trifolium fragiferum*, 7772, 1853, Dr G R Tate

5. Cove, Cove Harbour, 7871, Habitat good in part ♥♥

Coastal grassland on braes, cliffs, sandy beach, hamlet and harbour

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Atriplex laciniata</i>		784716		2008	NC, ENHS	Crowther
*	<i>Centaureum erythraea</i>		781717		1998	MEB	
*		Two	783716	76	2008	MEB	Heathery Heugh, crumbling bank
*		Two	784717	16, 77	2007	MEB, BNC	
*	<i>Honckenya peploides</i>	4x1m	784716	55	2009	MEB	
*	<i>Hordeum murinum</i>	Small	784717	77	2009	MEB	By buildings
*	<i>Leymus arenarius</i>	100x5m	784716		2009	MEB	
*	<i>Puccinellia maritima</i>		781717		1998	MEB	
*			784717		1998	MEB, PFB	
*	<i>Rorippa nasturtium-aquaticum</i>		785716	11	2009	MEB	
*	<i>Seriphidium maritimum</i>		781718		1997	AG, RS	Gray, Spalding
*		10x5m	789716	41	2009	MEB	Back of shingle beach
*	<i>Vicia lathyroides</i>	One	784716		2008	JM, ENHS	Muscott. Dunes above beach

Selected axiophytes: *Anthyllis vulneraria*, 783716, 789716, *Asplenium marinum*, 789716, *Helianthemum nummularium*, 783716, 785715, *Orchis mascula*, 785715, *Populus tremula*, 785716

Other axiophytes: *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Cochlearia officinalis*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Iris pseudacorus*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Ononis repens*, *Silene uniflora*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*

Centranthus ruber, *Crocsmia x crocosmiiflora*, *Impatiens glandulifera*, *Sedum album*

Former rare or scarce species: *Astragalus danicus*, 783716, 1998, MEB, PFB, *Astragalus glycyphyllos*, 7871, 1936, J Brown, Sea braes near Ewelairs, *Glauca maritima*, 7871, 1970, AGL, *Trifolium arvense*, 7871, 1839, J Hardy

6. Pease Dean, lower section, Tower Dean, lower section, 7870, 7970, Habitat fine in part ♥♥♥

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Melica uniflora</i>		791701		1989	MEB, PFB	Pease Dean, lower
*	<i>Polypodium interjectum</i>		7970		1979	AW	Willmot, Pease Dean
†	<i>Polystichum setiferum</i>		784700	89	2009	MEB	Tower Dean
†		3 cells	784701		2009	MEB	Tower Dean, upper
†			784702	73	2009	MEB	Tower Dean
†			785700	10, 20	2009	MEB	Tower Dean
†			785703	50	2009	MEB	Tower Dean
†		Large	787704	91, 92	2009	MEB	Tower Dean, lower
†			788704	02	2009	MEB	Tower Dean, lower
†			789704	63	2009	MEB	Tower Dean, lower
†			790704	13	2009	MEB	Tower Dean, lower
*		Large	792700	79	2009	MEB	Pease Dean, edge of wood and below
*			792701	32	2004	BA	Averis, Pease Dean, lower banks
†		Modest	793703	17	2009	MEB	Pease Dean, low bank
†	<i>Viburnum opulus</i>		7970		2009	JM, ENHS	Muscott, planted

Selected axiophytes: *Campanula latifolia*, 791701, 792701, Pease Dean, 792704, Tower Dean, *Chrysosplenium alternifolium*, 784701, 784702, Tower Dean, 791701, 792701, Pease Dean, *Elymus caninus*, 792704, Tower Dean, *Equisetum telmateia*, 791701, 791703, *Orchis mascula*, 784701, 792701, 790704

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Conopodium majus*, *Eupatorium cannabinum*, *Festuca gigantea*, *Galium odoratum*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*

Former rare or scarce species: *Carex remota*, 792701, 1980, COB, Pease Dean, *Clinopodium vulgare*, 785703, 1988, MEB, Tower Dean, *Euonymus europaeus*, 7870, 1930, WFS, Tower Dean, *Hordelymus europaeus*, 7970, 1885, A H Evans, Pease Dean, *Ranunculus auricomus*, 7970, 1853, Dr G Johnston, Pease Dean

7. Pease Dean, escarpment and burn foot grassland, 7870, 7970, Habitat fragmentary

Sandy grassland. Some lost to caravan park but large recent losses due to lack of grazing

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
†	<i>Erodium cicutarium</i>	Modest	790705		1988	MEB	Escarpment
†		Small	791705	86	2009	MEB	Escarpment
†			792705		1989	MEB	Escarpment
†	<i>Filago vulgaris</i>	25	790705	74	2009	MEB	Escarpment
†		4 cells, 19	791705		2009	MEB	Escarpment
	<i>Myosotis ramosissima</i>	Small	786703		1989	MEB	Railway
			797707		1995	RS, AJP	Singleton, Panter, roadside
†	<i>Sherardia arvensis</i>	Small	790705		1988	MEB	Escarpment
†	<i>Spergularia rubra</i>	Small	788705	55	2009	MEB	Escarpment

Selected axiophytes: *Agrimonia eupatoria*, 786703, Tower Dean, railway by, *Carduus tenuiflorus*, 7970, Tower Dean

Former rare or scarce species: *Carex muricata subsp. lamprocarpa*, 7970, 1956, Miss H M Brown, *Centaureum erythraea*, 7970, 1922, Rev J J M L Aiken, *Filago minima*, 793704, 1988, MEB, burn foot, *Filago vulgaris*, 793704, 794706, 1989, MEB, burn foot, *Trifolium arvense*, 7970, 1839, J Hardy

8. Pease Bay, Ewelairs, 7871, 7970, 7971, Habitat good in part ♥♥

Sandy beach and coastal grassland on braes, modified by recreational use and caravan park

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Ammophila arenaria</i>	Large	789712		2009	MEB	
		Large	793708		2009	MEB	
	<i>Astragalus danicus</i>		797707		1995	RS, AJP	Singleton, Panter, roadside east of Pease Bay
	<i>Atriplex laciniata</i>		792709	62	2009	MEB	
		Modest	793709	00	2009	MEB	
*			790711	07	2009	MEB	
*			791710	41	2009	MEB	
	<i>Beta vulgaris subsp. maritima</i>	One	789713	82	2009	MEB	Presumed recent colonist
	<i>Cakile maritima</i>	6 cells, 75	792709		2009	MEB	
		5 cells	793708		2009	MEB	
		One	794708	45	2009	MEB	
*		One	791710	23	2009	MEB	
*		Large	792710		2009	PFB	
	<i>Carex arenaria</i>		791709	86	2009	MEB	
		5 cells	792709		2009	MEB	
		Large	793708		2000	MEB	
	<i>Coronopus squamatus</i>	One	792708		2009	PFB	Caravan park, by tarmac
*	<i>Elytrigia juncea</i>		789711	98	2009	MEB	
		Small	792708		1986	MEB	
			793708		2000	MEB	
*			790711	07	2009	MEB	And nearby
	<i>Elytrigia x laxa</i>		793708		2000	MEB	Det. Dr T A Cope
			794708	16	2009	MEB	
	<i>Erodium cicutarium</i>		792708		1998	MEB	

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*			791710	30	2009	MEB	
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		792708	36	2009	MEB	Casual by burn
	<i>Fumaria purpurea</i>		792708	36	2009	MEB	Casual by burn
	<i>Glaux maritima</i>		7970		1989	JM, ENHS	Muscott
	<i>Honckenya peploides</i>		798708	81	2002	MEB	
*			790711	07	2009	MEB	And nearby
*	<i>Leymus arenarius</i>		789711	98	2009	MEB	
			792709		2009	MEB	
		Large	793708		2009	MEB	
*			790711	07	2009	MEB	And nearby
	<i>Sherardia arvensis</i>		797707		1995	RS, AJP	Singleton, Panter, roadside
*	<i>Vicia sativa subsp.</i> <i>segetalis</i>	Small	789713	77	2009	MEB	Cliff top path

Selected axiophytes: *Agrimonia eupatoria*, 7971, *Elytrigia x laxa*, 794708, *Equisetum telmateia*, 793706, *Helianthemum nummularium*, 797708, *Orchis mascula*, 798709, *Polygala vulgaris*, 7970, 1979, [*Rosa rubiginosa*], 7970, status uncertain, *Saxifraga granulata*, 7970, *Stellaria pallida*, 792707, 793708, 795708

Other axiophytes: *Aira caryophyllea*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex flacca*, *Cochlearia officinalis*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Ononis repens*, *Ranunculus bulbosus*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

Intrusive neophytes: *Crocoshmia x crocosmiiflora*, *Impatiens glandulifera*, *Rosa rugosa*

Former rare or scarce species: *Anthriscus caucalis*, 793707, 1992, MEB, PFB, *Glaucium flavum*, 7970, 1886, Dr C Stuart, *Malva neglecta*, 7970, 1955, AGL, status uncertain, *Mertensia maritima*, 7970, 1913, W B Boyd, *Ophioglossum vulgatum*, 7970, 1882, J Hardy, *Salsola kali subsp. kali*, 7970, 1960, Dr F H Perring & BSBI party, *Thalictrum minus*, 7970, 1886, Dr C Stuart, *Vicia lathyroides*, 7871, 1957, AGL

9. Sundry arable habitats NT77, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Chrysanthemum segetum</i>	Small	782712	22	2001	MEB	Cove farm, arable edge

Selected axiophytes: *Lamium amplexicaule*, 7772, Dunglass Bridge, roadsides near, *Lamium confertum*, 7870, Tower Dean, near, 7871, Cove Farm, 772717, Cockburnspath, 782711, Cove Farm, near, 782712, Cove Farm, 794706, Pease Bay Coast

Former rare or scarce species: *Centaurea cyanus*, 7771, 1938, WFS, Cockburnspath, near, *Papaver argemone*, 7671, 1894, J Hardy, Dunglass Dean, near, *Sherardia arvensis*, 7771, 1952, Mrs E K Swinton, Dunglass Dean, near, *Silene noctiflora*, 7771, 1951, Mrs E K Swinton, Cockburnspath, cornfield near

10. Sundry NT77, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]		776717	48	2001	MEB	A1, Cockburnspath roundabout, roadside halophyte
			771722	70	2009	MEB	A1, roadside halophyte
	[<i>Galium mollugo</i>]	Large	780703		2009	MEB	A1, road cutting, sown
		Large	782701		2007	MEB	A1, road cutting, sown
	[<i>Rosa pimpinellifolia</i>]	Several	771721	57	2009	MEB	Dunglass Dean, hedge near, planted
	<i>Rubus caesius</i>	Large	789707	77	2009	MEB, PFB	Pease Bay, roadside above
	[<i>Stachys officinalis</i>]	Large, 300m	782700		2009	MEB	A1, road cutting, sown
	<i>Vicia sativa subsp. segetalis</i>	One	756706	68	2009	MEB	Dunglass Burn, above
			775720		1998	MEB	A1, near Dunglass Dean
			783717		1998	MEB, PFB	Cove, near

Selected axiophytes: *Agrimonia eupatoria*, 786713, Cove Farm, near, *Carduus tenuiflorus*, 772704, Cockburnspath Sand Quarry, *Knautia arvensis*, 7871, Cove Farm, [*Rosa rubiginosa*], 772701, Neuk Farm, stats uncertain, *Silene vulgaris*, 772701, Neuk Farm, *Stellaria pallida*, 774720, Dunglass Dean, A1 near

Former rare or scarce species: [*Bromus hordeaceus subsp. thominei*], 7771, 1960, Dr F H Perring & BSBI party, Cockburnspath, near, status unknown, *Catapodium rigidum*, 7871, 1856, J Hardy, Linhead, braes below railway, [*Lepidium campestre*], 7671, 1834, Rev A Baird, Dunglass Dean, banks by, status unknown

NT83 Coldstream (resurveyed 2010)

Hectad Description

Overview

Only 5% of the hectad NT83 is in Berwickshire. It lies between 8m on the Tweed at Coldstream and 52m at Homebank. The geology is calciferous sandstones of the Carboniferous overlain with glacial drift. This is good agricultural land, indeed Lees Haugh is the best in the county.

The river Tweed is the dominant feature and there are some fragments of natural grassland by the riverside. The aquatic flora of the river has survived to a remarkable extent. The Leet Water is also a feature.

The Hirsell Estate has woodlands that do relate back to earlier more natural habitat as well as grassland and wetland. Coldstream Golf Course lies on this estate by the Leet Water.

The town of Coldstream is prominent.

Habitats

The **Leet Water** is a **wildlife corridor** across the heart of the agricultural land of the Merse with grassland, wetland and fragmentary woodland. This corridor continues through to its junction with the Tweed. Below The Hirsell *Rumex conglomeratus* occurs at the river margin near *Schoenoplectus lacustris*, while a haugh area supports *Festuca pratensis* and *X Festulolium*

loliaceum with a little *Agrimonia eupatoria*. The woodland has *Brachypodium sylvaticum* and *Hypericum hirsutum* and a little *Mycelis muralis*. While this is a natural habitat for the *Mycelis*, the plants are probably just outliers of the large populations on walls in Coldstream and at The Hirsell and it is perhaps best considered as an introduction, as elsewhere in Berwickshire.

Away from the Leet Water **species-rich grassland** is almost confined to the banks of the Tweed. Opposite Carham there is an exposure of limestone with an interesting assemblage of plants including *Cerastium arvense*, *Echium vulgare* and *Galium boreale*. *Allium carinatum* has recently colonised on riverside rocks nearby. *Rosa rubiginosa* occurs here, at a species-rich road verge by the A697 at Fireburnmill and by the Leet Water. It may well be native. Below Fireburnmill there is a river wall built of limestone which had *Galium boreale* in 1997. The top of the wall has since been colonised by dense scrub so waders will be needed to revisit it. The riverside here boasts *Ononis repens* and *Origanum vulgare* but *Plantago media* was last recorded in 1960, though there is an intriguing record of this species from 1987 at the southwest corner of Dundock Wood. *Knautia arvensis* is occasional on the riverside banks while *Silene vulgaris* is found by the A697. At the Lees there is another interesting riverside retaining wall. Here it is not so much the wall itself but a steep bank immediately above it that is species-rich. The *Cerastium arvense*, *Myosotis ramosissima*, *Trifolium striatum* and *Valerianella locusta* that occur here are probably relicts of former sandy grassland. *Galium mollugo* is still found by the drive to The Hirsell, but recent grassland management has severely reduced it.

Amongst the introductions at the **riverside** *Allium vineale* is increasing modestly while *Heracleum mantegazzianum* has been extensively controlled but is far from eradicated. The colourful *Impatiens glandulifera* is popular with the fishing community, which is a mercy as it appears uncontrollable, while *Scrophularia umbrosa* is long-naturalised. *Crambe hispanica* escaped in quantity when a crop at Lees Haugh flooded in 2005 and flowered plentifully where silt was deposited but has barely persisted whereas *Poa palustris* appears to have persisted unnoticed there for a century or more at muddy river margins, but in very small quantity. *Myosoton aquaticum* and *Rorippa x anceps* appear to be recent arrivals at Lees Haugh.

The River Tweed **aquatic species** are well represented in the hectad: *Potamogeton lucens*, *P. x salicifolius*, *P. pectinatus* and *P. perfoliatus* form the core of the pondweed community that is well developed where the river runs over rock shelves by Fireburnmill but less so in the more sluggish section at Lees Haugh. *Potamogeton pusillus* was recorded in several monads in 1971 but has not been seen in the hectad since then. With *Ranunculus pencillatus* the taxon traditionally recognised as *Ranunculus fluitans* is occasional, but it is probably a hybrid clone rather than the species in view of its low fertility. *Ranunculus x kelchoensis* has recently been found at Fireburnmill.

The **arable fields** are too well farmed to have much of a weed flora. *Fumaria densiflora* was noted near the Lithtillum Burn in 1979 but not since. However *Polygonum rurivagum* appeared near Fireburnmill in 1992 and has persisted. *Borago officinalis* was grown as a crop at Lees Haugh and has it has persisted there as a weed.

The **ruderal habitats** at Coldstream are interesting mainly because of the extensive network of tall stone walls and the curious walkway above the Tweed where there is a retaining wall topped by somewhat unstable sun-baked sandy banks. *Mycelis muralis* is plentiful on walls while *Lactuca virosa* is a long-established feature of the banks with *Calendula officinalis* a more recent arrival that is now fairly well naturalised. At the foot of the walls nearest the river *Malva neglecta* is found with *Valerianella locusta* and *Veronica polita*. The latter is also occasional in paved areas about the town. *Centranthus ruber* is plentiful while *Buddleja davidii* and several *Cotoneaster* species are more recent arrivals.

Index of Sites NT83 Coldstream

GR - NT	Ref	Site	Habitats
8038, 8039	1	Carham, Tweed opposite	Riverside limestone rocks, aquatic
8139, 8238, 8239, 8338, 8339	2	Fireburnmill, Tweed near	Riverside, aquatic
8139, 8239	3	Dundock Wood	Policy woodland
8339	4	Coldstream, Leet Water at	Riverside
8339, 8439	5	The Lees	Policies, riverside
8438, 8439, 8538, 8539	6	Lees Haugh	Riverside, aquatic
8439	7	Coldstream, west section	Ruderal, riverside, aquatic
83	8	Sundry	Arable habitats
83	9	Sundry	Sundry habitats

Site Register NT83 Coldstream

1. Carham, Tweed opposite, 8038, 8039, Habitat moderately good in part ♥

Riverside limestone rocks, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Cerastium arvense</i>	Modest	800389	12, 21	2010	MEB, MF	Limestone crag
*	<i>Echium vulgare</i>	Small	800389	02, 12, 21	2010	MEB, MF	Limestone crag
*	<i>Galium boreale</i>	Small	800388	79	2006	MEB	Limestone crag, low by river
*		Small	800389	12, 21	2006	MEB	Limestone crag
*	<i>Hypericum x desetangii</i>		800389	02	2010	MEB, MF	Above limestone crag
*	<i>Potamogeton x salicifolius</i>	Large	801389	13	2006	MEB	
*			806394		1997	MEB	
*		Large	807393	03	2010	MEB, MF	
*	<i>Stellaria neglecta</i>	Small	805392		1997	MEB	Scrawling patch

Selected axiophytes: *Campanula latifolia*, 800389, *Carex acuta*, 800389, *Knautia arvensis*, 801389, *Lamium amplexicaule*, 8039, *Potamogeton perfoliatus*, 806394, *Ranunculus fluitans*, 806394, *Rosa rubiginosa*, 800389, *Stellaria nemorum*, 800389, 803390

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Cardamine amara*, *Eupatorium cannabinum*, *Festuca gigantea*, *Iris pseudacorus*, *Mercurialis perennis*, *Origanum vulgare*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*, *Vulpia bromoides*

Former rare or scarce species: *Potamogeton pusillus*, 8039, 1971, NTHH

2. Fireburnmill, Tweed near, 8139, 8238, 8239, 8338, 8339, Habitat good in part ♥♥

Riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Cerastium arvense</i>		822390		1997	MEB	
*	<i>Galium boreale</i>		822390		1997	MEB	
	<i>Geranium pusillum</i>	Large	820392	80	2010	MEB, MF	Lane verge
*	<i>Hypericum x desetangii</i>		811394	60	2006	MEB	
*			821390	91	2010	MEB, MF	
*	[<i>Malva moschata</i>]		816392	02	2006	MEB	Presumed introduction
*			821393		1997	MEB	
*	<i>Potamogeton x salicifolius</i>		811393	69	2006	MEB	
*		Large	812393	38	2006	MEB	
*			813393	75	2006	MEB	
*		Large	813394		1997	MEB	Near mouth of burn
*			823389	12, 31	2006	MEB	
*	<i>Ranunculus x kelchoensis</i>	One	819390	37	2006	MEB	

Selected axiophytes: *Knautia arvensis*, 812394, 821390, 822393, *Potamogeton pectinatus*, 810394, 811393, 814393, 817391, 8239, *Potamogeton perfoliatus*, 810394, 817391, *Ranunculus fluitans*, 813393, 819390, 820390, *Stellaria nemorum*, 8239

Other axiophytes: *Brachypodium sylvaticum*, *Festuca gigantea*, *Ononis repens*, *Origanum vulgare*, *Ranunculus aquatilis*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Stellaria holostea*

Former rare or scarce species: *Apium inundatum*, 8239, 1960, DGL, *Hippuris vulgaris*, 8239, 1953, Mrs E K Swinton, *Plantago media*, 8239, 1960, AGL, *Potamogeton pusillus*, 8139, 8238, 8239, 1971, NTHH, [*Rosa pimpinellifolia*], 8239, 1983, MEB, not native, *Schoenoplectus lacustris*, 8239, 1965, Prof G A Swan

3. Dundock Wood, 8139, 8239, Habitat fragmentary

Policy woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Plantago media</i>		8239		1987	DW	Mrs D Walton, southwest corner of wood

Selected axiophytes: [*Populus tremula*], 820395, planted

Other axiophytes: *Ajuga reptans*, *Veronica montana*

Intrusive neophytes: *Rhododendron ponticum*

4. Coldstream, Leet Water at, 8339, Habitat fragmentary

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Convolvulus arvensis</i>]		8339		1997	MEB	Coldstream, Leet side
	<i>Hypericum x desetangsii</i>	Large	835398	77	2010	MEB, MF	
	[<i>Mycelis muralis</i>]		830399	56	2009	MEB	Woodland, presumed introduction, naturalised in native-type habitat
		One	839397	34	2010	MEB, MF	Woodland bank, presumed introduction, naturalised in native-type habitat
	<i>Rumex conglomeratus</i>	One	837397	86	2010	MEB, MF	Fen by Leet
	<i>Schoenoplectus lacustris</i>	Large	835398	54	2010	MEB, MF	West side of Leet

Selected axiophytes: *Agrimonia eupatoria*, 835398, *Carex riparia*, 8339, *Lamium amplexicaule*, 8339, *Rosa rubiginosa*, 8339, *Saxifraga granulata*, 8339, *Silene vulgaris*, 844388

Other axiophytes: *Bromopsis ramosa*, *Carex acutiformis*, *Festuca pratensis*, *Geum rivale*, *Iris pseudacorus*,

Intrusive neophytes: *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*

5. The Lees, 8339, 8439, Habitat fragmentary

Policies, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	[<i>Allium vineale</i>]		840390		1997	MEB, PFB	Presumed introduction
	[<i>Carex divulsa</i> subsp. <i>leersii</i>]		840390		1997	MEB, PFB	Presumed introduction as woodland ground flora
*	<i>Cerastium arvense</i>		840390	54	2010	MEB, MF	
*			841390	13	2010	MEB, MF	
	<i>Lathraea squamaria</i>	Large	842390	32	2010	MEB, MF	On <i>Taxus</i> , or <i>Populus alba</i> under <i>Taxus</i> , colony on bank between mill lade and pond
*	[<i>Malva moschata</i>]		840390	35	2010	MEB, MF	Presumed introduction
*	<i>Myosotis ramosissima</i>		840390		1997	MEB, PFB	
*	<i>Trifolium striatum</i>		840390		1997	MEB, PFB	
*	<i>Valerianella locusta</i>		840390		1997	MEB, PFB	

Selected axiophytes: *Lamium amplexicaule*, 840390, *Potamogeton perfoliatus*, 8439, *Primula veris*, 840390

Other axiophytes: *Adoxa moschatellina*, *Alisma plantago-aquatica*, *Allium ursinum*, *Brachypodium sylvaticum*, *Conopodium majus*, *Iris pseudacorus*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*, *Rhododendron ponticum*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: *Epipactis helleborine*, 8439, 1949, Mrs E K Swinton, Coldstream, near, could relate to anywhere on Hirsell estate, [*Filipendula vulgaris*], 8439, 1832, Dr R C Embleton, could be introduction, *Potamogeton pusillus*, 8338, 1971, NTHH, *Potamogeton x salicifolius*, 8338, 8339, 1971, NTHH, *Pulicaria dysenterica*, 8339, 1831, Dr R C Embleton

6. Lees Haugh, 8438, 8439, 8538, 8539, Habitat fragmentary

Riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Chelidonium majus</i>]	Modest	841394	33, 55	2007	MEB	Double-flowered introduction
	[<i>Malva moschata</i>]		846394	86	2007	MEB	White-flowered introduction
			853386	17	2006	MEB	Presumed introduction
*	<i>Persicaria lapathifolia</i>	Small	854390	95	2006	MEB	Several on shingle
*	<i>Potamogeton x salicifolius</i>		8539		2004	RVL, TJP	
*			848393	81	2006	MEB	
*	[<i>Sparganium emersum</i>]		8539		2004	RVL, TJP	Very unexpected and possibly casual or indeed an error [MEB]

Selected axiophytes: *Knautia arvensis*, 853391, *Potamogeton pectinatus*, 8539, *Potamogeton perfoliatus*, 8539, *Ranunculus fluitans*, 8539, *Solanum dulcamara*, 849392, *Zannichellia palustris*, 8539

Other axiophytes: *Ononis repens*, *Origanum vulgare*

Former rare or scarce species: *Potamogeton pusillus*, 8438, 8538, 8539, 1971, NTHH, *Potamogeton x salicifolius*, 8438, 8538, 1971, NTHH, *Veronica catenata*, 8439, 1831, Prof J H Balfour

7. Coldstream, west section, 8439, Habitat fragmentary

Ruderal, riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Aethusa cynapium</i>	Two	840395		2010	MEB	By small bridge
	[<i>Chelidonium majus</i>]	One	844398	38	2009	MEB	On bank, introduction
	<i>Echium vulgare</i>	One	844398	36	2010	MEB	Crumbling bank above river
	<i>Lactuca virosa</i>	Modest	844398	38	2006	MEB, PFB	
		Modest	844399	51	2009	MEB	
		Large	845399	27, 59	2010	MEB	
	[<i>Malva moschata</i>]		845399	38, 59	2010	MEB	Presumed introduction
	[<i>Malva neglecta</i>]		841395	74	2010	MEB	Presumed introduction, well naturalised
			842395	36, 87	2010	MEB	Near wall by Tweed, presumed introduction, well naturalised
	[<i>Mycelis muralis</i>]		840399	87	2010	MEB	Presumed introduction
			842395	29	2010	MEB	Presumed introduction
		Large	843397	Ten	2010	MEB	On wall, presumed introduction
			844399	73	2006	MEB, PFB	Presumed introduction
	<i>Valerianella locusta</i>		842395	15, 67	2006	MEB, PFB	On wall and at foot
	<i>Veronica polita</i>		839395	45	2010	MEB,	Pavement crack

					MF	
	<i>Veronica polita</i>	842396	34	2006	MEB, PFB	Paved area
		843396	81	2006	MEB, PFB	
		844397	09	2010	MEB	Near wall by Tweed
		844398	12	2010	MEB	Near wall by Tweed
		844399	73	2006	MEB, PFB	

Selected axiophytes: *Chenopodium bonus-henricus*, 8439, *Lamium amplexicaule*, 844398, *Solanum dulcamara*, 8439

Other axiophytes: *Phyllitis scolopendrium*

Intrusive neophytes: *Buddleja davidii*, *Centranthus ruber*, *Fallopia japonica*, *Heracleum mantegazzianum*

Former rare or scarce species: *Potamogeton x salicifolius*, 8439, 1971, NTHH, *Potentilla argentea*, 8439, 1959, Prof G A Swan, Leet Water, *Sambucus ebulus*, 8439, 1834, Miss E Bell, *Senecio erucifolius*, 8439, 1845, Rev T S Goldie, Tweedside

8. Sundry arable habitats NT83, Habitat fragmentary

Former rare or scarce species: *Chrysanthemum segetum*, 8239, 1831, Dr R C Embleton, Fireburnmill, near, *Fumaria densiflora*, 813397, 1979, N F Stewart, Lithtillum Burn, *Silene noctiflora*, 8239, 1960, AGL, Fireburnmill, near, *Viola tricolor subsp. tricolor*, 8339, 1962, Mrs E K Swinton, Coldstream, near

9. Sundry NT83, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]	One	820394	46	2010	MEB, MF	Dundock Wood, A697 near, roadside halophyte
			820396		1999	MEB	Dundock Wood, A697 near, roadside halophyte
			821393		1999	MEB	Fireburnmill, near, roadside halophyte
	[<i>Carex pendula</i>]	One	837395		1993	MJ	Jordan, The Hirsell, near gate, probably an escape
	[<i>Convolvulus arvensis</i>]	Large	820393	65	2006	MEB	Fireburnmill, colony at top of track by main road
	<i>Galium mollugo</i>	Small	832397	90	2010	MEB	The Hirsell, colony on bank in gap in hedge
	[<i>Rosa pimpinellifolia</i>]		834396	04	2010	MEB	The Hirsell, hedge by drive, large form, planted
	[<i>Viburnum opulus</i>]		832397	90	2010	MEB	The Hirsell, planted

Selected axiophytes: *Rosa rubiginosa*, 821393, 822393, A697 Fireburnmill, road verge, *Silene vulgaris*, 821393, 822393, A697 Fireburnmill, road verge, *Stellaria nemorum*, 845386, Scottish field opposite Lees Haugh, south of Tweed

NT84 Swinton (resurveyed 2009)

Hectad Description

Overview

81% of the hectad NT84 is in Berwickshire. It lies between 3m on the Tweed at Blount Bank and 95m at Hirsell Law. The geology is calciferous sandstones of the Carboniferous overlain with glacial drift. This is the heart of The Merse with much good agricultural land. It was not always so. When the botanists came to record the flora in the 1830's it was but a generation since drainage had destroyed much of the remaining wetland that lay in hollows between 'rigs' of drier ground in a corrugated landscape shaped by the ice sheets of the last ice age. Almost the full range of plant species formerly present was still there to be found in the 1830's, albeit often in fragmented habitats, but many species have gradually succumbed to further drainage and eutrophication so that it is now difficult to visualise the former habitats on the ground.

Part of The Merse is drained by the Leet Water, which cuts across the general lie of the land and meanders for several kilometres across haughs between grassy banks. There its flora has fared better, though the aquatic flora has largely been lost to eutrophication. On a larger scale the river Tweed also cuts across the lie of the land and there is some natural grassland both by the riverside itself and where there are steep banks. These banks were once wooded, and some are again today, but almost all natural woodland in the area was lost in centuries of Border conflict. However the aquatic flora of the Tweed has survived to a remarkable extent.

Nevertheless there are some great landed estates where a range of habitats survive. The Hirsell Estate, to which public access is provided on a particularly generous scale, has extensive woodlands that do relate back to earlier more natural habitat as well as grassland and wetland. Further habitat of interest occurs on the Ladykirk and Milne Graden estates, some of it accessible from the riverside walks.

Swinton is the principal village, while a small part of Coldstream extends into the hectad. Lennel and Ladykirk are smaller settlements.

Habitats

Formerly there were modest areas of **lowland heath** at Birgham Muir and Skaithmuir along a ridge of sandy ground. The heath was sandy and supported southern species not known elsewhere in Berwickshire such as *Genista tinctoria*. Some of this heath is now woodland and heathland species survive in small quantity on the rides: *Centaureum erythraea* in Lithtillum Wood and *Potentilla x mixta* there and in Dunglass Wood, though *Calluna* appears to have died out in the last 50 years.

The more extensive **woodlands** lie on the Hirsell estate and some are associated with **wetland habitats**. Lithtillum Loch is drained but there is a pond in the marsh that remains and here *Rumex maritimus* survives precariously on the muddy margins. The marsh is dominated by *Carex riparia* and willows while *Mentha arvensis* occurs on the woodland rides adjacent. Birgham Wood is described under hectad NT73 but there is a good colony of *Cirsium heterophyllum* in a wet glade within willow carr, near the new pond that has unfortunately destroyed a second colony. The wooded policies at The Hirsell contain many old trees, in some places with a shrubby understory and open glades. These have allowed *Primula veris* to prosper with a double-flowered variety of *Saxifraga granulata*, doubtless naturalised from an introduction. *Mycelis muralis* is widespread and may be an accidental introduction that has spread. The woods at a distance from the house are

managed in a way that preserves some more natural features. Notable relict species are *Pyrola minor* and *Gymnocarpion dryopteris*, but *Listera ovata* has not been seen since 1985. Both *Betula pendula* and *B. pubescens* are frequent and this is perhaps the one area in Berwickshire where *B. pendula* might have a true native population. Elsewhere it is naturalised from plantings and now much planted, almost to the exclusion of *B. pubescens*. There is short elm dean by the Graden Burn in the private policies of Milne Graden with abundant *Allium ursinum*. Here *Campanula latifolia* is presumably native but *Mycelis muralis* and *Milium effusum* are probably introductions.

The **Leet Water** is notable as a **wildlife corridor** across the heart of the agricultural land of The Merse with grassland, wetland and fragmentary woodlands. At The Hirsle *Senecio aquaticus*, with the hybrid *S. x ostenfeldii*, and *Rumex conglomeratus* occur in the cattle-plodged river margins while the haugh fields support *Festuca pratensis* and *X Festulolium loliaceum* with *Alchemilla* species. Throughout the corridor the banksides have much *Brachypodium sylvaticum* with frequent *Hypericum hirsutum* and a little *Agrimonia eupatoria*. In Rough Haugh and Wylie Cleugh there are very extensive stands of *Carex riparia* with a little *C. acuta* and *C. otrubae*. There are a few modest colonies of *Schoenoplectus lacustris* in the Leet itself or at its banks.

Elsewhere in the hectad **species-rich grassland** is almost confined to the banks of the Tweed. However at Ladykirk there is a steep grass field, sadly now under-grazed, with *Centaurium erythraea* and *Myosotis ramosissima*. The roadside verges are sometimes quite broad and some grassland species are preserved in them: *Agrimonia eupatoria* in several places, *Knautia arvensis* more rarely, *Silaum silaus* only at Butterlaw and *Galium boreale* remarkably near Hirsle Law crossroads. *Sedum telephium* also occurs near Hirsle Law but is probably naturalised from dumped material. *Galium mollugo* has several colonies at The Hirsle and again south of Swintonmill. *Cicerbita macrophylla* is now quite frequent by roadsides as is *Hyacinthoides x massartiana*. *Calystegia sepium* is so plentiful on hedges that it is now difficult to appreciate that this was a novelty when first recorded in Berwickshire at Ladykirk in 1829, seemingly introduced with hedging plants. The parkland at Ladykirk House has old ridge and furrow visible and there *Ranunculus bulbosus* is plentiful on the ridges.

There are few **ponds**. Much the largest is Hirsle Lake. This has a modest aquatic flora where *Ceratophyllum demersum* and *Potamogeton pusillus* have now been joined by *Lemna minuta*. At the margin there is much *Solanum dulcamara* and a little *Carex vesicaria*, while *Scutellaria galericulata* was recorded in 1997 in a reed bed, now the only colony known in Berwickshire if indeed it is still present. A pond at Morningbank which seems to be a remnant of a former oxbow of the Leet Water has a strong colony of *Schoenoplectus tabernaemontani*, the only Berwickshire station, while a pond at Little Swinton has a colony of *Veronica catenata* and also the hybrid *V. x lackschewitzii*. A pit in Newton Quarry may still have the charophytes *Chara globularis/virgata* agg. and *C. vulgaris*. Here the scrub adjacent has a colony of *Vicia tetrasperma* as a presumed introduction.

The **River Tweed** aquatic species are well represented in the hectad: *Potamogeton lucens*, *P. x salicifolius*, *P. pectinatus* and *P. perfoliatus* form the core of the pondweed community and are frequent while the status of *P. pusillus* and *P. x olivaceus* is uncertain. *P. x bottnicus* is currently known only at the foot of the pool below Blount Bank. With *Ranunculus pencillatus* a taxon traditionally recognised as *Ranunculus fluitans* is occasional, but it is probably a hybrid clone rather than the species in view of its low fertility. *Elodea nuttallii* is a recent arrival. The banksides are varied with some sandstone rock exposures, dry grassland and woodland fragments. *Lactuca virosa* is well represented at Coldstream and occurs again below Lennel, above Milne Graden and at Blount Bank. *Campanula latifolia* is occasional in woodland, as are *Carduus tenuifolius*, *Knautia arvensis* and *Origanum vulgare* on dry banks and *Carex acuta* is frequent at the river's edge. Near Ladykirk House the sandstone rocks harbour an amazing colony of *Asplenium marinum* at a

considerable distance from the sea, though ivy has been encroaching and has had to be cut back. Here too is *Ballota nigra*. *Galium boreale* survives on rocks by the river at Blount Bank with *Rubus caesius* nearby. Amongst the introductions *Acorus calamus*, *Allium vineale*, *Butomus umbellatus* and *Silybum marianum* are increasing modestly, *Lysimachia vulgaris* and *Scrophularia umbrosa* are long-naturalised while *Glyceria maxima* is increasing extravagantly. *Heracleum mantegazzianum* has been extensively controlled but is far from eradicated. *Crambe hispanica* escaped in quantity when a crop flooded in 2005 at Lees Haugh and flowered plentifully where silt was deposited but has barely persisted while *Poa palustris* appears to have persisted unnoticed for a century or more at muddy river margins, but in very small quantity. It is not known how long *Myosoton aquaticum* has been present at Milne Graden. A recent colonist above Tweedmill is *Cochlearia megalosperma* which has naturalised in quantity on a dripping rock face.

The **arable fields** have but a poor weed flora. *Aethusa cynapium* was noted near Butterlaw while *Anagallis arvensis*, *Lamium amplexicaule*, *L. confertum*, *L. hybridum* and *Persicaria lapathifolium* are infrequent. *Mentha arvensis* is not recorded as an arable weed, being known solely on woodland rides. *Matricaria recutita* is increasing while *Aleopecurus myosuroides* is an unwelcome recent arrival. Game crops have brought some unexpected species, such as *Chenopodium quinoa* and *Persicaria pensylvanica* which are deliberately grown for their abundant seeds.

The **ruderal habitats** at Swinton and Coldstream have modest interest. *Veronica polita* is occasional while *Buddleja davidii* and *Conyza canadensis* are but recent arrivals.

Index of Sites NT84 Swinton

GR - NT	Ref	Site	Habitats
8040, 8041	1	Lithtillum Loch	Marsh with pond
8040	2	Lithtillum Wood	Mixed woodland on former sandy moorland
8040	3	Birgham Wood (see NT73)	Mixed woodland on former sandy moorland with fen area and pond
8042, 8043, 8142	4	Rough Haugh, Wylie Cleugh	Haughs with <i>Carex riparia</i> swamp
8147, 8246	5	Swinton House	Policies and field near
8240, 8340	6	The Hirsell	Policies with woodland and Leet Water
8240	7	Hirsell Lake	Artificial lake and woodland
8141, 8241, 8242	8	Hirsell Woods	Mixed woodland, banks of Leet Water
8242, 8342	9	Hirsell Law, crossroads near	Roadside verge and ditch, pine plantation
8245	10	Little Swinton	Pond
8347	11	Swinton	Village, ruderal habitats and fields near
8347	12	Morningbank	Pond in former oxbow of Leet Water
8440	13	Coldstream, east section	Ruderal, bank with sandstone/limestone outcrops and riverside
8540, 8541	14	Lennel and Charley's Brae	Ruderal, wooded bank and riverside
8548	15	Newton Quarry	Sandstone quarry with pool in pits (formerly disused, now reopened)
8641, 8642, 8643	16	Tweedmill	Riverside
8644, 8743, 8744	17	Milne Graden	Policies including dean by Graden Burn and riverside
8844, 8845	18	Ladykirk House, near	Riverside and sandstone cliffs, Bannock Burn, roadside
8847, 8945, 8946, 8947	19	Ladykirk, Blount Bank	Ruderal, riverside, grassy bank and wooded bank
84	20	Sundry	Arable habitats
84	21	Sundry	Sundry habitats

Site Register NT84 Swinton

1. Lithtillum Loch, 8040, 8041, Habitat moderately good ♥

Marsh with pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex vesicaria</i>		8040		1993	MEB	
	<i>Persicaria lapathifolia</i>		803409		1993	MEB	
	<i>Rumex conglomeratus</i>		803410	42	2009	MEB	
	<i>Rumex maritimus</i>	Two	803409	45	2004	MEB	Not refound 2009

Selected axiophytes: *Callitriche hermaphroditica*, 802408, *Carex otrubae*, 8040, *Carex riparia*, 802409, 803409, 803410, 806410, *Salix pentandra*, 8040, 1979, *Solanum dulcamara*, 802409, 803409, *Zannichellia palustris*, 8040

Other axiophytes: *Alchemilla filicaulis subsp. vestita*, *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Carex disticha*, *Iris pseudacorus*, *Lychnis flos-cuculi*, *Veronica scutellata*

Former rare or scarce species: *Baldellia ranunculoides*, 8040, 1834, R D Thomson, *Carex vesicaria*, 8040, 1897, A Anderson, *Cladium mariscus*, 8040, 1853, C Douglas, *Hippuris vulgaris*, 8040, 1831, Dr R D Thomson, *Oenanthe aquatica*, 8040, 1834, Miss E Bell, Miss A, Hunter, *Pyrola minor*, 8041, 1831, Dr R D Thomson. Lithtillum Loch, north of, *Ranunculus lingua*, 8040, 1834, Dr R D Thomson, *Rumex conglomeratus*, 8040, 1951, Mrs E K Swinton, *Stellaria palustris*, 8040, 1952, Mrs E K Swinton

2. Lithtillum Wood, 8040, Habitat fragmentary

Mixed woodland on former sandy moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Centaurium erythraea</i>		804406		1993	MEB	
	<i>Mentha arvensis</i>		802407	15, 99	2009	MEB	Ride
		3 cells	803408		2009	MEB	Ride
	<i>Potentilla x mixta</i>	Small	804409	71	2009	MEB	Woodland ride

3. Birgham Wood (see NT73), 8040, Habitat good in part ♥♥

Mixed woodland on former sandy moorland with fen area and pond

4. Rough Haugh, Wylie Cleugh, 8042, 8043, 8142, Habitat good in part ♥♥

Haughs with *Carex riparia* swamp

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Rumex conglomeratus</i>		806441	58	2009	MEB	Side burn
	<i>Schoenoplectus lacustris</i>	Small	801431	12	2009	MEB	
		Small	801432	74	2009	MEB	
			803423	56, 65	2009	MEB	
		3 cells	803434		2009	MEB	

Selected axiophytes: *Agrimonia eupatoria*, 803424, 805427, 805445, *Carex acuta*, 800429, *Carex otrubae*, 806422, *Carex riparia*, 8042, 8043, 806443, 811422, *Salix pentandra*, 805444, *Solanum dulcamara*, 800423, 807421

Other axiophytes: *Achillea ptarmica*, *Alchemilla filicaulis subsp. vestita*, *Brachypodium sylvaticum*, *Briza media*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Geum rivale*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Scirpus sylvaticus*

Intrusive neophytes: *Allium paradoxum*

Former rare or scarce species: *Hippuris vulgaris*, 8043, 1831, Rev A Baird, *Schoenoplectus lacustris*, 805435, 1985, MEB, PFB

5. Swinton House, 8147, 8246, Habitat fragmentary

Policies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Milium effusum</i>	20x10m	811474	38	2009	MEB	With true woodland flora
		Large	813473		1993	MEB	

Selected axiophytes: *Campanula latifolia*, 820468, [*Populus tremula*], 811474, planted

Other axiophytes: *Alchemilla filicaulis subsp. vestita*, *Conopodium majus*, *Geum rivale*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Sanicula europaea*

Intrusive neophytes: *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: *Galium mollugo*, 8147, 1950, Mrs E K Swinton, north drive, *Hypericum humifusum*, 8147, 1939, WFS, [*Plantago media*], 8147, 1956, Mrs E K Swinton, Swinton House lawn, [*Scandix pecten-veneris*], 8147, 1954, Mrs E K Swinton, Swinton House strawberry bed

6. The Hirsell, 8240, 8340, Habitat moderately good ♥

Policies with woodland and Leet Water

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Galium mollugo</i>	Small	828400	33	2009	MEB	
		6 cells	828406		2009	MEB	Top of ha ha
		Modest	830409		2006	MEB, PFB	
			832402	11	2009	MEB	Woodland clearing
	<i>Montia fontana subsp. chondrosperma</i>		828407	08	2006	MEB, PFB	Rut by drive
	[<i>Mycelis muralis</i>]	Large	820400	26	2009	MEB	Woodland bank, naturalised introduction
			830400	21, 56	2009	MEB	Bridge abutment
		Large	831401	34	2009	MEB	Woodland bank
*			831407	09	2009	MEB	
		Large	832402	34	2009	MEB	
*	<i>Schoenoplectus lacustris</i>	3x1m	829409	16	2009	MEB	
	[<i>Viburnum opulus</i>]		827401	70	2009	MEB	Planted

Selected axiophytes: *Carex acuta*, 8340, 1963, *Carex otrubae*, 8240, 1964, *Carex riparia*, *828409, *832407, **Primula veris*, 830409, 832407, *Saxifraga granulata*, 828406, *832405, *832407 [double-flowered introduction in part]

Other axiophytes: *Alchemilla filicaulis subsp. vestita*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Senecio aquaticus*

Intrusive neophytes: *Allium paradoxum*, *Centranthus ruber*, *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Rosa rugosa*, *Symphoricarpos albus*

Former rare or scarce species: [*Arenaria serpyllifolia* subsp. *leptocladus*], 828409, 1993, MEB, on ha ha, status uncertain, *Galium mollugo*, 828406, 1993, MEB, *Hippuris vulgaris*, 8240, 1955, AGL, *Hordeum murinum*, 8240, 1956, Miss H M Brown, [*Hyoscyamus niger*], 8240, 1853, Dr G Johnston, introduction, *Lotus glaber*, 8340, 1867, Prof J H Balfour, *Rumex conglomeratus*, *832407, 1983, MEB, [*Sambucus ebulus*], 8240, 1834, Miss E Bell, Miss A Hunter, introduction

7. Hirsell Lake, 8240, Habitat good in part ♥♥

Artificial lake and woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex vesicaria</i>		823403	85	2009	MEB	
*	<i>Epilobium roseum</i>	Modest	822403	65	2009	MEB	Wet ground by path
*	<i>Galium palustre</i> subsp. <i>elongatum</i>		823403	94	2009	MEB	Edge of reed bed
*	[<i>Mycelis muralis</i>]		821401	98	2009	MEB	Side of ride, naturalised introduction
*			823400	09	2009	MEB	
*	<i>Potamogeton pusillus</i>		8240		1997	JJD	Day <i>et al</i> , SNH loch survey
*	<i>Scutellaria galericulata</i>		826404		1997	JJD	Day <i>et al</i> , SNH loch survey. North side, east of De'il's Elbow in dense vegetation

Selected axiophytes: *Carex riparia*, 8240, *Knautia arvensis*, 822402, *Primula veris*, 822402, *Solanum dulcamara*, 822403, 823402, 823403, 824401, 824403, 825404, 826403, *Zannichellia palustris*, 827404.

Other axiophytes: *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Veronica montana*

Intrusive neophytes: *Rhododendron ponticum*, *Rosa rugosa*

Former rare or scarce species: *Oenanthe aquatica*, 8240, 1834, Miss E Bell, Miss A Hunter, [*Sison amomum*], 8240, 1853, Miss E Bell, Miss A Hunter, status uncertain

8. Hirsell Woods, 8141, 8241, 8242, Habitat good in part ♥♥

Mixed woodland, banks of Leet Water

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Convolvulus arvensis</i>]		827421		1983	MEB	Introduction
	<i>Listera ovata</i>		828421		1985	MEB	
	<i>Mentha arvensis</i>	Large	825418		1993	MEB	Ride
			826421	62	2009	MEB	Edge of ditch on verge
	<i>Potentilla x mixta</i>	Small	823418	56	2009	MEB	Woodland ride
		Small	824418	39	2009	MEB	Woodland ride
	<i>Pyrola minor</i>	4x1m	823419	37	2009	MEB	Under <i>Fagus</i> and <i>Betula</i>
*	<i>Rumex conglomeratus</i>		821413		1993	MEB	
*	<i>Veronica catenata</i>		821412		1993	MEB	
*	<i>Veronica x lackschewitzii</i>		826412		1993	MEB	Purple flowers
*	[<i>Viburnum opulus</i>]		826411	43	2009	MEB	Planted
*			827411	10	2006	MEB, PFB	Planted
*			829410	05	2009	MEB	Planted

Selected axiophytes: *Carex otrubae*, 815413, *Carex riparia*, 810419, *826410, *Gymnocarpium dryopteris*, 824418, [*Prunus padus*], *825411, introduction, *Silene vulgaris*, 8241, *Solanum dulcamara*, *828410

Other axiophytes: *Alchemilla filicaulis* subsp. *vestita*, *Brachypodium sylvaticum*, *Carex flacca*, *Festuca gigantea*, *Festuca pratensis*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Ononis repens*, *Senecio aquaticus*, *Trifolium medium*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Rhododendron ponticum*, *Rosa rugosa*, *Symphoricarpos albus*

Former rare or scarce species: *Epipactis helleborine*, 8241, 1957, Miss H M Brown, *Gnaphalium sylvaticum*, 8241, 1949, WFS, [*Malva moschata*], 8241, 1956, Miss H M Brown, introduction, *Potamogeton x olivaceus*, 8141, 1831, Dr R D Thomson

9. Hirsell Law, crossroads near, 8242, 8342, Habitat fragmentary

Roadside verge and ditch, pine plantation

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Galium boreale</i>	Three patches	827421	68, 78	2009	MEB	Edge of ditch on verge

Selected axiophytes: [*Rosa rubiginosa*], 8342, status uncertain, [*Sedum telephium*], 828421, 828422, probable neophyte

Other axiophytes: *Trifolium medium*

Intrusive neophytes: *Hyacinthoides x massartiana*

Former rare or scarce species: *Galium mollugo*, 836428, 1982, MEB, *Goodyera repens*, 834426, 1993, MEB, *Silaum silaus*, 8242, 1947, WFS

10. Little Swinton, 8245, Habitat fragmentary

Pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Veronica catenata</i>	Large	825457	40	2002	MEB	Muddy edge of pond
	<i>Veronica x lackschewitzii</i>		826457		1993	MEB	

Selected axiophytes: *Ranunculus trichophyllus*, 826457

Former rare or scarce species: *Potentilla anglica*, 8245, 1829, Rev A Baird, Little Swinton bogs

11. Swinton, 8347, Habitat fragmentary

Village, ruderal habitats and fields near

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Convolvulus arvensis</i>]		832472	25	2009	MEB	Garden weed
	[<i>Malva moschata</i>]		833474	84, 92	2009	MEB	Introduction
			837475	96	2009	MEB	
	[<i>Veronica polita</i>]	Several	838475	07, 08	2009	MEB	Weed of path edges

Other axiophytes: [*Eupatorium cannabinum*], casual in yard, *Phyllitis scolopendrium*, *Ranunculus bulbosus*

Intrusive neophytes: *Buddleja davidii*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: [*Chelidonium majus*], 8347, 1952, Mrs E K Swinton, introduction, *Cynoglossum officinale*, 8347, 1951, Mrs E K Swinton

12. Morningbank, 8347, Habitat fragmentary

Pond in former oxbow of Leet Water

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Rumex conglomeratus</i>	Three	833477	76	2009	MEB	
	<i>Schoenoplectus tabernaemontani</i>	15 cells	833477		2009	MEB	Filling pond

Selected axiophytes: *Solanum dulcamara*, 833477Other axiophytes: *Alisma plantago-aquatica*, *Carex disticha*Former rare or scarce species: *Hippuris vulgaris*, 833477, 1993, MEB, *Listera ovata*, 8347, 1950, Mrs E K Swinton, *Trollius europaeus*, 8347, 1829, Rev A Baird**13. Coldstream, east section, 8440, Habitat fragmentary**

Ruderal, bank with sandstone/limestone outcrops and riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Chelidonium majus</i>]		8440		1993	MEB, PFB	Introduction
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		845400		1993	MEB, PFB	
	<i>Hypericum x</i> <i>desetangii</i>		846400	72	2006	MEB	
	<i>Lactuca virosa</i>	Large	845400	97	2003	MEB	
			846400	31	2006	MEB	Rock
	[<i>Mycelis muralis</i>]		844400	60	2006	MEB, PFB	Wall, neophyte
			846400	31	2006	MEB	Rock
*	<i>Potamogeton x</i> <i>salicifolius</i>		845400		1993	MEB	
*	<i>Rubus caesius</i>		846400	31	2006	MEB	Rock

Selected axiophytes: *Campanula latifolia*, 8440, *Carduus tenuiflorus*, 8440, **Elymus caninus*, 848402, **Potamogeton pectinatus*, 8440, **Potamogeton perfoliatus*, 8440, **Ranunculus fluitans*, 848401, *Silene vulgaris*, 8440Other axiophytes: *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Eupatorium cannabinum*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Scirpus sylvaticus*, *Valeriana officinalis*, *Veronica montana*Intrusive neophytes: *Buddleja davidii*, *Centranthus ruber*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*Former rare or scarce species: *Galium boreale*, 8440, 1834, Miss E Bell

14. Lennel and Charley's Brae, 8540, 8541, Habitat fragmentary

Ruderal, wooded bank and riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Chelidonium majus</i>]	One	852409	52	2004	MEB	Introduction
	<i>Lactuca virosa</i>	Three	857411	37	2004	MEB	Wall
*	<i>Potamogeton pusillus</i>		8540		1971	NTHH	Both banks, recent survey inadequate
*			8541		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x salicifolius</i>		8540		1971	NTHH	Both banks, recent survey inadequate
*			8541		1971	NTHH	Both banks, recent survey inadequate
	<i>Rubus caesius</i>		857411	40	2006	MEB	Grassy scree
		4 cells	858411		2006	MEB	
	[<i>Veronica polita</i>]		852410		1993	MEB	Garden weed
		Large	857412	82	2004	MEB	Path edges

Selected axiophytes: *Campanula latifolia*, 859411, *Elymus caninus*, 859411, **Potamogeton pectinatus*, 8540, 1971, 8541, 1971, **Ranunculus fluitans*, 8540, 1971, 8541, 1971 *Zannichellia palustris*, 8540, 8541

Other axiophytes: *Allium ursinum*, *Mercurialis perennis*, *Origanum vulgare*

Intrusive neophytes: *Fallopia japonica*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*

Former rare or scarce species: *Astragalus glycyphyllos*, 8541, 1853, J Melrose, Tweed braes a few yards east of the churchyard, *Blysmus compressus*, 8540, 1853, T Thomson, *Lathraea squamaria*, 8540, 1969, AGL, [*Mycelis muralis*], 8540, 1966, Mrs E O Pate, neophyte

15. Newton Quarry, 8548, Habitat fragmentary

Sandstone quarry with pool in pits (formerly disused, now reopened)

Charophytes: *Chara globularis/virgata* agg., 853485, 1982, MEB, recorded as *C. globularis*, pit in quarry, modest colony, *Chara vulgaris*, 853485, 1982, MEB, pit in quarry, modest colony

Selected axiophytes: *Potamogeton pectinatus*, 853485

Other axiophytes: *Aira caryophyllea*, *Dactylorhiza purpurella*, *Vulpia bromoides*

16. Tweedmill, 8641, 8642, 8643, Habitat moderately good in part ♥

Riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Hypericum x desetangsii</i>	Modest	868430	28	2009	MEB, GH	Hargreaves
	[<i>Mycelis muralis</i>]	Small	867429	57	2009	MEB	Abutment wall, neophyte
*	<i>Potamogeton lucens</i>		8642		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton pusillus</i>		8641		1971	NTHH	Both banks, recent survey inadequate
*			8642		1971	NTHH	Both banks, recent survey inadequate
*			8643		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x bottnicus</i>		8643		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x olivaceus</i>		8643		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x salicifolius</i>		8641		1971	NTHH	Both banks, recent survey inadequate
*			8642		1971	NTHH	Both banks, recent survey inadequate
*			8643		1971	NTHH	Both banks, recent survey inadequate

Selected axiophytes: *Agrimonia eupatoria*, 865427, **Potamogeton pectinatus*, 8641, 1971, 8642, 1971, 869433, **Potamogeton perfoliatus*, 8641, 1971, 8643, 1971, 869433, **Ranunculus fluitans*, 8641, 1971, 8642, 1971, 869433, *Stellaria nemorum*, 8642, 8643, *Zannichellia palustris*, 8642, 1971, 8643, 1971

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Conopodium majus*, *Eupatorium cannabinum*, *Mercurialis perennis*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

17. Milne Graden, 8644, 8743, 8744, Habitat moderately good ♥

Policies including dean by Graden Burn and riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Ballota nigra</i>]	One	874438	81	2007	MEB	Under wall, neophyte
	<i>Echium vulgare</i>	Two	874438	46	2005	MEB	Cliff top
	<i>Hypericum x desetangsii</i>		869448	81, 92	2004	MEB	
			870448	02, 10	2004	MEB	
		One	871439	37	2004	MEB	Possible backcross with <i>H. perforatum</i>
	<i>Lactuca virosa</i>		872438	61	2007	MEB	Path
		3 cells	873437		2007	MEB	Cliff and path
		Several	874438	46, 81	2007	MEB	
	[<i>Milium effusum</i>]		872441	67	2009	MEB	Wood by drive, introduction
	[<i>Mycelis muralis</i>]		874438	81	2007	MEB	Wall, neophyte
			878443	02	2004	MEB	
*	<i>Persicaria lapathifolia</i>	One	877441	67	2004	MEB	
*		One	879446	41	2004	MEB	
*	<i>Potamogeton lucens</i>		877440	29	2004	MEB	
*		Large	877441	30	2005	MEB	
*	<i>Potamogeton pusillus</i>		8743		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x salicifolius</i>		8743		1971	NTHH	Both banks, recent survey inadequate
*			877442	73	2005	MEB	
*	<i>Rumex conglomeratus</i>	One	877441	30	2005	MEB	

Selected axiophytes: *Campanula latifolia*, 873437, 871441, **Carex acuta*, 878444, *Chenopodium bonus-henricus*, 8744, [*Cystopteris fragilis*], 8744, presumed neophyte on wall, **Potamogeton pectinatus*, 8743, 1971, 8744, **Potamogeton perfoliatus*, 873437, 8744, 878442, **Ranunculus fluitans*, 878443, *Solanum dulcamara*, 8744, 1981, *Stellaria nemorum*, 873437, 878443, *Zannichellia palustris*, 8743, 1971, 8744, 1971

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Conopodium majus*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: [*Carex pendula*], 8744, 1967, Mrs E O Pate, probable introduction, *Euonymus europaeus*, 8744, 1967, Mrs E O Pate, probably planted but 1838 rocky and woody banks, Dr H G C Clarke, probably native, *Galium boreale*, 8743, 1838, Dr H G C Clarke, *Lathraea squamaria*, 8744, 1969, Mrs E O Pate, *Listera ovata*, 8744, 1853, J Hardy, *Potamogeton pusillus*, 8744, 1960, Dr J G Dony, BSBI party, *Pyrola minor*, 8744, 1848, J Hardy

18. Ladykirk House, near, 8844, 8845, Habitat moderately good ♥

Riverside and sandstone cliffs, Bannock Burn, roadside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Ballota nigra</i>]	Large	888456		2007	MEB, PSL	Lusby, cliffs, neophyte
		Large	889456		2007	MEB, PSL	Lusby, wall, neophyte
	[<i>Chelidonium majus</i>]		8845		2000	JM, ENHS	Muscott
	<i>Hypericum x desetangsii</i>		8845		2000	JM, ENHS	Muscott
	[<i>Mycelis muralis</i>]	One	884454	37	2004	MEB	Neophyte
	<i>Myosotis ramosissima</i>		884454	37	2004	MEB	Poor material, identity arguable
	[<i>Poa angustifolia</i>]		886455		1993	MEB	River wall, possible introduction
*	<i>Potamogeton pusillus</i>		8844		1971	NTHH	Both banks, recent survey inadequate
*			8845		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x bottnicus</i>		8845		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x salicifolius</i>		8844		1971	NTHH	Both banks, recent survey inadequate
*			8845		1971	NTHH	Both banks, recent survey inadequate
	<i>Rubus caesius</i>		887455	78	2006	MEB	

Selected axiophytes: *Asplenium marinum*, 887454, 887456, 888455, 888456, *Campanula latifolia*, 8845, *Carduus tenuiflorus*, 8846, *Carex acuta*, 880447, 887456, *Carex riparia*, 884455, Bannock Burn, *Knautia arvensis*, 885455, [*Populus tremula*], 8845, presumably planted, *Potamogeton pectinatus*, 8844, 1971, 8845, 1971, *Potamogeton perfoliatus*, 8844, 1971, 8845, 1971, *Ranunculus fluitans*, 8844, 1971, 8845, 1971, [*Salix pentandra*], 8845, probably planted, *Stellaria nemorum*, 8845, 8846, *Zannichellia palustris*, 8845, 1971

Other axiophytes: *Aira caryophyllea*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Festuca gigantea*, *Helictotrichon pratense*, *Hypericum hirsutum*, *Ononis repens*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: *Viola hirta*, 8845, 1838, Dr C Stuart, rocky and woody banks

19. Ladykirk, Blount Bank, 8847, 8945, 8946, 8947, Habitat fine in part ♥♥♥

Ruderal, riverside, grassy bank and wooded bank

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Allium vineale</i>		889470	36	2004	MEB	Double and triple headed
	<i>Carduus nutans</i>	One	891476		1997	DW	Walton
	<i>Centaureum erythraea</i>	One	890474	30	2005	MEB	Path by field
	[<i>Convolvulus arvensis</i>]		888476		2004	MEB	Neophyte
*	<i>Galium boreale</i>	Small	891474	26	2005	MEB	Cleft of sandstone rock by river
	<i>Lactuca virosa</i>	One	896477	24	2005	MEB	High on bank
	<i>Myosotis ramosissima</i>	Small	891475		1993	MEB	
*	<i>Persicaria lapathifolia</i>		896460		1993	MEB	River shingle casual
*	<i>Potamogeton lucens</i>		891474	48	2005	MEB	
*		Large	892475	04	2005	MEB	
*			894464		1993	MEB	
*	<i>Potamogeton pusillus</i>		8847		1971	NTHH	Both banks, recent survey inadequate
*			8945		1971	NTHH	Both banks, recent survey inadequate
*			8946		1971	NTHH	Both banks, recent survey inadequate
*			8947		1971	NTHH	Both banks, recent survey inadequate
*	<i>Potamogeton x bottnicus</i>		8946		1971	NTHH	Both banks, recent survey inadequate
*			899477	08	2005	MEB	In faster water than <i>P. pectinatus</i> and very robust
*			899477	27	2005	MEB	Lvs to 1.8 mm wide, at surface brownish green, stiiff, sheaths 4-5 cm
*	<i>Potamogeton x salicifolius</i>		8847		1971	NTHH	Both banks, recent survey inadequate
*			891474	26	2005	MEB	
*		Large	892475	04	2005	MEB	
*			894464		1993	MEB	
*			8945		1971	NTHH	Both banks, recent survey inadequate
	<i>Rubus caesius</i>	Large	891474	26	2005	MEB	In clefts in sandstone rock and below
		Large	891475		2009	MEB	Foot of rocks
*	<i>Rumex conglomeratus</i>	Three	894476	69	2005	MEB	
*			899477	58	2005	MEB	
*	<i>Veronica catenata</i>	One	899477	58	2005	MEB	
*	<i>Veronica x lackschewitzii</i>		896460		1993	MEB	

Selected axiophytes: *Campanula latifolia*, 8947, **Carex acuta*, 894476, 895477, 897477, 898477, *Elymus caninus*, 8947, *Knautia arvensis*, 8947, 891474, **Potamogeton pectinatus*, 8945, 1971, 894464, 892475, 898477, 898477, 899477, **Potamogeton perfoliatus*, 8847, 1971, 8945, 1971, 894464, 892475, 895477, 899477, **Ranunculus fluitans*, 8847, 1971, 8945, 1971, 8946, 1971, 8947, *Zannichellia palustris*, 8945, 1971, 8946, 1971, 8947, 1971

Other axiophytes: *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Helictotrichon pratense*, *Hypericum hirsutum*, *Leontodon hispidus*, *Linum catharticum*, *Ononis repens*, *Origanum vulgare*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Symphoricarpos albus*

Former rare or scarce species: *Clinopodium vulgare*, 8947, 1853, Dr G Johnston, *Geranium pusillum*, 8847, 1960, Dr J G Dony, BSBI party, *Lactuca virosa*, 8847, 1829, Dr W Baird, Old Ladykirk, lane west of,

[*Lepidium campestre*], 8947, 1893, A Anderson, status unknown, *Senecio erucifolius*, 8947, 1893, A Anderson, near Toll House, *Silaum silaus*, 8847, 1856, Miss M R Dickinson

20. Sundry arable habitats NT84, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Aethusa cynapium</i>	Four	842450	33	2009	MEB, PFB	Butterlaw, in field beans
		20	865478	60	2005	MEB	Ramrig, near, grass round barley
	<i>Persicaria lapathifolia</i>		819449		2009	MEB	Ruthven Bog Wood, game strip
		Modest	838478	64	2009	MEB	Swinton, banks of Leet
		Large	849433		2005	MEB	Todhill, east of, kale and grass strip

Selected axiophytes: *Anagallis arvensis*, 803403, Birgham Wood, 811404, Hagg Wood, near, 8342, Hirsell Law, near, 849433, Skaithmuir Toll, 849446, Simprim, dump to south of, 865478, Mountfair, road south of, *Lamium amplexicaule*, 808478, Longbank, 809487, Harscase, near, 849433, Todhill, east of, 852409, Lennel, 852410, Lennel, 8642, Tweedmill, 8744, Milne Graden, 892483, Ladykirk, near, *Lamium confertum*, 808478, Longbank, 809487, Harscase, near, 811404, Hagg Wood, near, 8145, Swintonmill, 825465, Swinton, near, 865478, Ramrig, near, *Lamium hybridum*, 802401, Birgham Wood, 811404, Hagg Wood, near, 878445, Milne Graden

Former rare or scarce species: *Aethusa cynapium*, 8447, 1939, WFS, Swinton, Coldstream Road, *Chrysanthemum segetum*, 8147, 1956, WFS, Swinton, north field, *Mentha arvensis*, 8347, 1950, Mrs E K Swinton. Trotter's field, Swinton, *Persicaria lapathifolia*, 8242, 1952, Mrs E K Swinton, Hirsell Law, near, *Ranunculus arvensis*, 8347, 1829, Dr G Johnston, Swinton, *Scandix pecten-veneris*, 8347, 1956, Miss H M Brown, Swinton, *Viola tricolor subsp. tricolor*, 8347, 1952, Mrs E K Swinton, Swinton, 808478, 1993, MEB, Longbank, 809487, 1993, MEB, Harscase, near

21. Sundry NT84, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Galium mollugo</i>	Modest	817457	01	2009	MEB	Coldstream road, south of Swintonmill
	<i>Silaum silaus</i>	Three	831449	52, 91	2009	MEB, PFB	Butterlaw, broad roadside verge
		One	832449	23	2009	MEB, PFB	Butterlaw, broad roadside verge

Selected axiophytes: *Agrimonia eupatoria*, 817456, Coldstream road, south of Swintonmill, 8244, Ruthven, near, 1982, 831449, Butterlaw, 832449, Butterlaw, 851434, Skaithmuir Toll, near, *Berula erecta*, 813402, Hagg Wood, 814400, Haigsfield, near, 1979, 813410, Lithtillum Burn, 1987, 893478, Ladykirk Burn, *Campanula latifolia*, 811460, Swintonmill, Leet Water, *Carex paniculata*, 813402, Hagg Wood, 1979, *Carex riparia*, 834428, Hirsell Law, near, 1982, 887479, Ladykirk Burn, *Knautia arvensis*, 813406, Cockburn Lodge, near, Milne Graden, [*Primula veris*], 8349, Laws North Plantation, introduced, [*Rosa rubiginosa*], 849433, Todhill, east of, 857456, Simprim Mains, 868469, Waterstead, west of, 869469, Waterstead, west of, 860499, Whitsomehill, north of, some or all probably introduced, *Saxifraga granulata*, 810449, Marfield, near, 8145, Swintonmill, Leet Water

Former rare or scarce species: *Baldellia ranunculoides*, 8148, 1893, A Anderson, Harscase Old Tile Works, bog at, *Carex vesicaria*, 823449, 1993, MEB, Ruthven, Bog Wood, *Daucus carota subsp. carota*, 8345, 1956, Miss H M Brown, Butterlaw, *Epipactis helleborine*, 8343, 1957, Miss H M Brown, Skaithmuir, *Galium boreale*, 8141, 1831, Dr R D Thomson, Hatchednize, roadside north of, 839432, 1982, MEB, Skaithmuir Fox Covert, 8644, 1848, J Hardy, Milne Graden Mains, *Galium mollugo*, 8648, 1853, Dr G Johnston, Mountfair, [*Malva moschata*], 8244, 1952, WFS, Ruthven, near, introduction, *Ophioglossum vulgatum*, 8644, 1853, J Hardy, Milne Graden Mains, wood near, *Plantago media*, 815414, 1969, G

Grahame, Charterpath Bridge, Castlelaw, *Pyrola minor*, 8446, 1848, J Hardy, Swinton Hill, wood near, *Senecio erucifolius*, 8145, 1952, Mrs E K Swinton, Swinton Mill, hedge near, 825467, 1969, G Grahame, Swinton Bridgend, *Silaum silaus*, 8140, 1956, Miss H M Brown, Haigsfield, 838431, 1993, MEB, Skaithmuir Fox Covert, 8445, 1947, Miss H M Brown, Simprim, *Veronica catenata*, 8141, 1960, Dr J G Dony, BSBI party, Hatchednize, pond at

NT85 Chirnside

(Systematic sample survey 1998, further samples to 2009)

Hectad Description

Overview

All of the hectad NT85 is in Berwickshire. It lies between 20m by the Whiteadder Water below Hutton Hall and 233m at Bunkle Edge.

Over half the hectad, the southern section, lies on the Carboniferous sandstones. This includes the course of the Blackadder and Whiteadder Waters, though there are deposits of alluvium on the haughs. From Chirnside northwards the slightly higher ground marks the upper Old Red Sandstone with a small section of the lower Old Red Sandstone to the north of the Billiemire Burn.

A great deal of the hectad is productive arable land with very little botanical interest. The banks of the Blackadder and Whiteadder Waters provide the principal habitats of interest. Below Allanton, where the two rivers join, there is the start of the deep secluded valley that continues downstream to the English Border. The haugh and woodland at Edington Mill is the best example of such habitats in the hectad, but its character has been much altered of late by a housing development on the site of the old mill. Bunkle Wood was a fine woodland and wetland site until the 1940's, but little remains. Edingtonhill Moor is similarly reduced with just a fragment of birchwood at Blackburn Fox Covert.

The mansion houses, or their ruins, sit at strategic points overlooking the Blackadder and Whiteadder except for Manderston whose extensive policies are set out on more open land.

The town of Chirnside is the main settlement, with villages at Edrom, Whitsome and Allanton.

The disused railway from Duns to Reston crosses the Whiteadder Water at Chirnsidebridge and then follows the Billie Burn which marks a pre-glacial course of the Whiteadder. There is a paper mill at Chirnside Bridge where the waste tip was at one time a productive hunting ground for alien plants. At Causewaybank a sand and gravel pit was worked until recently but has now been landscaped for wildlife around a large pond.

Habitats

The **riverside** banks of the Whiteadder and Blackadder Waters have a variety of habitats. At Marden on the Whiteadder there is *Agrimonia eupatoria* and *Knautia arvensis* in the grassland. Downstream at Blanerne there is an attractive haugh with *Berula erecta* and *Stellaria nemorum* while the woodland has a little *Hyacinthoides non-scripta* as well as *Allium ursinum*. At Chirnsidebridge there is a complex of habitat fragments including wetland up the Billie Burn. *Leontodon hispidus*, *Ononis repens* and *Vicia sylvatica* occur on the braes with *Alisma plantago-aquatica*, *Carex acutiformis* and *Isolepis setacea* in the wetland. Downstream the scaurs of the Blue Braes are topped in spring with a fine show of blossom from *Prunus avium*, while at

Ninewells there is a wooded bank with *Geranium sylvaticum*, *Saxifraga granulata* and a wide variety of associates.

Further south the Blackadder below Nisbet Bridge has an interesting aquatic flora with *Berula erecta*, *Potamogeton x olivaceus*, *Ranunculus circinatus x fluitans*, *Schoenoplectus lacustris* and *Sparganium emersum*. *Ranunculus circinatus* was recorded here in 1973 but appears to have gone. Similar communities occur around Mouth Bridge and Kelloe Bridge with the addition of *Ranunculus x kelchoensis*. Both the *Ranunculus* hybrids tend to have double flowers but those of *R. x kelchoensis* are considerably the larger. From Kelloe through to Allanton the river valley deepens and there is much more woodland with such species as *Adoxa moschatellina*, *Cardamine amara*, *Campanula latifolia*, *Chrysosplenium alternifolium*, *Festuca gigantea* and *Veronica montana*.

The two rivers join at Allanton Bridge which is another station for *Potamogeton x olivaceus* and *Ranunculus x kelchoensis*. The haugh below has a few seasonal pools and a small mire at the east end with *Carex paniculata* and *Dactylorhiza purpurella*. Steeple Heugh below Whitehall is a wooded riverside crag with a grassland and woodland flora including *Galium odoratum*, *Hypericum hirsutum* and *Saxifraga granulata*. There are further grassland and wetland fragments around Bluestoneford. Bite-about Wood is a scrubby side dean that has not been visited since 1984 when no separate species list was compiled. Downstream there are woodland and scaurs below Hutton Castle and above and below Edington Mill with *Hieracium* species. Below the mill is a haugh which was a rich grassland site until recently. However it is not now managed as such following a housing development at the old mill and its interest has declined. In particular *Galium mollugo*, which had its best Berwickshire colony here in 1984, is no longer evident. The old mill lade and pools and runs in the river associated with the cauld support an aquatic flora with *Potamogeton x olivaceus*, *Ranunculus x kelchoensis*, *Sparganium emersum*, *Veronica catenata*, *Zanichellia palustris* and the charophyte *Chara globularis/virgata* agg. *Scirpus sylvaticus*, frequent by the riversides along the Whiteadder, grows nearby. *Pinguicula vulgaris* has an unlikely station in a flush on the slopes. Grassland species include *Agrimonia eupatoria*, *Hypericum hirsutum*, *Knautia arvensis*, *Ononis repens*, *Origanum vulgare* and *Trifolium medium*. Woodland species include *Campanula latifolia*, *Polysticum aculeatum* and *Vicia sylvatica*. A long-established colony of *Artemisia absinthium* survives by the lane near the old mill.

The banks of the Whiteadder are much colonised by *Allium paradoxum*, *Doronicum pardalianches* and *Heracleum mantegazzianum*, though the latter is now controlled up to a point. *Impatiens glandulifera* is now invading also. More acceptable introductions are *Claytonia sibirica*, *Scrophularia umbrosa*, *Symphytum tuberosum* and, more locally, *Myrrhis odorata*. *Butomus umbellatus* has colonised by the Blackadder and by the Whiteadder below the junction of the two rivers at Allanton.

Away from the rivers there are but a **miscellany** of habitat fragments. The policies at Manderston are a possible former station for the introduced *Alchemilla tythantha* which was found in 1959 in unnamed mansion policies near Duns. The policies only retain remnants of the former woodland and grassland flora in such species as *Ranunculus bulbosus* though the pond has a large colony of the charophyte *Chara globularis/virgata* agg. and *Veronica polita* occurs in the vegetable garden. Bunkle Wood is now just a strip of wet birchwood with *Dryopteris carthusiana* and *Potentilla palustris* hinting of its former glories. A little to the north, above Bunkle Castle, a good population of *Ophioglossum vulgatum* flourishes on an unlikely bank. Middlestots pond has *Isolepis setacea* and *Veronica scutellata*. Craigswall Wood was much visited by the Berwickshire Naturalists in the nineteenth century in search of the *Polygonatum odoratum* claimed from there but a surviving herbarium specimen from 1878 demonstrates that the plant was in fact *P. multiflorum* and is considered to have been a naturalised introduction, as in several other places in Berwickshire. The wood is now a plantation with a few wet areas. The former interest of Old Pistol Plantation is also

believed to be lost. Lazybeds Plantation, once known as Maines Wood, is a little more varied, but with no notable species. The old tarmac at Whiffield Airfield has a most unexpected colony of *Echium vulgare* associated with *Galium mollugo* and *Sherardia arvensis*, but the habitat is a mere fragment. A remnant of Edingtonhill Moor at Blackburn Fox Covert has *Ceratocaphnos claviculata* and *Crepis paludosa*.

The Billie Burn flows through the long-drained former **wetland** of Billie Mire, once the haunt of bittern, though tantalising traces remain in small wet areas cut off from the burn by the disused railway where *Carex paniculata* and *C. riparia* are still found. Altogether more surprising is a small area of **base-rich grassland** in a railway cutting below Oldcastles. Here, with such modest associates as *Trisetum flavescens* and *Linum catharticum*, is a colony of the rare *Alchemilla glaucescens*. This was thought to be an introduction with railway ballast until the more extensive colony at Hilton Bay was discovered, where it grows in a very species-rich calcareous grassland community.

Nearby at Causewaybank an exhausted gravel pit has now been converted to wildlife habitats with a fair degree of success. *Littorella uniflora* has colonised the pond but it remains to be seen how long the grassland introductions survive. These include *Centaurea scabiosa*, *Echium vulgare*, *Malva moschata*, *M. neglecta*, *Plantago media*, a cultivar of *Primula veris* and *Scabiosa columbaria*. *Listera ovata* has colonised naturally.

The hectad is rich in **arable weeds**, though populations are mostly small and highly localised. *Centaurea cyanus* has been recorded repeatedly over two centuries but its reappearance in 1998, seemingly from the seed bank, at Edrom Mains was a surprise. Amazingly Luke Gaskell and I each discovered the small colony quite independently. Another field between Edrom and Todheugh is even more remarkable. Here *Aethusa cynapium* was seen in quantity in both 1986 and 2004. In 2004 it was accompanied by *Anagallis arvensis*, *Fumaria muralis* subsp. *wirtgenii*, *Lamium ampelicaule*, *L. hybridum*, *Ranunculus sardous* and *Viola tricolor*. *Persicaria lapathifolia* occurs rarely in damp field corners but is also found as a riverside plant. A large population of *Mentha arvensis* was seen in turnips near Blackadder Mount in 1986, the only relatively recent record for this species in Berwickshire in an arable habitat. *Papaver dubium* subsp. *lecoqii* was noted in the vegetable garden of what was then the Chirnside House Hotel in 1986 and much more recently at Edington Castle. There have been several other records of the rapidly-declining *Anagallis arvensis*, but a fresh survey is needed to see where the species is still to be found. At Oldcastles, arable weeds have recently been sown in quantity in conservation strips. *Centaurea cyanus* and *Chrysanthemum segetum* have been accompanied by grassland species such as *Daucus carota* and *Malva moschata* while the presence of *Sherardia arvensis* may relate to an accidental introduction or to a surviving seed bank. *Melilotus* species have been sown in game crops.

Index of Sites NT85 Chirnside

GR - NT	Ref	Site	Habitats
8050, 8051, 8151, 8152	1	Kimmerghame	Policies, riversides
8054, 8055, 8154, 8155	2	Manderston	Policies, pond
8056, 8156	3	Marden	Riversides
8058, 8158	4	Bunkle Wood	Birchwood
8251	5	Middlestots Pond	Pond
8252, 8253, 8352, 8353	6	Mouth Bridge, Kelloe Bridge	Riversides
8255, 8256, 8356	7	Edrom, Blanerne	Riversides, wetland, grassland, ruderal
8453, 8553, 8554, 8654	8	Kelloe, Blackadder Mount, Allanbank	Riversides, woodland
8455	9	Craigswalls Wood	Plantation, former wetland
8456, 8556	10	Chirnsidebridge	Riversides, ruderal
8555, 8655	11	Ninewells	Riversides, woodland
8557, 8558	12	Billie Burn	Disused railway, former wetland
8650	13	Whitsome	Ruderal
8652	14	Old Pistol Plantation	Plantation
8654	15	Allanton	Ruderal
8654, 8754, 8755, 8855	16	Allanton Bridge, Whitehall, Bluestoneford	Riversides, woodland
8656, 8756	17	Chirnside	Ruderal
8855	18	Bite-about Wood	Dean woodland
8759, 8859	19	Causewaybank Sandpit	Pond, grassland
8857, 8956, 8957	20	Lazybeds Plantation	Plantation
8950	21	Whinfield Airfield, west section	Grassland
8954, 8955	22	Edington Mill	Ruderal, riversides
8957, 8958	23	Blackburn Fox Covert	Birchwood
85	24	Sundry	Arable habitats
85	25	Sundry	Sundry habitats

Site Register NT85 Chirnside

1. Kimmerghame, 8050, 8051, 8151, 8152, Habitat fragmentary

Policies, riversides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Potamogeton x olivaceus</i>		803508		1998	LWG	
*	<i>Ranunculus circinatus x fluitans</i>		800501	15	2005	MEB	Petals 5 or 7, 7 - 8 mm
*	<i>Schoenoplectus lacustris</i>		8051		1995	RL	Lumb
*	<i>Sparganium emersum</i>		8051		1995	RL	Lumb

Selected axiophytes: *Berula erecta*, 8151, 800505, *Chrysosplenium alternifolium*, 8151, [*Populus tremula*], 8151, *Potamogeton perfoliatus*, 800505

Other axiophytes: *Anemone nemorosa*, *Brachypodium sylvaticum*, *Isolepis setacea*, *Leontodon hispidus*, *Mercurialis perennis*, *Rhinanthus minor*, *Sanicula europaea*

Intrusive neophytes: *Rhododendron ponticum*

Former rare or scarce species: *Potamogeton pusillus*, 8152, 1973, NTHH, *Potamogeton x olivaceus*, 8152, 1973, NTHH, *Ranunculus circinatus*, 8050, 1973, NTHH, *Schoenoplectus lacustris*, 8050, 1960, AGL, DGL, Blackadder below Nisbet Bridge

2. Manderston, 8054, 8055, 8154, 8155, Habitat fragmentary

Policies, pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Convolvulus arvensis</i>]		816542		1998	LWG	
	<i>Polystichum setiferum</i>		810547		1979	AW	Willmot, wall in garden
	<i>Veronica polita</i>	Small	809556		2005	MEB, BNC	In bed in front of greenhouses

Charophytes: *Chara globularis/virgata* agg., 808550, 1997, J J Day, recorded as *C. globularis*, pond north of house

Selected axiophytes: *Geranium sylvaticum*, 8154, [*Salix pentandra*], 808555

Other axiophytes: *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Carex flacca*, *Conopodium majus*, *Helictotrichon pubescens*, *Hyacinthoides non-scripta*, *Leontodon hispidus*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*

Intrusive neophytes: *Hyacinthoides x massartiana*, *Rhododendron ponticum*

Former rare or scarce species: [*Euonymus europaeus*], 8154, 1962, DGL, *Potamogeton pusillus*, 808551, 1956, G Grahame, *Pyrola minor*, 8154, 1853, Dr G Johnston, woods at Manderston

3. Marden, 8056, 8156, Habitat fragmentary

Riversides

Selected axiophytes: *Agrimonia eupatoria*, 8056, *Campanula latifolia*, 8056, *Elymus caninus*, 8056, 813568, *Knautia arvensis*, 8056, [*Salix pentandra*], 8056

Other axiophytes: *Alisma plantago-aquatica*, *Festuca gigantea*, *Ononis repens*, *Vulpia bromoides*

Intrusive neophytes: *Impatiens glandulifera*

Former rare or scarce species: *Clinopodium vulgare*, 8056, 1931, A A Falconer, *Filago minima*, 8056, 1893, A Anderson, Broomhouse, old barricades, *Filipendula vulgaris*, 8056, 1893, A Anderson, riverside above the ford, [*Malva moschata*], 8056, 1893, A Anderson, in a park, *Veronica catenata*, 8156, 1967, DGL

4. Bunkle Wood, 8058, 8158, Habitat moderately good in part ♥

Birchwood

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Carex disticha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dryopteris carthusiana*, *Galium uliginosum*, *Potentilla palustris*, *Quercus petraea*, *Veronica montana*

Former rare or scarce species: *Eleocharis multicaulis*, 8158, 1853, R Dunlop, *Goodyera repens*, 8059, 1865, J Hardy, near east end, originally found to the west on hummocky ground under pines, *Linnaea borealis*, 8158, 1945, Miss H M Brown, *Listera cordata*, 8158, 1893, A Anderson, *Lythrum portula*, 8158, 1893, A Anderson, ditch, *Phegopteris connectilis*, 8158, 1865, J Hardy, *Pyrola minor*, 8158, 1893, A Anderson, *Silaum silaus*, 8059, 1893, J Anderson, *Trollius europaeus*, 8158, 1829, Rev A Baird

5. Middlestots Pond, 8251, Habitat fragmentary

Pond

Other axiophytes: *Isolepis setacea*, *Veronica scutellata*

6. Mouth Bridge, Kelloe Bridge, 8252, 8253, 8352, 8353, Habitat fragmentary

Riversides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Ranunculus circinatus x fluitans</i>		835533	63	2005	MEB	Petals 5 or 7, 7 - 8 mm
*			836533	02	2005	MEB	
*	<i>Ranunculus x kelchoensis</i>		824529	95	2004	MEB	
*			825525	67	2004	MEB	
*			826525	08	2004	MEB	
*			835533	63	2005	MEB	Double-flowered, petals 11 mm
*			836533	02	2005	MEB	Some plants with intermediate leaves, fruits falling without filling
*	<i>Schoenoplectus lacustris</i>		8253		1998	LWG	
*	<i>Sparganium emersum</i>		8353		2007	MEB, BSBI	
*			825529		1998	LWG	

Selected axiophytes: *Anthyllis vulneraria*, 8253, *Berula erecta*, 826525, *Knautia arvensis*, 824528, *Saxifraga granulata*, 8253

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Cardamine amara*, *Carex flacca*, *Geum rivale*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Veronica montana*

Intrusive neophytes: *Crocsmia x crocosmiiflora*

Former rare or scarce species: *Potamogeton pusillus*, 8252, 1973, NTHH, 8352, 1973, NTHH, 8353, 1973, NTHH, Whitelaw, *Potamogeton x cooperi*, 825529, 1973, NTHH, mouth of Langton Burn, *Potamogeton x olivaceus*, 8252, 1973, NTHH, mouth of Langton Burn, 8253, 1973, NTHH, 8352, 1973, NTHH, 8353, 1973, NTHH, *Schoenoplectus lacustris*, 8353, 1973, NTHH

7. Edrom, Blanerne, 8255, 8256, 8356, Habitat moderately good ♥

Riversides, wetland, grassland, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Potamogeton pusillus</i>		8356		1979	RCLH	Howitt

Selected axiophytes: *Berula erecta*, 8356, *Elymus caninus*, 8356, [*Populus tremula*], 826559, *Stellaria nemorum*, 8356

Other axiophytes: *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Callitriche hamulata*, *Cardamine amara*, *Carex acutiformis*, *Festuca gigantea*, *Geum rivale*, *Hyacinthoides non-scripta*, *Mercurialis perennis*, *Stellaria holostea*

Intrusive neophytes: *Doronicum pardalianches*, *Heracleum mantegazzianum*

Former rare or scarce species: *Astragalus glycyphyllos*, 8356, 1861, G Henderson, north bank a little to the west of the old tower, *Blysmus compressus*, 8356, 1834, R Dunlop, bog west of Blanerne House, *Carduus nutans*, 8255, 1834, R Dunlop, fields, [*Chelidonium majus*], 8255, 1902, A Kelly, W Shaw, on rubbish, *Galium boreale*, 8255, 1852, Dr G Johnston, ditch near Edrom, *Galium mollugo*, 8356, 1962, AGL, left bank south of Blanerne House, 8356, 1965, AGL, right bank below Blanerne Bridge, [*Malva moschata*], 8356, 1834, R Dunlop

8. Kelloe, Blackadder Mount, Allanbank, 8453, 8553, 8554, 8654, Habitat moderately good ♥

Riversides, woodland

Selected axiophytes: *Campanula latifolia*, 8554, *Chrysosplenium alternifolium*, 8554

Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Brachypodium sylvaticum*, *Cardamine amara*, *Festuca gigantea*, *Geum rivale*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Scirpus sylvaticus*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*

Former rare or scarce species: [*Geranium lucidum*], 8554, 1873, A Kelly, Blackadder woods, [*Hyoscyamus niger*], 8554, 1853, G Henderson, introduction, *Listera ovata*, 8554, 1853, Dr G Johnston, Blackadder plantations, [*Milium effusum*], 8554, 1874, A Kelly, possible introduction, Blackadder woods, *Pyrola minor*, 8554, 1831, Rev T Brown, Blackadder plantations

9. Craigswalls Wood, 8455, Habitat fragmentary

Plantation, former wetland

Former rare or scarce species: *Ranunculus lingua*, 8455, 1834, G Henderson

10. Chirnsidebridge, 8456, 8556, Habitat fragmentary

Riversides, ruderal

Selected axiophytes: *Chenopodium bonus-henricus*, 856562, *Knautia arvensis*, 841563, [*Prunus padus*], 8456, [*Rosa rubiginosa*], 8556, possibly introduced, *Stellaria nemorum*, 8456, *Vicia sylvatica*, 852565

Other axiophytes: *Alisma plantago-aquatica*, *Carex acutiformis*, *Carex flacca*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Hypericum hirsutum*, *Iris pseudacorus*, *Isolepis setacea*, *Leontodon hispidus*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Impatiens glandulifera*

Former rare or scarce species: *Coronopus squamatus*, 8556, 1871, J Anderson, *Daucus carota subsp. carota*, 8556, 1968, Mrs E O Pate, *Echium vulgare*, 8556, 1893, A Anderson, Paper Mill, *Hypericum humifusum*, 8556, 1968, Mrs C I Robson

11. Ninewells, 8555, 8655, Habitat moderately good ♥

Riversides, woodland

Selected axiophytes: *Chrysosplenium alternifolium*, 856556, *Geranium sylvaticum*, 855556, *Saxifraga granulata*, 855556, *Stellaria nemorum*, 8555

Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Cardamine amara*, *Conopodium majus*, *Festuca gigantea*, *Geum rivale*, *Hypericum hirsutum*, *Leontodon hispidus*, *Mercurialis perennis*, *Ononis repens*, *Polystichum aculeatum*, *Scirpus sylvaticus*, *Stellaria holostea*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Heracleum mantegazzianum*

Former rare or scarce species: *Cirsium heterophyllum*, 8655, 1873, A Kelly, high banks opposite Ninewells, *Echium vulgare*, 8655, 1834, G Henderson, Ninewells to Hutton Hall Mill

12. Billie Burn, 8557, 8558, Habitat fragmentary

Disused railway, former wetland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Alchemilla glaucescens</i>		854585		1999	MEB	
			856586		1998	MEB, LWG	
		Large	857587		1982	MEB	Disused railway cutting, one substantial colony and some smaller ones, with <i>Trisetum flavescens</i> and <i>Linum catharticum</i>

Selected axiophytes: *Carex paniculata*, 856578, *Carex riparia*, 856578, *Knautia arvensis*, 8558, *Silene vulgaris*, 8558

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Geum rivale*, *Iris pseudacorus*, *Isolepis setacea*, *Linum catharticum*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species: *Cerastium arvense*, 8558, 1893, W Shaw

13. Whitsome, 8650, Habitat fragmentary

Ruderal

Selected axiophytes: [*Rosa rubiginosa*], 860500, possibly introduced

Intrusive neophytes: *Rosa rugosa*

14. Old Pistol Plantation, 8652, Habitat fragmentary

Plantation

Former rare or scarce species: *Carex remota*, 8652, 1873, A Kelly, *Epipactis helleborine*, 8652, 1866, A Falconer, *Ophioglossum vulgatum*, 8652, 1873, D Ferguson, near Broomdykes tile works

15. Allanton, 8654, Habitat fragmentary

Ruderal

[No relevant data held]

16. Allanton Bridge, Whitehall, Bluestoneford, 8654, 8754, 8755, 8855, Habitat moderately good ♥

Riversides, woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Epilobium roseum</i>		863545	92	2005	MEB	One at edge of ditch
*	<i>Persicaria lapathifolia</i>		864545	89	2001	MEB	
*	<i>Potamogeton x olivaceus</i>		8654		1979	RCLH	Howitt
*	<i>Ranunculus x kelchoensis</i>		862547		1991	CDP, JMC	Preston, Croft
*			863545	92	2005	MEB	One plant with some +/- laminar leaves, others with normal leaves only
*			864545		1991	CDP, JMC	Preston, Croft, near confluence with Whiteadder Water
*			864546		1991	CDP, JMC	Preston, Croft
*	<i>Rorippa nasturtium-aquaticum</i>		864545		1991	CDP, JMC	Preston, Croft, near confluence with Whiteadder Water
*	<i>Sparganium emersum</i>		8654		1998	LWG, KAV	Velander

Selected axiophytes: *Agrimonia eupatoria*, 8755, *Campanula latifolia*, 862543, *Carex paniculata*, 8754, *Chrysosplenium alternifolium*, 862543, 878550, [*Populus tremula*], 862543, *Saxifraga granulata*, 8654, 8754, *Solanum dulcamara*, 875554, *Stellaria nemorum*, 8755

Other axiophytes: *Ajuga reptans*, *Alchemilla filicaulis* subsp. *vestita*, *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Cardamine amara*, *Carex acutiformis*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Hypericum hirsutum*, *Iris pseudacorus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Scirpus sylvaticus*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*

Former rare or scarce species: *Anacamptis pyramidalis*, 8755, 1886, Dr C Stuart, *Astragalus glycyphyllos*, 8754, 1886, Dr C Stuart, *Centaurium erythraea*, 8855, 1836, G Henderson, banks of Bite-about Burn, [*Chelidonium majus*], 8755, 1886, Dr C Stuart, *Echium vulgare*, 8654, 1873, Dr C Stuart, Whiteadder below Allanton, 8754, 1853, Dr G Johnston, *Epipactis helleborine*, 8654, 1893, A A Falconer, [*Malva moschata*], 8755, 1963, DGL, *Plantago media*, 8755, 1873, Dr C Stuart, *Potamogeton pusillus*, 8754, 1973, NTHH, *Potamogeton x cooperi*, 8654, 1946, Sir George Taylor, *Potamogeton x olivaceus*, 8754, 1973, NTHH, 8855, 1973, NTHH, *Ranunculus auricomus*, 8754, 1853, G Henderson, *Ranunculus x kelchoensis*, 8654, 1841, J T

I Boswell Syme, *Schoenoplectus lacustris*, 8754, 1973, NTHH, *Sium latifolium*, 8754, 1873, A Kelly, ditch opposite Whitehall, right hand side going down, on the haugh [plausible, but could be error for *Berula*, MEB], *Stachys officinalis*, 8755, 1834, G Henderson, *Trifolium fragiferum*, 8855, 1834, Dr G Johnston, north side of Whiteadder from here to near Edington Mill, *Utricularia vulgaris sens. lat.*, 8654, 1902, A Kelly, W Shaw, Blackadder on left side under Allanton Bridge, *Viola hirta*, 8754, 1886, Dr C Stuart, on a wooded eminence 100ft high called Steepleheugh, 8755, 1838, Rev T Knight

17. Chirnside, 8656, 8756, Habitat fragmentary

Ruderal

Intrusive neophytes: *Centranthus ruber*

Former rare or scarce species: [*Hyoscyamus niger*], 8656, 1951, D Macfarlane, introduction

18. Bite-about Wood, 8855, Habitat moderately good ♥

Dean woodland

19. Causewaybank Sandpit, 8759, 8859, Habitat moderately good ♥

Pond, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Echium vulgare</i>]		880592		1990	MEB	Sown
	<i>Listera ovata</i>	One	880592	82	2009	DGL	
	<i>Littorella uniflora</i>	Large	880592	84	2009	DGL	
	[<i>Malva moschata</i>]		880592		1998	MEB	Sown
	[<i>Malva neglecta</i>]		8759		1998	MEB	Sown
	[<i>Plantago media</i>]		880592		1998	MEB	Sown
		One	880593	42	2009	DGL	Sown
	<i>Rorippa nasturtium-aquaticum</i>		8859		1998	LWG	
	[<i>Scabiosa columbaria</i>]		880592		1998	MEB	Sown
	[<i>Vicia sativa subsp. segetalis</i>]		880592		1990	MEB, PFB	Possibly sown, atypical

Selected axiophytes: [*Anthyllis vulneraria*], 880592, *Berula erecta*, 8859, *Callitriche hermaphroditica*, 8859, *Carduus tenuiflorus*, 880592, 885592, *Lamium amplexicaule*, 880592, [*Primula veris*], 880593, *Zannichellia palustris*, 880592, 881593

Other axiophytes: *Aira caryophyllea*, *Dactylorhiza purpurella*, *Iris pseudacorus*, [*Origanum vulgare*], *Ranunculus aquatilis*

Intrusive neophytes: *Hippophae rhamnoides*, *Rosa rugosa*

20. Lazybeds Plantation, 8857, 8956, 8957, Habitat moderately good in part ♥

Plantation

Former rare or scarce species: *Epipactis helleborine*, 8956, 1873, Dr C Stuart, *Pyrola minor*, 8956, 1872, Dr C Stuart

21. Whinfield Airfield, west section, 8950, Habitat fragmentary

Grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Echium vulgare</i>	Large	899507		1999	MEB	On runway
	<i>Galium mollugo</i>		8950		1998	LWG	

	<i>Sherardia arvensis</i>	Large	892508		1998	LWG	
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Other axiophytes: *Vulpia bromoides*

22. Edington Mill, 8954, 8955, Habitat moderately good in part ♥

Ruderal, riversides

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Artemisia absinthium</i>]	Small	894549		1999	MEB	Laneside
	<i>Centaurea cyanus</i>		896551		1998	LWG	Oat husk debris
	<i>Epilobium roseum</i>		896548		1998	LWG	
	<i>Galium mollugo</i>		892548		1984	MEB	
*	<i>Persicaria lapathifolia</i>		896551		1998	LWG	
*	<i>Potamogeton x olivaceus</i>		894548		1999	MEB	Mill lade
*	<i>Ranunculus x kelchoensis</i>		8954		1998	LWG	
*			890549	70	2006	MEB	In mill stream, not in flower but with intermediate leaves
*			890549	46	2006	MEB	Intermediate leaves and others with very flattened segments, flowers very double c 15 petals, petals 1.0 cm, no fruits set
*	<i>Sparganium emersum</i>		8954		1998	LWG	
*	<i>Veronica catenata</i>		893547		1984	MEB	Riverside rocks.

Charophytes: *Chara globularis/virgata* agg., 894548, 1998, LWG, recorded as *C. globularis*, mill lade, det. MEB

Selected axiophytes: *Agrimonia eupatoria*, 8954, *Callitriche hermaphroditica*, 894548, *Campanula latifolia*, 8954, *Chrysosplenium alternifolium*, 899544, *Knautia arvensis*, 8954, *Pinguicula vulgaris*, 894546, *Stellaria nemorum*, 8954, *Vicia sylvatica*, 8954, *Zannichellia palustris*, 894548

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Carex flacca*, *Conopodium majus*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Ranunculus aquatilis*, *Rhinanthus minor*, *Scirpus sylvaticus*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Centranthus ruber*

Former rare or scarce species: *Echium vulgare*, 8954, 1853, Dr G Johnston, *Trifolium fragiferum*, 8954, 1836, A A Carr

23. Blackburn Fox Covert, 8957, 8958, Habitat fragmentary

Birchwood

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex muricata</i> subsp. <i>lamprocarpa</i>	Small	896578		1998	MEB	

Selected axiophytes: *Ceratocarpus claviculata*, 896578

Other axiophytes: *Ajuga reptans*, *Crepis paludosa*

24. Sundry arable habitats NT85, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Aethusa cynapium</i>	Large	834558		1986	MEB	Edrom, turnips near
		Large	834559		2004	MEB	Edrom, turnips near
	<i>Centaurea cyanus</i>	Large	8659		2004	JTM	Mercer, Oldcastles
			816556		1998	LWG	Edrom Mains, set-aside
			817556		1998	MEB	Edrom Mains, set-aside
	<i>Chrysanthemum segetum</i>	Large	8659		2004	JTM	Mercer, Oldcastles
	<i>Fumaria bastardii</i>	Four	887539	18	2001	MEB	Broomdykes, set-aside near
	<i>Fumaria densiflora</i>	Large	885545		1983	MEB	Hutton Castle roadend, potatoes
		Small	887540	21	2006	MEB	Broomdykes, game strip near
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		834558		1986	MEB	Edrom, turnips near
		Small	834559		2004	MEB	Edrom, turnips near
			866531		1986	MEB	Blackadder Mount, turnips
		Small	887540	10	2006	MEB	Broomdykes, game strip near
	<i>Mentha arvensis</i>	Large	866531		1986	MEB	Blackadder Mount, turnips
	<i>Papaver dubium subsp. lecoqii</i>		884567		1986	MEB	Chirnside House Hotel, vegetable garden
			897562		1999	MEB	Edington Castle
	<i>Persicaria lapathifolia</i>		867526		1998	LWG	Blackadder Bank
			897578		1998	MEB	Edingtonhill
	<i>Ranunculus sardous</i>	Modest	834559		2004	MEB	Edrom, turnips near
	<i>Sherardia arvensis</i>	Modest	861598		2005	MM	Magee, Oldcastles, wild bird cover
	<i>Veronica polita</i>		884567		1986	MEB	Chirnside House Hotel
	<i>Viola tricolor subsp. tricolor</i>	Modest	834559		2004	MEB	Edrom, turnips near

Selected axiophytes: *Anagallis arvensis*, 8056, Broomhouse, 834558, Edrom, 866531, Blackadder Mount, 886528, Crossrig, near, 887538, Broomdykes, near, 887539, Broomdykes, near, *Lamium amplexicaule*, 8557, Chirnsidebridge, along railway north of, 8654, Allanton, 816556, Edrom Mains, 817556, Edrom Mains, 834558, Edrom, 884567, Chirnside House Hotel, 885545, Hutton Castle road end, *Lamium confertum*, 866531, Blackadder Mount, 885545, Hutton Castle road end, *Lamium hybridum*, 834558, Edrom, 866531, Blackadder Mount, 884567, Chirnside House Hotel

Former rare or scarce species: *Centaurea cyanus*, 8056, 1931, A A Falconer, Broomhouse Mains, 8255, 1956, WFS Berwickshire County Botanical Record, Edrom, 8256, 1971, AGL, West Blanterne farmyard, 8258, 1893, A Anderson, Lintlaw, cornfield near, *Chrysanthemum segetum*, 8455, 1853, G Henderson, Craigswalls, *Geranium pusillum*, 825528, 1949, G Grahame, Mouth Bridge, *Mentha arvensis*, 8255, 1963, DGL, Edrom, 8653, 1873, Dr C Stuart, Bluestoneford, a common weed in arable land about here, 8755, 1949, WFS Berwickshire County Botanical Record, Chirnside, *Sherardia arvensis*, 8155, 1967, DGL, Edrom Mains, *Silene noctiflora*, 8155, 1971, AGL, Edrom Mains, stubble, 8256, 1971, AGL, West Blanterne, one plant in farmyard, *Stachys arvensis*, 8656, 1936, J Brown, Chirnside

25. Sundry NT85, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]		896562		1999	MEB	A6105, Edington Castle
			897562		1999	MEB	A6105, Edington Castle
			898563		1999	LWG	A6105, Edington
	<i>Carex vesicaria</i>		873554		1999	MEB	Whitehall, west pond
			875554		1984	MEB	Whitehall, east pond
	[<i>Daucus carota</i> subsp. <i>carota</i>]	Modest	8659		2004	JTM	Mercer, Oldcastles, sown, grassland strip
	[<i>Malva moschata</i>]		8659		2004	JTM	Mercer, Oldcastles
	<i>Ophioglossum vulgatum</i>	Large	801593		1998	LWG	Bunkle Castle, several good patches on raised area within field

Selected axiophytes: [*Rosa rubiginosa*], 857591, Billie Mains, possibly introduced

Former rare or scarce species: *Baldellia ranunculoides*, 8258, 1834, R Dunlop, Lintlaw, bog below, *Carex diandra*, 8555, 1873, A Kelly, Cane Pond Stuartslaw, plentiful, *Carex muricata* subsp. *lamprocarpa*, 8653, 1956, Miss H M Brown, Allanton, The Avenue, [*Chelidonium majus*], 8155, 1963, DGL, Manderston Mains, *Daucus carota* subsp. *carota*, 8355, 1956, Miss H M Brown, Edrom, railway at, *Galium boreale*, 8357, 1893, A Anderson, lane between Eastside and Hammerhall, 8458, 1853, G Henderson, Jock's-hole, Loaning between Lintlaw and Billymains, 8653, 1853, G Henderson, roadside near Loanhead to the west of Allanbank, 8854, 1853, G Henderson, plantation by the roadside between Hutton Castle and Broomdykes, 8854, 1869, Dr C Stuart, Broomdykes, *Galium mollugo*, 8155, 1967, DGL, Edrom Mains, *Goodyera repens*, 8258, 1865, J Hardy, Lintlaw Burn, behind the cottage, *Lythrum portula*, 8759, 1853, Dr R Hood, ditch between Muirmonting and Stoneshiel, [*Mentha pulegium*], 8659, 1853, G Henderson, at the foot of the hedge bank after passing Billie Mire on the way to Auchencrow, *Symphytum officinale* subsp. *officinale*, 8453, 1831, Rev T Brown, Kelloe, banks of Blackadder sparingly [accepted hesitantly, MEB], *Trollius europaeus*, 8459, 1836, A A Carr, Billiemains, plantation above, 8854, 1869, Dr C Stuart, Hutton Castle to Broomdykes, only two specimens left

NT86 Grantshouse

(Systematic sample survey 1996, further samples to 2010)

Hectad Description

Overview

99% of the hectad NT86 is land, all of which falls in Berwickshire. It lies between sea level and 268m at Drakemire Strips on the slopes of Bunkle Edge.

Most of the hectad lies on Silurian rocks but a tongue of Lower Old Red Sandstone underlies the villages of Auchencrow, Reston and Coldingham. The Silurian is not all acid rock: there are streaks of calcareous sandstone and some small intrusive features.

This is one of the most species-rich hectads in Berwickshire with a short stretch of coast, woodland, grassland, arable, wetland and moorland. While much of the natural habitat has become fragmented, there is a fine section of grassland, wetland and moorland at Coldingham Common, Dowlaw Moss and Lumsdaine Dean which is distinct from comparable habitats further inland in Berwickshire on account of the oceanic influence. Coldingham Loch is the only natural loch of any size in the county.

There is now conifer forestry at Penmanshiel Moor and Lumsdaine Moor with some smaller blocks elsewhere. A wind farm is being erected at Moor House.

There are villages at Auchencrow, Grantshouse, Reston and Coldingham. The A1 trunk road and the railway pass through the hectad following the Eye Water upstream to the low ridge at 118m near Grantshouse which separates its watershed from that of the Pease Burn.

Habitats

The low altitude **moorland** on the Silurian is in many ways the key feature of the hectad. There was formerly moorland along the ridge known as Bunkle Edge, but this has been lost together with a wetland complex at Drakemire, leaving just a few moorland species in the shelter belts. Penmanshiel Moor with its bogs has gone too, as has part of the moorland and moorland-edge at Lumsdaine. *Lycopodium clavatum* has colonised by the new forestry tracks at Penmanshiel Moor and a range of moorland species still find a restricted home there. The convoluted ownership history of Coldingham Common has contributed to its survival. The main block of heather is now ungrazed under a SNH management agreement and the lack of grazing is allowing coarse grasses to invade the rich flush system. The adjacent land at Dowlaw Moss and Lumsdaine Dean is grazed by sheep and cattle and, despite changes over the years, some fine habitats prosper with an acid fen, base-rich flushes, rocky knowes and an area of species-rich wet meadow, the last the only surviving example of its kind in Berwickshire that is relatively undamaged.

Dowlaw Moss has been partly drained in the past and there is no longer any permanent open water, but *Carex curta*, *Drosera rotundifolia* and *Potentilla palustris* flourish with much *Hydrocotyle vulgaris* at the margins. The moorland-edge adjacent has a small colony of *Potentilla anglica*. Dowlaw Burn follows a post-glacial meltwater channel cut northeast across the line of the natural south-easterly fall of the land. The head of the burn is marked by a fine series of flushes. Here grow colonies of *Dactylorhiza incarnata*, both *subsp. incarnata* and *subsp. pulchella*, with *Eleocharis quinqueflora*, *Narthecium ossifragum*, *Parnassia palustris*, *Pedicularis palustris* and *Sagina nodosa*. The knowes by the burn mark the beginning of Lumsdaine Dean and have *Erica cinerea*, *Helianthemum nummularium* and *Koeleria macrantha*. A few spikes of *Gymnadenia conopsea* still appear in the grassland with a little *Salix repens*. Downstream the dean deepens sharply with waterfalls and the rocky banks provide habitat for a number of annual species: *Filago minima*, *F. vulgaris* and *Spergularia rubra* with *Cynoglossum officinale*. *Prunus padus*, *Rosa pimpinellifolia*, *R. rubiginosa* and *Solidago virgaurea* are found by the burnside. To the south, just above the dean, the series of flushes continues with *Cirsium heterophyllum*, *Eriophorum latifolium*, *Euphrasia scottica* and *Selaginella selaginoides* in addition to most of the species in the flushes higher up the burn. Intergrading with the flushes, the species-rich wet meadow has *Alchemilla filicaulis subsp. vestita*, *Briza media*, *Dactylorhiza fuchsii*, *Festuca pratensis*, *Geranium sylvaticum*, *Geum rivale*, *Helictotrichon pubescens*, *Trifolium medium* and *Valeriana dioica*.

In the centre of Coldingham Common lies Long Moss, a valley mire much cut over for peat by the feuars. Some of the horrendous peat-holes have *Vaccinium oxycoccus*. Around a small bog pool there is a considerable area with birch and willow carr and some open areas where wetland communities have re-stabilised following the cessation of peat cutting. *Corallorhiza trifida* and *Pyrola minor* are found in the woodland while *Trientalis europaea* flourishes in the wetland. However *Platanthera bifolia* has not been refound in recent years. The drainage to the north leads into the flushed area that extends down to the Dowlaw Burn. Sadly there is now a high risk of invasion by *Picea sitchensis* and *Rhododendron* from the recent forestry plantings adjacent.

South of Moor House the remains of moorland are now the site for a wind farm and Drone Moss lies alongside. This raised bog has been cut over and very little active *Sphagnum* remains with its *Vaccinium oxycoccus*. It is overlooked by a caravan park whence *Rhododendron* is invading. The

birch and willow carr at the fringe conceals some base-rich springs where a good colony of *Trollius europaeus* survives with *Pinguicula vulgaris* in a more open community. *Trientalis europaea* has been found nearby in the fairly recent past and is probably still present.

A scrap of wet birchwood at Silverwells was also a site for *Corallorhiza* until recently, but part has been developed as a woodland garden and the orchid's survival is uncertain. Silverwells was formerly the home of a botanist, Miss E Logan Home, and an alpine garden nursery that she ran with her sister. She and her friends made many botanical records there in the 1940's, mostly relating to grassland and moorland-edge that has since been lost, though the localities of the records are not well defined.

Woodland is mainly represented by plantations on the site of former oakwoods along the Eye Water and by small deans. The oakwoods were once managed by the monks of Coldingham Priory. Around Grantshouse a small part of the Penmanshiel woods falls in the hectad including Redclues Cleugh whose oaks have *Ceratocaphnos claviculata* and *Melica uniflora* as associates, with a lone bush of juniper by the head of the burn. The Howpark Burn above Grantshouse, with its tributaries Winding Burn and Harelaw Burn, has a little natural woodland, albeit mainly as scrappy wood pasture. *Juniperus communis*, *Rosa pimpinellifolia* and *Salix myrsinifolia* are accompanied by *Gymnocarpion dryopteris*, *Helianthemum nummularium* and *Sanicula europaea*. Following the Eye Water downstream from Grantshouse, *Prunus padus* is in evidence and Brockholes Wood still has *Adoxa moschatellina* and *Hyacinthoides non-scripta* with a few old oak stumps under the plantation. Atton Dean has *Galium odoratum*, *Melica uniflora* and *Polystichum aculeatum*. Brockholes Dean also has the *Melica*. Little is left of Green Wood, though *Stachys officinalis* survives precariously in a clearing. Houndwood no longer has a wood of that name, though there is a modest dean at Houndwood House. There are further scraps of woodland at Howburn, Coveyheugh and Lemington Dean.

A further series of deans are found along burns flowing southeast to the Ale Water, Fleurs and Coldingham. Above Press Castle good colonies of *Equisetum sylvaticum* and *Listera ovata* are present in plantations near the South Grange Burn, *Carex remota* has been found in Silverwells Dean, *Campanula latifolia* lower down the Abbey Burn and *Polystichum setiferum* by the Buskin Burn.

To the west of Auchencrow there is a plantation at Greenburn, south of Bunkle Edge, with a moorland-edge and dean woodland flora including *Achillea ptarmica*, *Erica tetralix*, *Geranium sylvaticum*, *Prunus padus* and *Trifolium medium*.

Some of the **wetlands** have been mentioned under moorland. At Old Cambus Townhead there is a pond where the water level fluctuates leaving a muddy margin, habitat for *Apium inundatum* and *Lythrum portula*. The former moorland setting of this pond has been lost. At Harly Darlies there is small moss, rather separate from the Dowlaw Moss complex, with *Carex curta* and *Hippuris vulgaris*. Towards Dowlaw lies Lowries Knowes pond, which is a reservoir with a dam. The water level fluctuates widely and in suitable years *Lythrum portula* and *Ranunculus peltatus* may thrive. However *Littorella uniflora* appears to have gone, probably in response to eutrophication. Another reservoir at West Loch has an unexpected population of *Stellaria neglecta* near the margin. Coldingham Loch is an altogether more significant water body with *Nuphar lutea*, *Potamogeton filiformis* and *Potamogeton x nitens*. It also has interesting charophytes, *Chara virgata* and *Tolypella glomerata*. A *Nitella* species has been recorded in the past and could well persist.

Inland grasslands away from the Lumsdaine Dean complex include a tiny knowe at Greenlaw Knowe (or Knowle) with the annuals *Cerastium semidecandrum*, *Stellaria pallida* and *Vulpia bromoides* with *Arabis hirsuta*. Fields at Westerside have a series of rocky knowes in otherwise

reseeded fields with small populations of a slightly different set of annuals: *Cerastium semidecandrum*, *Geranium pusillum*, *Montia fontana* subsp. *chondrosperma*, *Sagina apetala* subsp. *apetala* and *Vulpia bromoides*.

The **coast** is but a short strip and is mainly spectacular cliffs. Only half of Lumsdaine Shore falls in the hectad, the part below Rough Heugh. Here there is *Carlina vulgaris*, *Polygala vulgaris* and *Vicia sylvatica*. *Sedum rosea* is also found here but is more plentiful at Westerside Dean to the southeast. The dean and cliff top at Westerside Dean may still have a little *Antennaria dioica*, *Astragalus danicus*, *Erodium cicutarium* and *Gymnadenia conopsea*. Much more secure are *Koeleria macrantha*, *Orchis mascula*, *Primula veris* and *Saxifraga granulata*.

Arable weed habitats are fairly restricted. At Sunnyside near Auchencrow one plant each of *Centaurea cyanus* and *Chrysanthemum segetum* appeared in set-aside in 2005 with *Fumaria bastardii*, *F. densiflora* and *F. purpurea*, an amazing assemblage for Berwickshire. *Anagallis arvensis* and *Fumaria bastardii* were seen in a field near Silverwells Dean in 2002. *Lamium amplexicaule*, *L. confertum* and *L. hybridum* are fairly widespread. A spectacular show of arable weeds, especially poppies, may be seen at Reston Sand Quarry.

The **quarry** at Grantshouse is now disused. There *Filago vulgaris* and *Myosotis ramosissima* grow on the old quarry floor and on spoil heaps. *Lycopodium clavatum* is on the rock ledges with *Ribes sanguineum* well-naturalised nearby.

The main roads have the usual halophytes and *Rumex longifolius*. The railway cuttings have not been botanised.

Index of Sites NT86 Grantshouse

GR - NT	Ref	Site	Habitats
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8065, 8165	2	Grantshouse	Woodland, burnsidcs, old quarry, ruderal
8068	3	Redclues Cleugh	Cleugh woodland
8068, 8069	4	Old Cambus Townhead	Pond and wetland
8165	5	Brockholes Wood	Former oakwood
8166, 8266	6	Winding Burn, Howpark Burn	Wood pasture
8167, 8168, 8267, 8268, 8367	7	Penmanshiel Moor, Langstruther Bog, Broad Bog	Forestry, former moorland and mires
8264	8	Atton Dean	Dean woodland
8268	9	Penmanshiel Moss, Old Cambus Wood	Forestry, former bog and moorland
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8363	11	Brockholes Dean	Dean woodland
8364, 8463, 8464	12	Green Wood, Houndwood	Former oakwood
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8466, 8467	14	Drone Moss	Raised bog, carr woodland
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8560	16	Auchencrow	Ruderal
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8668, 8768, 8769	27	Lumsdaine	Grassland, wetland, ponds
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8864	29	Greenlaw Knowe (Knowle)	Grassland on knowe
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8964	35	Ale Water Bridge	Woodland, burnsidcs
8965	36	Abbey Burn	Dean woodland
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8967	38	West Loch	Reservoir
8968	39	Coldingham Loch	Loch, wetland

8969	40	Earnsheugh	Cliff tops
86	41	Sundry	Arable habitats
86	42	Sundry	Sundry habitats

Site Register NT86 Grantshouse

1. Bunkle Edge, Drakemire, Fawcett Wood, 8060, 8061, 8062, 8063, 8160, Habitat lost

Former moorland, flushes, mire, pine plantation

Former rare or scarce species: *Cerastium arvense*, 8160, 1893, J Anderson, Marygold, near, *Huperzia selago*, 8060, 1896, J Hardy, Bunkle Edge, *Linnaea borealis*, 8063, 1933, Miss M I Hope, Fawcett Wood, *Sagina subulata*, 8060, 1893, J Anderson, Drakemire, *Scutellaria galericulata*, 803632, 1982, MEB, Ditch

2. Grantshouse, 8065, 8165, Habitat moderately good in part ♥

Woodland, burn-sides, old quarry, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]	Small	816655		2001	MEB	Roadside A1
	<i>Carex pendula</i>	Small	810650		1996	MEB	Large clump growing in spring in former woodland.
	<i>Filago vulgaris</i>		811652		1996	MEB	Grantshouse Quarry
	<i>Lycopodium clavatum</i>		812653		1996	MEB	Grantshouse Quarry
	<i>Myosotis ramosissima</i>		811652		1996	MEB	Grantshouse Quarry

Selected axiophytes: *Prunus padus*, 811652, *Stellaria pallida*, 809655

Other axiophytes: *Adoxa moschatellina*, *Aira caryophylla*, *Ajuga reptans*, *Anemone nemorosa*, *Conopodium majus*, *Luzula pilosa*, *Mercurialis perennis*, *Quercus petraea*, *Rhinanthus minor*, *Stellaria holostea*, *Valeriana officinalis*, *Vulpia bromoides*

Intrusive neophytes: *Doronicum pardalianches*, *Sedum album*

Former rare or scarce species: *Apium inundatum*, 8065, 1851, Dr G Johnston, pond near Eye Water, *Dianthus deltoides*, 8165, 1853, Dr G Johnston, Grantshouse, *Gnaphalium sylvaticum*, 8065, 1893, A Anderson, heath near road, *Hordeum murinum*, 809653, 1954, G Grahame, *Listera cordata*, 8165, 1836, A A Carr, *Melampyrum pratense*, 8065, 1936, J Brown, *Pyrola media*, 8165, 1834, Dr W Baird, wood opposite Bank House, *Ranunculus auricomus*, 8065, 1936, J Brown, *Rosa pimpinellifolia*, 8065, 1868, Anon, *Sherardia arvensis*, 8065, 1936, J Brown, *Stachys officinalis*, 8065, 1936, J Brown, *Viburnum opulus*, 8165, 1839, J Hardy, *Vicia orobus*, 8065, 1931, J H Craw, a few hundred yards west of Grantshouse

3. Redclues Cleugh, 8068, Habitat moderately good ♥

Cleugh woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Melica uniflora</i>		8068		1999	MEB	

Selected axiophytes: *Ceratocarpus claviculata*, 8068, *Juniperus communis subsp. communis*, 806685, Greenside Hill, near head of burn, one small old bush, *Prunus padus*, 8068

Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Luzula pilosa*, *Quercus petraea*, *Stellaria holostea*

Former rare or scarce species: *Neottia nidus-avis*, 8068, 1928, J H Craw, *Pyrola media*, 8068, 1839, J Hardy

4. Old Cambus Townhead, 8068, 8069, Habitat moderately good ♥

Pond and wetland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Apium inundatum</i>		802690		1996	MEB	
	<i>Lythrum portula</i>		802689		1996	MEB	
			802690		1996	MEB	

Selected axiophytes: *Callitriche hermaphroditica*, 802689, 802690Other axiophytes: *Achillea ptarmica*, *Carex flacca*, *Veronica scutellata*Former rare or scarce species: *Littorella uniflora*, 8069, 1870, J Hardy, mill pond, *Sparganium emersum*, 8069, 1870, J Hardy, mill pond**5. Brockholes Wood, 8165, Habitat fragmentary**

Former oakwood

Selected axiophytes: *Chrysosplenium alternifolium*, 815654, *Prunus padus*, 8165Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Anemone nemorosa*, *Hyacinthoides non-scripta*, *Luzula pilosa*, *Mercurialis perennis*, *Quercus petraea*Former rare or scarce species: *Goodyera repens*, 8165, 1865, J Hardy, near the march between Brockholes and Drakemire, *Malva moschata*, 8165, 1853, Dr G Johnston, white flowers, by burn at foot, *Pyrola media*, 8165, 1836, A A Carr, *Pyrola minor*, 8165, 1836, A A Carr**6. Winding Burn, Howpark Burn, 8166, 8266, Habitat moderately good ♥**

Wood pasture

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Rosa pimpinellifolia</i>		815665		1996	MEB	
	<i>Salix myrsinifolia</i>		815665		1996	MEB	

Selected axiophytes: *Geranium sylvaticum*, 823666, *Gymnocarpium dryopteris*, 823665, *Helianthemum nummularium*, 8166, 8266, *Juniperus communis subsp. communis*, 815665, one old bush, *Pinguicula vulgaris*, 8166, *Prunus padus*, 8166, 8266, *Saxifraga granulata*, 8266Other axiophytes: *Achillea ptarmica*, *Adoxa moschatellina*, *Aira caryophyllea*, *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Briza media*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Erica tetralix*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Linum catharticum*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Potentilla palustris*, *Quercus petraea*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Sanicula europaea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*, *Vulpia bromoides*Former rare or scarce species: *Listera ovata*, 8266, 1856, J Hardy, *Pyrola media*, 8266, 1835, Dr G Johnston, *Trollius europaeus*, 8266, 1839, J Hardy, Howpark Burn, *Viburnum opulus*, 8166, 1839, J Hardy, Winding Dean, *Vicia orobus*, 8266, 1835, Dr G Johnston, Howpark Dean

7. Penmanshiel Moor, Langstruther Bog, Broad Bog, 8167, 8168, 8267, 8268, 8367, Habitat fragmentary

Forestry, former moorland and mires

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lycopodium clavatum</i>	One	823679	63	2008	MEB	Stony track side and ditch bank
		Four	824678	67, 96	2008	MEB	Stony track side and ditch bank
		Seven	825678	08, 36	2008	MEB	Stony track side and ditch bank
		Two	826677	18, 26	2008	MEB	Stony track side and ditch bank
		Two	828677	15	2008	MEB	Stony track side and ditch bank

Selected axiophytes: *Hydrocotyle vulgaris*, 820670

Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Carex disticha*, *Carex flacca*, *Dactylorhiza maculata*, *Erica tetralix*, *Luzula pilosa*, *Potentilla palustris*

Former rare or scarce species: *Antennaria dioica*, 8268, 1881, J Hardy, *Apium inundatum*, 8268, 1839, J Hardy, *Botrychium lunaria*, 8167, 1853, J Hardy, *Carex diandra*, 8168, 1853, J Hardy, *Dactylorhiza incarnata*, 8167, 1855, J Hardy, *Eleocharis quinqueflora*, 8167, 1839, J Hardy, Langstruther Bog, 8168, 1839, J Hardy, Broad Bog, *Euphrasia micrantha*, 832678, 1960, Miss L W Frost, side of road, *Huperzia selago*, 8168, 1854, J Hardy, The Blakelaws, near, *Listera ovata*, 8168, 1856, J Hardy, The Blakelaws, bog between, *Lythrum portula*, 8167, 1839, J Hardy, Langstruther Bog, pool and ditch, *Sagina subulata*, 8167, 1839, J Hardy, Penmanshiel Moor, old roadsides, *Sedum villosum*, 8167, 1839, J Hardy, Langstruther Bog, *Selaginella selaginoides*, 8268, 1853, J Hardy, *Trientalis europaea*, 8168, 1882, Dr C Stuart, between Penmanshiel and Old Cambus Burn, *Trollius europaeus*, 8167, 1839, J Hardy, Penmanshiel Moss, moor near, *Utricularia intermedia sens. lat.*, 8167, 1839, J Hardy, Langstruther Bog, *Utricularia minor*, 8167, 1839, J Hardy, Langstruther Bog

8. Atton Dean, 8264, Habitat moderately good in part ♥

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Melica uniflora</i>		828646		1996	MEB	On rocky outcrops.

Selected axiophytes: *Chrysosplenium alternifolium*, 827645, *Prunus padus*, 827645

Other axiophytes: *Adoxa moschatellina*, *Conopodium majus*, *Galium odoratum*, *Mercurialis perennis*, *Polystichum aculeatum*, *Quercus petraea*, *Stellaria holostea*

9. Penmanshiel Moss, Old Cambus Wood, 8268, Habitat lost

Forestry, former bog and moorland

Former rare or scarce species: *Drosera anglica*, 8368, 1828, A A Carr, a few specimens growing with *D. rotundifolia*, between Renton Bell and the old post road, *Drosera rotundifolia*, 8368, 1955, G Grahame, *Eleogiton fluitans*, 8268, 1839, J Hardy, deep pools in burn, *Hippuris vulgaris*, 8268, 1839, J Hardy, *Utricularia intermedia sens. lat.*, 8268, 1839, J Hardy, *Utricularia minor*, 8268, 1839, J Hardy

10. Greenburn Plantation, 8361, Habitat moderately good in part ♥

Dean woodland

Selected axiophytes: *Chrysosplenium alternifolium*, 832637, *Geranium sylvaticum*, 832637, 836639, *Prunus padus*, 832637

Other axiophytes: *Achillea ptarmica*, *Carex flacca*, *Carex viridula subsp. brachyrrhyncha*, *Erica tetralix*, *Polystichum aculeatum*, *Stellaria holostea*, *Trifolium medium*

Former rare or scarce species: *Pyrola minor*, 8361, 1853, Dr G Johnston, plantations

11. Brockholes Dean, 8363, Habitat fragmentary

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Melica uniflora</i>		832637		1997	IC	Curtis

12. Green Wood, Houndwood, 8364, 8463, 8464, Habitat fragmentary

Former oakwood

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Stachys officinalis</i>	Three	835642		2002	AMcB	McBride, in area recently cleared of trees

Former rare or scarce species: *Cirsium heterophyllum*, 8463, 1853, G Henderson, in the plantation by the side of the post road to the east of, *Dianthus deltoides*, 8463, 1853, Dr G Johnston, in some parts of the plantations, *Listera ovata*, 8463, 1836, A A Carr, marshy spot behind the inn, *Melampyrum pratense*, 8463, 1879, J Hardy, *Neottia nidus-avis*, 8463, 1893, T Renton, *Platanthera chlorantha*, 8463, 1853, Dr G Johnston, on the verge of Coldingham Moor, *Pyrola media*, 8463, 1836, A A Carr, *Pyrola minor*, 8364, 1879, J Hardy, *Viburnum opulus*, 8364, 1957, AGL, *Vicia orobus*, 8463, 1886, Rev G Macfarlane

13. Harly Darlies, 8368, 8369, Habitat good ♥♥

Moorland, grassland, wetland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Hippuris vulgaris</i>		838695	16	2004	MEB	colony in pool rather overshadowed by <i>Salix aurita</i>

Selected axiophytes: *Carex curta*, 837695

Other axiophytes: *Achillea ptarmica*, *Anemone nemorosa*, *Carex caryophyllea*, *Dryopteris carthusiana*, *Luzula pilosa*, *Potentilla palustris*

Former rare or scarce species: *Hippuris vulgaris*, 835683, 1955, G Grahame

14. Drone Moss, 8466, 8467, Habitat fine ♥♥♥

Raised bog, carr woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Trollius europaeus</i>	5 cells, 50x30m	842666		2009	MEB	
		Small	842667	50	2009	MEB	
	<i>Vaccinium oxycoccos</i>		843670	06	2009	MEB	

Selected axiophytes: *Carex curta*, 843670, 844667, *Hydrocotyle vulgaris*, 840671, 844669, *Narthecium ossifragum*, 843670, *Pinguicula vulgaris*, 845667, *Salix repens*, 845667

Other axiophytes: *Ajuga reptans*, *Anemone nemorosa*, *Briza media*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Potentilla palustris*, *Senecio aquaticus*, *Trifolium medium*, *Valeriana dioica*, *Veronica scutellata*

Intrusive neophytes: *Rhododendron ponticum*

Former rare or scarce species: *Carex limosa*, 8466, 1910, Rev J J M L Aiken, *Drosera rotundifolia*, 8466, 1979, MEB, *Trientalis europaea*, 845669, 1980, MEB, *Vaccinium oxycoccos*, 845669, 1980, MEB

15. Dowlaw Moss, 8369, 8468, 8469, Habitat excellent ♥♥♥♥

Mire, flushes, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>		843689	51	2004	MEB	
			849690	76	2004	MEB	
	<i>Dactylorhiza incarnata</i> <i>subsp. incarnata</i>		843689	73, 86	2004	MEB	
		4 cells	844689		2004	MEB	
		30	849691	10	2005	MEB, ENHS	
	<i>Dactylorhiza incarnata</i> <i>subsp. pulchella</i>	Three	844689	36, 86	2005	MEB, ENHS	
	<i>Drosera rotundifolia</i>	Modest	841691	58, 96	2004	MEB	
			844689	26	2004	MEB	
			849690	76	2004	MEB	
	<i>Eleocharis</i> <i>quinqueflora</i>		843689	51, 86	2004	MEB	
			844689	36	2004	MEB	
			849690	76	2004	MEB	
	<i>Gymnadenia conopsea</i>	One	847692	80	2005	MEB, ENHS	Not det. to subsp.
	<i>Gymnadenia conopsea</i> <i>subsp. borealis</i>	Two	845694	12	2004	MEB	
	<i>Potentilla anglica</i>		842690	26	2005	MEB, ENHS	
	<i>Sagina nodosa</i>	Two	843689	62	2005	MEB	
		One	844689	85	2005	MEB	
	<i>Spergularia rubra</i>	Small	841696	23	2005	MEB, ENHS	One large patch

Selected axiophytes: *Carex curta*, 838693, 841691, *Helianthemum nummularium*, 844690, 847691, *Hydrocotyle vulgaris*, 838693, 839692, 840692, 842689, 843689, 844689, 846694, *Menyanthes trifoliata*, 842691, *Narthecium ossifragum*, 842688, 842694, 844688, 844689, *Parnassia palustris*, 842688, 843689, 844689, 845688, 849690, *Pedicularis palustris*, 840690, 842688, 843687, 843689, 843699, 844689, 845688, *Pinguicula vulgaris*, 842688, 843689, 844689, 845688, 849690, *Salix repens*, 838694, 841694, 843689, 846692, 849693

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Anemone nemorosa*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza maculata subsp. ericetorum*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Helictotrichon pratense*, *Isolepis setacea*, *Koeleria macrantha*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*, *Vulpia bromoides*

Former rare or scarce species: *Eleogiton fluitans*, 8469, 1854, J Hardy, *Littorella uniflora*, 8468, 1853, Dr G Johnston, Dowlaw Moss Burn

16. Auchencrow, 8560, Habitat fragmentary

Ruderal

Former rare or scarce species: *Malva moschata*, 8560, 1853, G Henderson, lane to ruins of Billie Castle**17. Howburn, 8562, Habitat fragmentary**

Burnsides

Other axiophytes: *Ranunculus aquatilis*Intrusive neophytes: *Hippophae rhamnoides***18. Houndwood House, 8562, Habitat fragmentary**

Dean woodland

[No relevant data held]

19. Long Moss, Coldingham Common, 8567, 8568, Habitat excellent ♥♥♥♥

Valley mire, flushes, moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Corallorhiza trifida</i>	One	855685	34	2006	MEB	
*	<i>Dactylorhiza incarnata</i> <i>subsp. incarnata</i>		857689	93	2004	MEB	
*			858689	07, 26	2004	MEB	
*	<i>Dactylorhiza incarnata</i> <i>subsp. pulchella</i>	Four	854685	17	2006	MEB	
*	<i>Drosera rotundifolia</i>		853685	92	2006	MEB	
*		Small	853686	93	2006	MEB	
*			854685	02, 17, 54	2006	MEB	
*			855685	34	2006	MEB	
*	<i>Eriophorum latifolium</i>		857689	93	2004	MEB	
*			858689	08, 13	2004	MEB	
*	<i>Euphrasia micrantha</i>	Modest	850682	81	2006	MEB	
*	<i>Galium palustre subsp.</i> <i>elongatum</i>		854685		1999	MEB	
*	<i>Pyrola minor</i>	7 cells	854684		2006	MEB	
*			855685	65, 77	2006	MEB	
*	<i>Trichophorum</i> <i>cespitosum nothosubsp.</i> <i>foersteri</i>		855683		1999	MEB	
*	<i>Trientalis europaea</i>		852687	84, 85, 93	2006	MEB	
*		4 cells	854684		2006	MEB	
*		5 cells	854685		2006	MEB	
*			855685	25, 34	2006	MEB	
*	<i>Vaccinium oxycoccus</i>	Modest	853686	09, 93, 94	2006	MEB	
*		6 cells	854685		2006	MEB	
*		Large	855685	54	2006	MEB	

Selected axiophytes: *Carex acuta*, 856685, *Carex curta*, 853686, *Hydrocotyle vulgaris*, 854684, 856689, *Menyanthes trifoliata*, 854684, *Narthecium ossifragum*, 850684, 852682, 854685, 855685, *Parnassia palustris*, 857689, 858689, *Pinguicula vulgaris*, 858689, *Salix repens*, 855685

Other axiophytes: *Carex hostiana*, *Carex pulicaris*, *Crepis paludosa*, *Dactylorhiza maculata*, *Dryopteris carthusiana*, *Erica tetralix*, *Galium uliginosum*, *Potentilla palustris*, *Sanicula europaea*, *Trifolium medium*, *Valeriana dioica*

Former rare or scarce species: *Apium inundatum*, 8568, 1829, Dr G Johnston, in small ponds, *Botrychium lunaria*, 8568, 1831, Dr G Johnston, *Carex dioica*, 8568, 1981, MEB, *Eleocharis quinqueflora*, 859689, 1979, MEB, *Epipactis palustris*, 8568, 1836, A A Carr, *Listera cordata*, 855685, 1979, MEB, *Littorella uniflora*, 8568, 1916, A H Evans, *Lycopodium clavatum*, 8568, 1895, J Hardy, *Platanthera bifolia*, 853687, 1979, MEB, 855685, 1980, MEB, *Sedum villosum*, 8567, 1836, A A Carr, *Utricularia minor*, 8568, 1886, Rev G Macfarlane

20. Lumsdaine Dean, 8569, 8669, Habitat excellent ♥♥♥♥

Grassland, rock outcrops, burnsidles

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>		851690	08	2004	MEB	
			855691		1988	COB	
	<i>Cirsium heterophyllum</i>		855691		1988	COB	
	<i>Cynoglossum officinale</i>	Nine	862694	11	2001	MEB	
	<i>Dactylorhiza incarnata</i>		855691		1988	COB	Not det. to subsp.
	<i>Dactylorhiza incarnata</i> <i>subsp. incarnata</i>		857690	86	2004	MEB	
			858690	00	2004	MEB	
	<i>Drosera rotundifolia</i>		852691	92	2004	MEB	
			855691		1988	COB	
	<i>Eleocharis quinqueflora</i>		850690	99	2004	MEB	
		Large	851690	08	2005	MEB, ENHS	
			852690	67	2004	MEB	
			852691	92	2004	MEB	
			854691	70	2004	MEB	
			858690	00	2004	MEB	
	<i>Eriophorum latifolium</i>	Small	851690	08	2005	MEB, ENHS	
			851691	82	2005	RH	Holme
		Large	854691	70	2004	MEB	
	<i>Euphrasia scottica</i>		853691	95	2004	MEB	
	<i>Filago minima</i>		853691	99	2005	RH	Holme
		Small	854691	09	2005	MEB, ENHS	
		Large	855692	82	2002	MEB	
		Large	856692	02, 30	2005	MEB, ENHS	
	<i>Filago vulgaris</i>	Two	855691	09	2005	MEB, ENHS	
		30	855692	20	2005	MEB, ENHS	
	<i>Gymnadenia conopsea</i>		855691		1988	COB	
	<i>Rosa pimpinellifolia</i>	One	857692	12	2001	MEB	
		One	862693	58	2001	MEB	
			863695	61	2001	MEB	
			863696	86	2001	MEB	
	<i>Selaginella selaginoides</i>	Three	852690	67	2004	MEB	

	<i>Selaginella selaginoides</i>	Large	854691	70	2004	MEB	
	<i>Spergularia rubra</i>		853691	99	2005	RH	Holme
		Small	854691	09	2005	MEB, ENHS	
		One	855692	82	2002	MEB	
		Three	856692	02	2005	MEB, ENHS	

Selected axiophytes: *Agrimonia eupatoria*, 8569, *Anthyllis vulneraria*, 860693, *Equisetum sylvaticum*, 851690, 851691, 854690, 854691, *Geranium sylvaticum*, 8569, 860693, 862693, *Helianthemum nummularium*, 856692, 860693, 863695, *Hydrocotyle vulgaris*, 854691, *Menyanthes trifoliata*, 855691, *Narthecium ossifragum*, 855691, *Orchis mascula*, 855691, 861694, *Parnassia palustris*, 852691, 854691, 855691, 858690, *Pedicularis palustris*, 850690, 851690, 854691, 855691, *Pinguicula vulgaris*, 850690, 852690, 852691, 852692, 854691, 855691, 855692, 858690, *Polygala vulgaris*, 855691, *Prunus padus*, 858692, 859693, *Rosa rubiginosa*, 860693, *Salix repens*, 50691, 855691, *Saxifraga granulata*, 8569, *Solidago virgaurea*, 860693

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Ajuga reptans*, *Alchemilla filicaulis subsp. vestita*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza maculata subsp. ericetorum*, *Dactylorhiza purpurella*, *Dryopteris carthusiana*, *Erica tetralix*, *Festuca pratensis*, *Galium odoratum*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Lysimachia nemorum*, *Mercurialis perennis*, *Ononis repens*, *Oreopteris limbosperma*, *Polystichum aculeatum*, *Potentilla palustris*, *Quercus petraea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*, *Veronica scutellata*

Former rare or scarce species: *Allium oleraceum*, 8569, 1853, Dr G R Tate, [somewhat dubious, could refer to *A. vineale*], *Diphasiastrum alpinum*, 8569, 1895, J Hardy, *Euonymus europaeus*, 8669, 1893, J Hardy, Dowlaw upper dean, north side, *Gentianella campestris*, 8669, 1886, Rev G Macfarlane, *Lepidium campestre*, 8669, 1839, J Hardy, *Pyrola media*, 8569, 1897, Dr C Stuart, *Sherardia arvensis*, 8569, 1984, MEB, *Trollius europaeus*, 8669, 1897, Dr C Stuart

21. Lowries Knowes, 8569, Habitat good ♥♥

Pond, wetland, knowes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Lythrum portula</i>	One	852698	50	2005	MEB	Small plant on mud by inlet, away from main water body
	<i>Potamogeton pusillus</i>		851697		2004	MEB	
			852697		2002	MEB	
	<i>Ranunculus peltatus</i>		852697		1996	MEB	

Selected axiophytes: *Callitriche hermaphroditica*, 852697, *Carduus tenuiflorus*, 857698, *Hydrocotyle vulgaris*, 852697, *Stellaria pallida*, 851696, 854697

Other axiophytes: *Briza media*, *Carex disticha*, *Koeleria macrantha*, *Linum catharticum*, *Ranunculus aquatilis*, *Veronica scutellata*

Former rare or scarce species: *Apium inundatum*, 8569, 1960, AGL, *Littorella uniflora*, 8569, 1956, Miss H M Brown

22. Coveyhaugh, Lemington Dean, 8662, 8663, Habitat fragmentary

Dean woodland

Other axiophytes: *Bromopsis ramosa*, *Linum catharticum*Intrusive neophytes: *Fallopia japonica*Former rare or scarce species: *Listera ovata*, 8662, 1834, A A Carr, Coveyheugh, Eye banks, *Lythrum portula*, 8663, 1833, A A Carr, Lemington Dean, near head of, *Malva moschata*, 8662, 1834, R Dunlop, Coveyheugh, Eye near**23. Press Castle, Grange Plantation, 8664, 8665, 8764, 8765, Habitat moderately good in part ♥**

Plantations, policies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Listera ovata</i>		869653		1996	MEB, PFB	
			871652		1996	MEB, PFB	
	<i>Vicia sativa</i> subsp. <i>segetalis</i>		871654		1996	MEB, PFB	

Selected axiophytes: *Equisetum sylvaticum*, 868653, *Geranium sylvaticum*, 868653Other axiophytes: *Ajuga reptans*, *Carex flacca*, *Conopodium majus*, *Geum rivale*, *Hyacinthoides non-scripta*, *Luzula pilosa*, *Lysimachia nemorum*, *Sanicula europaea*, *Stellaria holostea*Intrusive neophytes: *Doronicum pardalianches*, *Hyacinthoides x massartiana*Former rare or scarce species: *Listera cordata*, 8665, 1853, Dr G Johnston, *Littorella uniflora*, 8665, 1853, J Hardy, in a burn above the plantations, *Melampyrum pratense*, 8665, 1944, Miss E Logan Home, *Platanthera bifolia*, 8665, 1910, Rev J J M L Aiken, *Trientalis europaea*, 8665, 1910, Rev J J M L Aiken, *Vicia orobus*, 8664, 1861, G Henderson, on the side of a ditch to the north of the onstead**24. Lumsdaine Moor, 8667, 8668, 8767, 8768, Habitat fragmentary**

Moorland, forestry

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>		877683		1988	COB	
	<i>Cirsium heterophyllum</i>		877683		1988	COB	
	<i>Drosera rotundifolia</i>		877683		1988	COB	
	<i>Eleocharis quinqueflora</i>		877683		1988	COB	
	<i>Eriophorum latifolium</i>		877683		1988	COB	
	<i>Gymnadenia conopsea</i>		877683		1988	COB	
	<i>Trollius europaeus</i>		872682		1988	COB	
			877683		1988	COB	

Intrusive neophytes: *Rhododendron ponticum*Former rare or scarce species: *Coeloglossum viride*, 8667, 1895, A Anderson, *Genista anglica*, 8667, 1886, Rev G Macfarlane, *Gentianella campestris*, 8667, 1839, J Hardy, *Gnaphalium sylvaticum*, 8667, 1886, Rev G Macfarlane, *Osmunda regalis*, 8668, 1871, W Shaw, one, *Potentilla anglica*, 8667, 1916, A H Evans, *Sagina subulata*, 8667, 1893, J Anderson, old roads near head of Dowlaw Dean

25. Reston, 8762, 8861, 8862, Habitat fragmentary

Riverside, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Geranium lucidum</i>	Small	880622		1996	PFB	Roadside
	<i>Listera ovata</i>		878621		1996	MEB	Ashdale, garden
	<i>Trifolium striatum</i>		884624		1996	ARJ	Jermyn
	<i>Valerianella locusta</i>	Small	875621		1996	MEB	

Selected axiophytes: *Chenopodium bonus-henricus*, 875621Other axiophytes: *Ajuga reptans*, *Conopodium majus*, *Luzula pilosa*, *Ononis repens*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Stellaria holostea*Intrusive neophytes: *Impatiens glandulifera*, *Symphoricarpos albus*Former rare or scarce species: *Aethusa cynapium*, 8862, 1956, Miss H M Brown, *Cynoglossum officinale*, 8762, 1836, A A Carr, [*Hyoscyamus niger*], 8862, 1853, A A Carr, banks of Eye below, introduction, *Lemna trisulca*, 8762, 1834, A A Carr, pond behind Heughhead farmhouse, *Platanthera bifolia*, 8861, 1900, Dr C Stuart, railway banks**26. Silverwells, 8766,**

Wet birchwood, former grassland and wetland

Former rare or scarce species: *Botrychium lunaria*, 8766, 1931, A A Falconer, *Corallorhiza trifida*, 877665, 1979, MEB, reported as having been seen in recent years 'over much of the wetter part of the wood'. About 20 spikes seen near south side, near two Norway spruce, *Gnaphalium sylvaticum*, 8766, 1966, Miss E Logan Home, *Hypericum humifusum*, 8766, 1952, Mrs E K Swinton, *Listera cordata*, 8766, 1956, Miss H M Brown, *Listera ovata*, 8766, 1886, Rev G Macfarlane, *Neottia nidus-avis*, 8766, 1949, Miss E Logan Home, *Ophioglossum vulgatum*, 8766, 1958, Miss E Logan Home, *Pyrola minor*, 8766, 1950, Mrs E K Swinton, *Trientalis europaea*, 8766, 1956, Miss H M Brown, *Trollius europaeus*, 8766, 1952, Mrs E K Swinton**27. Lumsdaine, 8668, 8768, 8769, Habitat fragmentary**

Grassland, wetland, ponds

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Scleranthus annuus</i>		872699		1998	COB	

Selected axiophytes: *Equisetum sylvaticum*, 878680, *Menyanthes trifoliata*, 877683, *Parnassia palustris*, 877683, *Pedicularis palustris*, 877683, *Pinguicula vulgaris*, 870685, 877683, *Polygala vulgaris*, 877683, *Populus tremula*, 871690, *Salix repens*, 877683Other axiophytes: *Achillea ptarmica*, *Ajuga reptans*, *Anemone nemorosa*, *Briza media*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata* subsp. *ericetorum*, *Dactylorhiza purpurella*, *Erica tetralix*, *Festuca pratensis*, *Galium uliginosum*, *Helictotrichon pratense*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana dioica*Intrusive neophytes: *Hippophae rhamnoides*, *Symphoricarpos albus*Former rare or scarce species: *Schoenus nigricans*, 8769, 1853, Dr G Johnston, below Lumsdaine

28. Rough Heugh, 8769, Habitat fine ♥♥♥

Sea braes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Sedum rosea</i>		874699		1986	A MacD	MacDonald

Selected axiophytes: *Anthyllis vulneraria*, 874698, 874699, 875699, 877699, *Carlina vulgaris*, 874699, 875699, *Helianthemum nummularium*, 875699, *Polygala vulgaris*, 874699, 875699, *Saxifraga granulata*, 874699, 877699, *Vicia sylvatica*, 875699

Other axiophytes: *Anemone nemorosa*, *Armeria maritima*, *Conopodium majus*, *Festuca pratensis*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Ononis repens*, *Thymus polytrichus*

29. Greenlaw Knowe (Knowle), 8864, Habitat fragmentary

Grassland on knowe

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Arabis hirsuta</i>		884648		1996	MEB, PFB	
	<i>Cerastium semidecandrum</i>		884648		1996	MEB, PFB	
	<i>Rosa pimpinellifolia</i>		884648		1996	MEB, PFB	

Selected axiophytes: *Saxifraga granulata*, 8864, *Stellaria pallida*, 884648

Other axiophytes: *Conopodium majus*, *Thymus polytrichus*, *Vulpia bromoides*

30. Silverwells Dean, 8866, Habitat fragmentary

Dean woodland, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex remota</i>	Small	884661		1997	IC	Curtis

Former rare or scarce species: *Aethusa cynapium*, 8866, 1942, Miss E Logan Home, [possibly garden], *Neottia nidus-avis*, 8866, 1952, Mrs E K Swinton, *Pyrola minor*, 882664, 1979, MEB, *Scleranthus annuus*, 8866, 1942, Miss E Logan Home

31. Buskin Burn, 8866, 8867, 8965, 8966, Habitat fragmentary

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Polystichum setiferum</i>		897660		1996	MEB	

Former rare or scarce species: *Crepis mollis*, 8867, 1924, J H Craw, road to Lumsdaine, a mile beyond Coldingham, *Ophioglossum vulgatum*, 8966, 1853, J Hardy

32. Westerside, 8868, 8968, Habitat moderately good in part ♥

Grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		888686		1996	MEB	
	<i>Geranium pusillum</i>		886686		1996	MEB	
	<i>Montia fontana subsp. chondrosperma</i>		888686		1996	MEB	
	<i>Sagina apetala subsp. apetala</i>		8868		1996	MEB	

Other axiophytes: *Aira caryophyllea*, *Vulpia bromoides***33. Westerside Dean, 8869, Habitat good ♥♥**

Coastal ravine, cliff tops

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Antennaria dioica</i>		885695		1988	COB	
*	<i>Astragalus danicus</i>	Small	889693	69	2003	MEB	
*	<i>Carex distans</i>		881698	11	1986	A MacD	MacDonald
*	<i>Erodium cicutarium</i>		883694		1996	MEB	
*	<i>Gymnadenia conopsea</i>		885695		1988	COB	
*	<i>Juncus gerardii</i>		8869		1996	MEB	
*	<i>Rosa pimpinellifolia</i>		887692		1996	MEB	
*	<i>Sedum rosea</i>	Large	889694	90	2003	MEB	Cliff and scree

Selected axiophytes: *Anthyllis vulneraria*, 889693, *Carex otrubae*, 888695, *Carlina vulgaris*, 886695, *Geranium sylvaticum*, 8869, *Helianthemum nummularium*, 885695, 889693, *Ligusticum scoticum*, 888695, *Orchis mascula*, 886695, 888693, 889693, *Polygala vulgaris*, 886695, 887692, *Primula veris*, 889693, 889694, *Saxifraga granulata*, 888693, *Silene vulgaris*, 885695, *Solidago virgaurea*, 885695, *Stellaria pallida*, 882695

Other axiophytes: *Aira caryophyllea*, *Allium ursinum*, *Anemone nemorosa*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Cochlearia officinalis*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata subsp. ericetorum*, *Eupatorium cannabinum*, *Festuca pratensis*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

34. Reston Sand Quarry, 8861, 8961, 8962, Habitat fragmentary

Sand quarry, riverside

Former rare or scarce species: *Carex divulsa subsp. leersii*, 8961, 1893, A Anderson, Eye Water**35. Ale Water Bridge, 8964, Habitat fragmentary**

Woodland, burnside

Selected axiophytes: *Silene vulgaris*, 892644Other axiophytes: *Cardamine amara*, *Rhinanthus minor*, *Trifolium medium*, *Valeriana officinalis*Intrusive neophytes: *Doronicum pardalianches*, *Hyacinthoides x massartiana*

36. Abbey Burn, 8965, Habitat fragmentary

Dean woodland

Selected axiophytes: *Campanula latifolia*, 8965, *Elymus caninus*, 899658Other axiophytes: *Allium ursinum*, *Anemone nemorosa*, *Conopodium majus*, *Hyacinthoides non-scripta*, *Mercurialis perennis*, *Polystichum aculeatum*Intrusive neophytes: *Doronicum pardalianches*, *Fallopia japonica***37. Coldingham, west section, 8966, Habitat fragmentary**

Ruderal

Other axiophytes: *Bromopsis ramosa*Former rare or scarce species: *Spergularia rubra*, 8966, 1947, WFS Berwickshire County Botanical Record**38. West Loch, 8967, Habitat fragmentary**

Reservoir

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ranunculus peltatus</i>		892679		1996	MEB	
	<i>Rorippa nasturtium-aquaticum</i>		892679		1996	MEB	
	<i>Stellaria neglecta</i>		893679		1996	MEB	Sheltered damp ground by loch in shade of <i>Ulex</i>

Selected axiophytes: *Callitriche hermaphroditica*, 892679, *Rosa rubiginosa*, 892679Other axiophytes: *Iris pseudacorus*, *Linum catharticum*, *Ranunculus aquatilis***39. Coldingham Loch, 8968, Habitat excellent ♥♥♥♥**

Loch, wetland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Nuphar lutea</i>		894685		1997	JJD	Day, 'CC'
*	<i>Potamogeton filiformis</i>		894685		1997	JJD	Day, 'CC'
*			895683		1992	CDP, PH	Preston, Hollingsworth, near boat house
*	<i>Potamogeton pusillus</i>		894685		1998	CDP, PH	Preston, Hollingsworth
*	<i>Potamogeton x nitens</i>		894685		1996	MEB	
*	<i>Ranunculus peltatus</i>		892688		1998	CDP, PH	Preston, Hollingsworth, pool at north end

Charophytes: *Chara globularis/virgata* agg., 894685, 1997, J J Day, recorded as *C. virgata*, *Tolypella glomerata*, 894685, 1997, J J DaySelected axiophytes: *Callitriche hermaphroditica*, 894685, *Hydrocotyle vulgaris*, 894685, *Menyanthes trifoliata*, 894685, *Orchis mascula*, 893686, *Potamogeton pectinatus*, 894685, *Potamogeton perfoliatus*, 894685, *Salix pentandra*, 894685, *Zannichellia palustris*, 894685Other axiophytes: *Callitriche hamulata*, *Carex disticha*, *Conopodium majus*, *Iris pseudacorus*, *Potentilla palustris*, *Ranunculus aquatilis*, *Silene uniflora*

Former rare or scarce species: *Apium inundatum*, 8968, 1855, Dr G Johnston, *Coeloglossum viride*, 8968, 1844, Prideaux J Selby, *Dactylorhiza incarnata*, 8968, 1895, J Hardy, Uily Strynde near loch, *Filago minima*, 8968, 1895, J Hardy, north side, *Gentianella campestris*, 8968, 1834, Dr G Johnston, *Gymnadenia conopsea*, 8968, 1895, J Hardy, *Littorella uniflora*, 8968, 1960, Dr F H Perring, *Lotus glaber*, 8968, 1833, Dr G Johnston, between the loch and the sea [this habitat is unsatisfactory, may have been a form of *L. corniculatus*], *Platanthera chlorantha*, 8968, 1853, Dr G Johnston, *Potamogeton gramineus*, 8968, 1906, Dr G C Druce, *Sanguisorba minor subsp. minor*, 8968, 1895, Rev G Gunn, dry bank, *Sparganium natans*, 8968, 1833, Dr G Johnston, in foss at the top of loch

Former charophytes: *Nitella flexilis/opaca* agg., 8968, 1853, G Johnston

40. Earnsheugh, 8969, Habitat moderately good ♥

Cliff tops

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Sedum rosea</i>		891694		1986	MEB	By waterfall at foot of Westerside Dean, scree at foot of cliff
*		Modest	893691	25	2003	MEB	Cliff

Selected axiophytes: *Orchis mascula*, 893690, *Primula veris*, 893690, 894690

Former rare or scarce species: *Minuartia verna*, 8969, 1834, A A Carr, *Vicia lathyroides*, 8969, 1893, J Hardy

41. Sundry arable habitats NT86, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Centaurea cyanus</i>	One	851618		2005	LWG	Sunnyside, set-aside
	<i>Chrysanthemum segetum</i>	One	851618		2005	LWG	Sunnyside, set-aside
			851618		2005	LWG	Sunnyside, set-aside
	<i>Fumaria bastardii</i>	25	851618		2005	LWG	Sunnyside, set-aside
		Two	885662		2002	MEB	Silverwells, below, reseeded grass
	<i>Fumaria densiflora</i>	Large	851618		2005	LWG	Sunnyside, set-aside
	<i>Fumaria officinalis subsp. wirtgenii</i>	Modest	851618		2010	MEB	Sunnyside, barley
	<i>Fumaria purpurea</i>	Two	851618		2005	LWG	Sunnyside, set-aside

Selected axiophytes: *Anagallis arvensis*, 880664, Silverwells Dean, near, *Galeopsis speciosa*, 871690, Lumsdaine Farm steading, *Lamium amplexicaule*, 8965, Temple Hall, 812656, Grantshouse, garden, 820670, Penmanshiel Moor, near, 822692, Penmanshiel Moor, below, 851618, Sunnyside, set-aside, 876697, Rough Heugh, near, 892646, Alewater Bridge, near, *Lamium confertum*, 8864, Greenlaw Knowe, near, 8965, Temple Hall, 822692, Penmanshiel Moor, below,, 885662, Silverwells, below, *Lamium hybridum*, 8965, Temple Hall, 812656, Grantshouse, garden, 876697, Rough Heugh, near, 880622, Reston, garden, 892646, Alewater Bridge, near

Former rare or scarce species: *Anagallis arvensis subsp. foemina*, 8067, 1865, J Hardy, Penmanshiel, *Chrysanthemum segetum*, 8661, 1831, G Henderson, Greenhead, Reston, cornfields, *Clinopodium acinos*, 8067, 1854, J Hardy, Penmanshiel, a few in a field, *Coronopus squamatus*, 8866, 1942, Miss E Logan Home, Silverwells, *Euphorbia exigua*, 8769, 1893, W Shaw, Lumsdaine, near, 8968, 1895, J Hardy, between Coldingham Loch and Pilmuir, *Mentha arvensis*, 8866, 1944, Miss E Logan Home, Silverwells, *Persicaria lapathifolia*, 8067, 1839, J Hardy, Penmanshiel, near, *Ranunculus sardous*, 8067, 1854, J Hardy, Penmanshiel, field at, introduced with foreign clover seed, *Sherardia arvensis*, 8268, 1970, AGL, Penmanshiel moss, cultivated field near, *Stachys arvensis*, 8069, 1893, J Hardy, Old Cambus Townhead, upper fields, *Valerianella dentata*, 8160, 1871, J Anderson, Marygold, cornfields

42. Sundry NT86, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Echium vulgare</i>	Small	8962		1997	ARJ	Jermyn, A1, east of Reston

Selected axiophytes: *Carex curta*, 8465, Drone Hill, wood well south of, *Geranium sylvaticum*, 822646, Renton, near, *Salix repens*, as var. *fusca*, 844656, Drone Hill, wood well south of, *Silene vulgaris*, 867611, Newmains, on old railway embankment

Former rare or scarce species: *Astragalus glycyphyllos*, 8069, 1856, J Hardy, Old Cambus, Oak Brae near, *Botrychium lunaria*, 8269, 1853, J Hardy, Redheugh, moor above, 8360, 1834, R Dunlop, Mayfield, moor above, 8362, 1834, A A Carr, Warlawbank Camp, heights near, *Carduus nutans*, 8360, 1834, R Dunlop, Mayfield, *Cerastium arvense*, 8067, 1839, J Hardy, Penmanshiel, *Clinopodium vulgare*, 8069, 1856, J Hardy, Old Cambus, Oak Brae near, *Geranium columbinum*, 8067, 1839, J Hardy, Penmanshiel, near, *Hypericum humifusum*, 8064, 1839, J Hardy, Butterdean, 8067, 1839, J Hardy, Penmanshiel, near, *Sedum villosum*, 8068, 1839, J Hardy, Greenside Hill, *Senecio erucifolius*, 8461, 1845, Dr R D Thomson, Sunnyside, near, *Stachys officinalis*, 8067, 1853, Dr G Johnston, Penmanshiel Wood, *Viburnum opulus*, 8964, 1874, Dr J A E Stuart, Bee Edge, *Vicia orobus*, 8763, 1910, Rev J J M L Aiken, Hillend, hedgebank near

NT87 Dowlaw

(Systematic sample survey 1998, further samples to 2008)

Hectad Description

Overview

Only 6% of the hectad NT87 is land, all of which falls in Berwickshire. It lies between sea level and 174m at Telegraph Hill.

Most of the hectad lies on Silurian rocks but a tongue of Lower Old Red Sandstone running along the coast as far east as Red Heugh gives rise to the classic unconformity between the two at Siccar Point. The Silurian is not all acid rock: there are streaks of calcareous sandstone and some small intrusive features.

The rugged coastline accounts for most of the land area. Although it has more wilderness character than anywhere else in Berwickshire it is far from pristine. Improved fields abut the sea braes except for a limited area of degraded moorland above Rammel Cove and at Telegraph Hill and the sea braes are almost devoid of woodland, so the range of habitats is limited. Dowlaw Dean is a savage place which captures the imagination of all who visit it, but it too is far from pristine.

A turnip factory now blights Old Cambus Quarry impeding access to the world heritage geological site at Siccar Point.

There are farmsteads at Old Cambus West Mains, Redheugh and Dowlaw with some arable land. A car park at Dowlaw provides access to the ruins of Fast Castle.

Habitats

The **coastline** with its cliffs and sea braes is the principal habitat. Access to the shore is limited and the beaches are but rough boulders, except at Brander Heugh. *Glaucium flavum* occurs sporadically on the beach below the ruins of St Helen's Church with *Cochlearia officinalis subsp. scotica* above. The latter has also been found at Siccar Point. The braes on the Old Red Sandstone are quite

species-rich with *Anthyllis vulneraria*, *Helianthemum nummularium*, *Koeleria macrantha*, *Ononis repens*, *Orchis mascula*, *Polygala vulgaris* and *Saxifraga granulata* but *Astragalus danicus* has suffered where there is no grazing and is now very scarce. *Stellaria pallida* was formerly widespread along the cliff top paths but has now gone where there is no grazing. Some slopes have *Hyacinthoides non-scripta* under bracken. The limited flushed areas have much *Eupatorium cannabinum*.

East on the Silurian rocks *Filago vulgaris* occurs on an eroding slope at Lansey Bank while the flora of the less acid sections of the sea braes is only a slightly different mix of species to that on the Old Red Sandstone but grading into acid moorland at the cliff tops. *Astragalus danicus* is now known only on the cliff top at the bay below Dowlaw Dean. Soay sheep have been introduced to the braes east of Fast Castle but have proved a disaster, as they avoid the rougher vegetation and destroy the diverse communities at the cliff tops by herding together and uprooting the turf. Flushed areas have *Equisetum telmateia* and *Eupatorium cannabinum*. *Asplenium marinum* is known at Midden Craig and around Fast Castle while *Sedum rosea* is known at Rammel Cove and between Fast Castle and Dowlaw Dean but much suitable habitat for these two species is inaccessible.

The braes and shore by Brander Heugh at Lumsdaine Shore have a wider range of habitats, shared with the section in hectad NT86 known as Rough Heugh. *Carlina vulgaris*, *Thalictrum minus* and *Vicia sylvatica* occur on the braes with *Asplenium marinum* on the cliffs and a little *Glaucium flavum* and *Ligusticum scoticum* on the shore. The former colony of *Dianthus deltoides*, perhaps the last surviving coastal colony, was destroyed when an access track was constructed in the 1990's but the lack of grazing was already threatening it.

The dramatic dean at Redheugh has a few **woodland** species such as *Mercurialis perennis* and *Stellaria holostea* as well as the species of the sea braes. *Impatiens glandulifera* is naturalised here as, much more unexpectedly, is *Primula florindae*. A surprising woodland relict is found above Rammel Cove where dwarfed oak and aspen hug the cliff with *Geranium sylvaticum*.

Dowlaw Dean is in many ways an extension of the sea braes and is perhaps most remarkable for the relatively accessible colonies of *Sedum rosea* with *Thalictrum minus*. The eroding parts of the cliffs that form the sides of the dean, particularly those near its foot, are refugia for a range of annual grassland species including *Montia fontana* subsp. *chondrosperma*, *Myosotis ramosissima*, *Sherardia arvensis*, *Valerianella locusta*, *Vicia lathyroides* and *Vulpia bromoides* with *Allium vineale* and *Cerastium arvense*. On slightly more stable slopes they give way to *Helianthemum nummularium*, *Orchis mascula*, *Primula veris*, *Saxifraga granulata* and *Vicia sylvatica*. More acid sections have abundant *Hyacinthoides non-scripta*. A variety of *Hieracia* occur on the cliffs themselves. The burnside is modestly wooded with oak and alder. Associated species include *Adoxa moschatellina*, *Allium ursinum*, *Campanula latifolia*, *Geranium sylvaticum* and *Polystichum aculeatum*. Parts of the dean have recently become overrun with brambles.

Old Cambus Quarry, like Dowlaw Dean, is a glacial meltwater channel, but is uncomprisingly acid. The quarrying and the recent anomalous construction of a factory have changed its appearance and have eliminated much of the sandy grassland at the foot of the rocky sides of the dean. The annual **grassland** species *Cerastium semidecandrum*, *Filago vulgaris*, *Geranium pusillum*, *Spergularia rubra* and *Trifolium striatum* have a precarious existence. *Hyacinthoides non-scripta* is still plentiful. A small **pond** and associated wetland has *Callitriche hamulata*, *Ranunculus aquatilis* and *R. peltatus*.

Telegraph Hill is mainly a mix of species-poor **moorland** and **acid grassland**. The knowes have modest interest as refugia for *Sagina apetala*, *Scleranthus annuus* and *Spergularia rubra*, but their

populations are very small. Similar communities are found on knowes in the fields east of Dowlaw Dean.

The **arable weed** flora is quite diverse when cropping allows it to show. The fields between Dowlaw and Dowlaw Dean have *Anagallis arvensis*, *Erodium cicutarium*, *Sherardia arvensis*, *Stachys arvensis*, *Thlaspi arvense* and the three scarcer annual *Lamium* species, *L. amplexicaule*, *L. confertum* and *L. hybridum*. Some of these species only survive at the margins of small unploughed knowes. Old Cambus West Mains, on the Old Red Sandstone, has *Fumaria officinalis* subsp. *wirtgenii*, *Thlaspi arvense* and *Urtica urens*.

Index of Sites NT87 Dowlaw

GR - NT	Ref	Site	Habitats
8070	1	Old Cambus Quarry	Rocky grassland, pond
8070	2	St Helen's Church, below	Sea braes, cliffs, boulder beach
8170	3	Siccar Point	Sea braes, cliffs
8270	4	Redheugh	Dean, sea braes, cliffs
8370	5	Lansey Bank, Midden Craig	Sea braes, cliffs
8470	6	Rammel Cove	Moorland, sea braes, cliffs
8570	7	Telegraph Hill	Moorland, rocky knowes, sea braes, cliffs
8670, 8671	8	Fast Castle	Sea braes, cliffs
8670	9	Dowlaw Dean	Rocky dean
8770	10	Brander Heugh	Sea braes, cliffs, shingle beach
87	11	Sundry	Arable habitats
87	12	Sundry	Sundry habitats

Site Register NT87 Dowlaw

1. Old Cambus Quarry, 8070, Habitat moderately good in part ♥

Rocky grassland, pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium semidecandrum</i>		801704		1996	MEB	
	<i>Filago vulgaris</i>		801704		1996	MEB	
			802705		1992	MEB	
	<i>Geranium pusillum</i>		801704		1996	MEB	
	<i>Montia fontana</i> subsp. <i>chondrosperma</i>		802705		1992	MEB	
	<i>Ranunculus peltatus</i>		806706		1997	MEB	Pond
	<i>Sagina apetala</i> subsp. <i>apetala</i>		801704		1996	MEB	
	<i>Spergularia rubra</i>		801704		1996	MEB	
	<i>Trifolium striatum</i>		8070		1987	MEB	

Selected axiophytes: *Carduus tenuiflorus*, 801704, 806706, *Stellaria pallida*, 802705

Other axiophytes: *Anemone nemorosa*, *Callitriche hamulata*, *Conopodium majus*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Koeleria macrantha*, *Ranunculus aquatilis*, *Stellaria holostea*, *Vulpia bromoides*

Former rare or scarce species: *Carex muricata* subsp. *lamprocarpa*, 8070, 1869, J Hardy, *Cerastium semidecandrum*, 803705, 1983, MEB, disturbed sandy ground by road, *Filago minima*, 803705, 1983, MEB,

disturbed sandy ground by road, *Lythrum portula*, 8070, 1856, J Hardy, bog at west end, *Myosotis ramosissima*, 803705, 1983, MEB, disturbed sandy ground by road, *Potamogeton filiformis*, 8070, 1874, J Hardy, pond, *Sherardia arvensis*, 8070, 1981, MEB, *Vicia lathyroides*, 803705, 1983, MEB, disturbed sandy ground by road

2. St Helen's Church, below, 8070, Habitat fine ♥♥♥

Sea braes, cliffs, boulder beach

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cochlearia officinalis</i> <i>subsp. scotica</i>		808708		1992	MEB, PFB	90% verification P. Wyse Jackson
	<i>Glaucium flavum</i>	Two	807708		2008	LWG, KAV	Velander, on shingle
	<i>Honckenya peploides</i>	Small	800708	00	2002	MEB	On shingle
	<i>Hordeum murinum</i>		808707		2008	LWG, KAV	Velander, patch, near field boundary

Selected axiophytes: *Anthyllis vulneraria*, 8070, *Carduus tenuiflorus*, 8070, 805703, *Stellaria pallida*, 800708, 804706, 805706

Other axiophytes: *Aira caryophyllea*, *Brachypodium sylvaticum*, *Briza media*, *Carex caryophyllea*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Linum catharticum*, *Lychnis flos-cuculi*, *Ononis repens*, *Thymus polytrichus*, *Trifolium medium*

Former rare or scarce species: *Astragalus danicus*, 8070, 1966, DGL, *Astragalus glycyphyllos*, 8070, 1914, Rev J J M L Aiken, sea banks between Siccar Point and Pease Bay, *Dianthus deltoides*, 8070, 1886, Dr C Stuart, on sea banks, *Galeopsis angustifolia*, 8070, 1856, J Hardy, uncultivated rocky and gravelly spot in a field, *Mertensia maritima*, 8070, 1856, J Hardy, beach near Greenheugh Point, *Ophioglossum vulgatum*, 8070, 1931, J H Craw, *Seriphidium maritimum*, 805709, 1981, COB, sea stac

3. Siccar Point, 8170, Habitat fine ♥♥♥

Sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex distans</i>		812709		2003	MEB, ENHS	
	<i>Cochlearia officinalis</i> <i>subsp. scotica</i>		812708		1992	MEB, PFB	90% verification P. Wyse Jackson
	<i>Spergularia media</i>		812709	44	2003	MEB, ENHS	

Selected axiophytes: *Carduus tenuiflorus*, 816705, *Cystopteris fragilis*, 8170, *Orchis mascula*, 812708, *Stellaria pallida*, 811708

Other axiophytes: *Brachypodium sylvaticum*, *Hyacinthoides non-scripta*

Former rare or scarce species: *Astragalus danicus*, 8170, 1956, AGL, *Mertensia maritima*, 8170, 1853, J Hardy, two miles east of Pease Dean, *Trifolium arvense*, 8170, 1839, J Hardy

4. Redheugh, 8270, Habitat fine ♥♥♥

Dean, sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Astragalus danicus</i>		8270		1999	MEB	

Selected axiophytes: *Carduus tenuiflorus*, 822704, *Carex otrubae*, 8270, *Helianthemum nummularium*, 8270, *Orchis mascula*, 8270, *Polygala vulgaris*, 8270, *Saxifraga granulata*, 8270

Other axiophytes: *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex caryophyllea*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*

Intrusive neophytes: *Impatiens glandulifera*

Former rare or scarce species: *Cerastium arvense*, 8270, 1839, J Hardy, *Cirsium heterophyllum*, 8270, 1839, J Hardy, marshy spots on sea banks Redheugh to Dowlaw, *Coeloglossum viride*, 8270, 1856, J Hardy, one plant on sea banks behind the Preventive Service houses, *Gymnadenia conopsea*, 8270, 1963, Mrs E O Pate, *Spergularia rubra*, 8270, 1981, MEB

5. Lansey Bank, Midden Craig, 8370, Habitat fine ♥♥♥

Sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Filago vulgaris</i>		833701		1998	MEB	Eroding bank

Selected axiophytes: *Asplenium marinum*, 838701, *Carduus tenuiflorus*, 832700, *Equisetum telmateia*, 833700, 833701, *Helianthemum nummularium*, 832701

Other axiophytes: *Aira caryophyllea*, *Armeria maritima*, *Carex viridula* subsp. *brachyrrhyncha*, *Cochlearia officinalis*, *Crepis paludosa*, *Eupatorium cannabinum*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Silene uniflora*, *Trifolium medium*

Former rare or scarce species: *Rubus caesius*, 8370, 1839, J Hardy, sea banks between Redheugh and Dowlaw, *Thalictrum minus*, 8370, 1839, J Hardy

6. Rammel Cove, 8470, Habitat fine ♥♥♥

Moorland, sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Sedum rosea</i>		848705		1986	A MacD	MacDonald

Selected axiophytes: *Geranium sylvaticum*, 845700, *Helianthemum nummularium*, 849703, *Populus tremula*, 841701, 842701

Other axiophytes: *Quercus petraea*

Former rare or scarce species: *Listera ovata*, 8470, 1853, J Hardy, marshy spots on sea banks Redheugh to Dowlaw, *Mertensia maritima*, 8470, 1853, J Hardy, in considerable abundance on shingle between Redheugh and Dowlaw, *Minuartia verna*, 8470, 1839, J Hardy, seabank between Dowlaw and Redheugh

7. Telegraph Hill, 8570, Habitat fine ♥♥♥

Moorland, rocky knowes, sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Sagina apetala subsp. apetala</i>		8570		1998	MEB, PFB	
*	<i>Scleranthus annuus</i>		855704		1998	MEB	
*	<i>Spergularia rubra</i>		850700		1998	MEB	
*			850701		1996	MEB	

Selected axiophytes: *Helianthemum nummularium*, 85708Other axiophytes: *Aira caryophyllea*, *Armeria maritima*, *Carex disticha*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza purpurella*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Isolepis setacea*, *Koeleria macrantha*, *Silene uniflora*, *Thymus polytrichus*, *Vulpia bromoides*Former rare or scarce species: *Radiola linoides*, 8570, 1836, J C Belaney**8. Fast Castle, 8670, 8671, Habitat fine ♥♥♥**

Sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Astragalus danicus</i>	2x1m	867708	63	2008	MEB	On top of small knowe 4m from field edge
*		3x1m	868708	20	2008	MEB	At top of steep slope and on slope at entrance to bay
*	<i>Montia fontana subsp. chondrosperma</i>		8670		1999	MEB	Field knowes by Dowlaw Dean
*	<i>Sedum rosea</i>		866708		1998	CD	Dixon, and nearby

Selected axiophytes: *Asplenium marinum*, 860710, 865709, 866708, 867708, 869706, *Helianthemum nummularium*, 864707, *Orchis mascula*, 867708, 868707, 869706, *Saxifraga granulata*, 869707Other axiophytes: *Armeria maritima*, *Carex flacca*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Triglochin palustre*Former rare or scarce species: *Cynoglossum officinale*, 8670, 1886, Dr C Stuart, not Lumsdaine Dean locality as stated to have disappeared from there, *Genista anglica*, 8670, 1897, Dr C Stuart, *Gentianella campestris*, 8670, 1853, Dr G Johnston, coast at intervals south from Fast Castle, *Sedum rosea*, 8670, 1886, Dr C Stuart

9. Dowlaw Dean, 8670, Habitat excellent ♥♥♥♥

Rocky dean

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Allium vineale</i>		867704		1996	DJMcC	
*	<i>Cerastium arvense</i>		865702		1999	MEB, LWG	
*	<i>Dianthus deltoides</i>		8670		1987	SWT	Not refound 2002
*	<i>Montia fontana subsp. chondrosperma</i>		865701		1999	MEB, LWG	
*	<i>Myosotis ramosissima</i>		865701		1999	MEB, LWG	
*	<i>Polypodium interjectum</i>		863701		1998	MEB	
*	<i>Sedum rosea</i>		865703	23	2002	MEB	in several places including this
*			866704		1986	A MacD	MacDonald
*			868706	61	2004	MEB	
*			869706		1998	CD	Dixon
*	<i>Sherardia arvensis</i>	Small	865701		1999	MEB, LWG	
*	<i>Thalictrum minus</i>	Large	865703	23	2002	MEB	
*		Small	865704	92	2002	MEB	
*		One	867706	70	2002	MEB	
*			868706	61	2004	MEB	
*	<i>Valerianella locusta</i>	Large	867704	29	2004	MEB	
*		Large	867706		1999	MEB, LWG	
*	<i>Vicia lathyroides</i>		865701		1999	MEB, LWG	

Selected axiophytes: *Asplenium marinum*, 8670, *Campanula latifolia*, 8670, *Elymus caninus*, 863702, *Geranium sylvaticum*, 8670, *Helianthemum nummularium*, 8670, *Orchis mascula*, 867705, 868705, 868706, *Primula veris*, 867704, 868706, *Rosa rubiginosa*, 868706, *Saxifraga granulata*, 867704, *Vicia sylvatica*, 865703, 868706

Other axiophytes: *Adoxa moschatellina*, *Aira caryophyllea*, *Allium ursinum*, *Anemone nemorosa*, *Armeria maritima*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cochlearia officinalis*, *Crepis paludosa*, *Eupatorium cannabinum*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Iris pseudacorus*, *Mercurialis perennis*, *Polystichum aculeatum*, *Quercus petraea*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Vulpia bromoides*

Former rare or scarce species: *Astragalus danicus*, 8670, 1897, Dr C Stuart, in turf where it gets the sea air, *Botrychium lunaria*, 8670, 1897, Dr C Stuart, on moor at head of dean, *Minuartia verna*, 8670, 1829, Rev A Baird, *Scleranthus annuus*, 8670, 1963, DGL

10. Brander Heugh, 8770, Habitat fine ♥♥♥

Sea braes, cliffs, shingle beach

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Atriplex laciniata</i>		8770		1996	MEB, PFB	
*	<i>Cakile maritima</i>		875701	04	2000	MEB	
*	<i>Elytrigia juncea</i>		875700		1996	MEB, PFB	
*	<i>Glaucium flavum</i>		875701		1990	MEB	(One only in 1987)
*	<i>Honckenya peploides</i>		875700		1996	MEB, PFB	
*	<i>Sedum rosea</i>		8770		1990	MEB	
*	<i>Thalictrum minus</i>		875700		1996	MEB, PFB	
*	<i>Trifolium arvense</i>		874700		1987	MEB, SWT	

Selected axiophytes: *Anthyllis vulneraria*, 875700, *Asplenium marinum*, 874701, *Carlina vulgaris*, 874700, 874701, 875700, *Helianthemum nummularium*, 8770, *Knautia arvensis*, 8770, *Ligusticum scoticum*, 874702, 875700, 875701, *Polygala vulgaris*, 8770, *Saxifraga granulata*, 8770, *Vicia sylvatica*, 875700

Other axiophytes: *Aira caryophyllea*, *Armeria maritima*, *Brachypodium sylvaticum*, *Carex flacca*, *Cochlearia officinalis*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Ononis repens*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

Former rare or scarce species: *Atriplex littoralis*, 8770, 1984, COB, *Crambe maritima*, 8770, 1830, A A Carr, a few plants growing on Lumsdaine Shore, *Dianthus deltoides*, 874700, 1987, MEB, SWT, destroyed by track construction, *Mertensia maritima*, 8770, 1886, Rev G Macfarlane, *Salsola kali*, 8770, 1836, A A Carr

11. Sundry arable habitats NT87, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Erodium cicutarium</i>	Large	860704		1998	MEB	Dowlaw Dean, near
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		805703		1996	MEB	Old Cambus West Mains
	<i>Sherardia arvensis</i>		865700		2000	MEB	Dowlaw Dean, near, stubble edge
	<i>Stachys arvensis</i>	Small	866705		1998	MEB	Dowlaw Dean, near

Selected axiophytes: *Anagallis arvensis*, 865700, Dowlaw Dean, near, 866705, Dowlaw Dean, near, *Galeopsis speciosa*, 857702, Dowlaw, *Lamium amplexicaule*, 855702, 856703, Dowlaw, 861705, Dowlaw, barley stubble, *Lamium confertum*, 8070, Old Cambus West Mains, 861705, Dowlaw, barley stubble, *Lamium hybridum*, 856702, Dowlaw, garden

Former rare or scarce species: *Ranunculus sardous*, 8670, 1855, J Hardy, Dowlaw, field near, not infrequent, *Stachys arvensis*, 8070, 1893, J Hardy, Old Cambus West Mains, 8670, 1853, Dr G Johnston, Dowlaw Dean, near

12. Sundry NT87, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Hordeum murinum</i>		804703		1996	MEB	Old Cambus West Mains
	<i>Spergularia rubra</i>	Small	849700	95	2004	MEB	Dowlaw, road to

NT94 Fishwick (resurveyed 2007)

Hectad Description

Overview

Only 3% of the hectad NT94 is in Berwickshire. It lies between 2m on the Tweed below Fishwick and 54m near Horndean. The geology is calciferous sandstones of the Carboniferous overlain with glacial drift.

The land lies close to the River Tweed where there are grassland and aquatic habitats as well as arable fields. There are also burnside habitats below Horndean.

Habitats

The **River Tweed** aquatic species are well represented: *Potamogeton lucens*, *P. x salicifolius*, *P. pectinatus* and *P. perfoliatus* form the core of the pondweed community and are frequent while *P. x olivaceus* occurs below Fishwick Mains. There is a strong colony of *P. x bottnicus* at St Thomas's Island and it is also known at the foot of the pool below Blount Bank. With *Ranunculus pencillatus* a taxon traditionally recognised as *Ranunculus fluitans* is occasional, but it is probably a hybrid clone rather than the species in view of its low fertility.

The **river banks** of the Tweed are varied with some sandstone rock exposures, dry grassland and woodland fragments. *Agrimonia eupatoria*, *Carduus tenuifolius*, *Knautia arvensis* and *Origanum vulgare* occur on dry banks while at the river's edge *Acorus calamus* and *Butomus umbellatus* are scarce, *Carex acuta* is frequent and *Glyceria maxima* has spread excessively. At the foot of Blount Bank there is a little *Ballota nigra*, *Centaureum erythraea* and *Lactuca virosa*. Below Fishwick Mains *Ballota nigra* occurs more plentifully on the sandstone rocks with *Cerastium arvense*, *Ranunculus bulbosus* and *Trifolium striatum* nearby.

In the **burn** below Horndean there is a little *Berula erecta*.

The **arable fields** adjacent to the river have a rich weed flora. *Fumaria densiflora* occurs with *F. officinalis* subsp. *wirtgenii* while *Lamium amplexicaule*, *L. confertum* and *L. hybridum* grow together. *Amsinkia intermedia* is plentiful. *Draba muralis* has colonised the sandy grassland between the fields and the river.

Index of Sites NT94 Fishwick Mains

GR - NT	Ref	Site	Habitats
9047 (also 8947)	1	Blount Bank, Blount Island	Wooded sandstone bank, riverside, aquatic
9048, 9049	2	Frockham Brae, Horndean	Wooded sandstone bank, burnside, riverside, aquatic
9149, 9249	3	Fishwick Mains, riverside below, St Thomas's Island	Sandstone rocks, scrub, riverside, aquatic
94	4	Sundry	Arable habitats

Site Register NT94 Fishwick Mains

1. Blount Bank, Blount Island, 9047 (also 8947), Habitat fine in part ♥♥♥

Wooded sandstone bank, riverside, aquatic. The *Potamogeton x bottnicus* colony is accompanied by one of its parents, *P. pectinatus*.

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ballota nigra</i>		901478		1987	MEB	
	<i>Centaurium erythraea</i>	Large	900478	94	2007	MEB, BSBI	Bank
	<i>Lactuca virosa</i>		901478		1987	MEB	
*	<i>Potamogeton lucens</i>		9047		2007	MEB, BSBI	Flotsam only
*	<i>Potamogeton x bottnicus</i>	Modest	903476	18	2005	MEB	
*	<i>Potamogeton x salicifolius</i>		9047		2007	MEB, BSBI	Flotsam only

Selected axiophytes: *Carex acuta*, 901477, *Potamogeton pectinatus*, 903476, *Potamogeton perfoliatus*, 902476, *Ranunculus fluitans*, 901477, 902476

Other axiophytes: *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Festuca gigantea*, *Origanum vulgare*, *Trifolium medium*

Intrusive neophytes: *Fallopia japonica*, *Impatiens glandulifera*

Former rare or scarce species: *Potamogeton pusillus*, 9047, 1971, NTHH

2. Frockham Brae, Horndean, 9048, 9049, Habitat moderately good in part ♥

Wooded sandstone bank, burnside, riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Potamogeton lucens</i>		9048		2004	RVL, TJP	
*	<i>Potamogeton x salicifolius</i>		9048		2004	RVL, TJP	
	<i>Veronica catenata</i>	One	906494	91	2005	MEB	Horndean

Selected axiophytes: *Berula erecta*, 905493, 906494, Horndean, *Carduus tenuiflorus*, 9049, *Carex acuta*, 906490, 907483, 907492, 907493, 907495, *Potamogeton pectinatus*, 906487, *Potamogeton perfoliatus*, 906487, 906489, *Ranunculus fluitans*, 9048, *Solanum dulcamara*, 9048, *Stellaria nemorum*, 9049

Other axiophytes: *Achillea ptarmica*, *Alisma plantago-aquatica*, *Brachypodium sylvaticum*, *Carex caryophylla*, *Carex flacca*, *Conopodium majus*, *Festuca gigantea*, *Hypericum hirsutum*, *Iris pseudacorus*, *Isolepis setacea*, *Linum catharticum*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Trifolium medium*

Intrusive neophytes: *Allium paradoxum*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

Former rare or scarce species: *Apium inundatum*, 9049, 1960, AGL, Horndean, *Potamogeton pusillus*, 9048, 1971, NTHH, 9049, 1971, NTHH, *Pulicaria dysenterica*, 9048, 1829, Baird, Dr W, Holywell Haugh, *Rumex conglomeratus*, 9049, 1960, AGL

3. Fishwick Mains, riverside below, St Thomas's Island, 9149, 9249, Habitat fine in part ♥♥♥♥

Sandstone rocks, scrub, riverside, aquatic

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ballota nigra</i>	Large	917497		1987	MEB, MM	Mutch
	<i>Cerastium arvense</i>		917496		1987	MEB	
		Small	920495	29	2003	MEB, BLS	Seed
	<i>Erodium cicutarium</i>		9149		1983	MEB	By river
	<i>Hypericum x desetangii</i>		920495	39	2003	MEB	
*	<i>Potamogeton lucens</i>		918496		1987	MEB, PFB	
*	<i>Potamogeton x bottnicus</i>	Large	922493	33	2003	MEB	St Thomas's Island, south bank
*	<i>Potamogeton x olivaceus</i>		926498	35	2003	MEB	
*	<i>Rumex conglomeratus</i>	One	923494	36	2003	MEB	
	<i>Trifolium striatum</i>	Modest	917497	22	2007	MEB	
			918496	09	2003	MEB, BLS	Seed
*	<i>Veronica catenata</i>	Modest	921495	61	2003	MEB	

Selected axiophytes: *Agrimonia eupatoria*, 915497, 918496, *Carduus tenuiflorus*, 927497, *Carex acuta*, 915497, 917496, 920495, 921496, 922495, 926498, *Carex otrubae*, 926498, *Knautia arvensis*, 920495, 921495, 922495, 924494, *Potamogeton pectinatus*, 922493, 924494, *Potamogeton perfoliatus*, 922493, 926498, *Ranunculus fluitans*, 926498, [*Rosa rubiginosa*], 9149, possible introduction, *Stellaria nemorum*, 916496

Other axiophytes: *Alisma plantago-aquatica*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Hypericum hirsutum*, *Ononis repens*, *Origanum vulgare*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Fallopia japonica*, *Glyceria maxima*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

Former rare or scarce species: [*Malva moschata*], 9149, 1829, Baird, Dr W, introduction, *Potamogeton pusillus*, 9149, 1971, NTHH, 9249, 1971, NTHH, *Potamogeton x salicifolius*, 9149, 1876, Brotherston, A, 9249, 1971, NTHH

Former charophytes: *Nitella flexilis/opaca* agg., 9149, 1853, G Johnston, R. Tweed

4. Sundry arable habitats NT94, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Bromus secalinus</i>	Four	901483		2007	LWG	New Ladykirk, in wheat
	<i>Fumaria densiflora</i>	Modest	920497	77	2003	MEB, BLS	Seed, Fishwick Mains, fields below
			925495		1983	MEB	Fishwick Mains, fields below
			926497		1987	MEB, PFB	Fishwick Mains, fields below
	<i>Fumaria officinalis</i> <i>subsp. wirtgenii</i>		920497	77	2003	MEB, BLS	Seed, Fishwick Mains, fields below
		Modest	925494	86	2003	MEB	Fishwick Mains, fields below

Selected axiophytes: *Lamium amplexicaule*, 902484, New Ladykirk, 925495, 926497, Fishwick Mains, fields below, *Lamium confertum*, 922495, 925495, Fishwick Mains, fields below, *Lamium hybridum*, 902484, New Ladykirk, 925495, 926497, Fishwick Mains, fields below

NT95 Paxton

(Systematic sample survey 1999, further samples to 2010)

Hectad Description

Overview

53% of the coastal hectad NT95 is land that falls in Berwickshire. It lies between sea level and 215m at Lamberton Moor. Berwick-upon-Tweed and its bounds, or 'Liberties', have a history as disputed territory, but today fall within England.

The geology is varied. There is a narrow strip of Carboniferous sandstones and limestones along the coastline, inland the higher ground at Lamberton Moor is Silurian. Paxton and Hutton fall on the Carboniferous sandstone while the slope above Foulden to Edingtonhill is on the upper Old Red Sandstone. This meets the lower Old Red Sandstone at the watershed between the Whiteadder and the Eye Waters.

The cliff top north from the English Border below Lamberton has little of botanical interest but there is a rugged undercliff area below which has a character of its own. North again, below Lamberton Shiels, there is a mix of cliffs and sea braes with a varied series of rock strata giving rise to some species-rich habitats especially at Hilton Bay. Most of Lamberton Moor has been destroyed, but a few surprising pockets of vegetation survive. The banks of the Tweed lack much truly natural vegetation but the extensive policies of Paxton House provide refuge for many woodland species. The aquatic flora of the Tweed is diverse, especially near Union Bridge. The fertile arable land is intersected by the Whiteadder Water which runs in a steep-sided valley that gives the riversides an unexpectedly cloistered feel. Here there are relatively rich aquatic, grassland and woodland habitats, albeit considerably fragmented. Edingtonhill Moor is largely destroyed, but here again fragments survive.

There are villages at Paxton, Hutton and Foulden. The A1 trunk road and the mainline railway pass through the hectad.

Habitats

The **coastline** north from the English border commences with undercliff below Lamberton. It is extremely rugged and more or less ungrazed. Much of it is species-poor but there is considerable

botanical interest. The wet ledges below the cliffs hold a large population of *Carex pendula*, a rare species in the Scottish Borders with Dunglass Dean being home to the only other sizeable native colony. *Equisetum telmateia* and *Eupatorium cannabinum* are associates. The cliffs themselves have a little *Asplenium marinum* and some colonies of *Populus tremula* with *Allium ursinum* below, suggesting that much of the undercliff is former woodland. While much of the grassland is on the sandstone and is neutral to acid with some bracken, there are some base-rich sections on limestone and calcareous sandstone, often on unstable slopes. Here grow *Agrimonia eupatoria*, *Anthyllis vulneraria*, *Carlina vulgaris*, *Centaurium erythraea*, *Gymnadenia conopsea*, *Orchis mascula* and much *Vicia sylvatica*. A little *Pinguicula vulgaris* occurs in flushes. There are some large colonies of *Rubus caesius*.

The next section northwards includes some small areas of limestone grassland at Hilton Bay which have a specialised community notable for *Alchemilla glaucescens* and *Sanguisorba minor*. These have *Catapodium rigidum*, *Polygala vulgaris* and *Primula veris* as associates. More widely distributed are *Agrimonia eupatoria*, *Carlina vulgaris* and *Helianthemum nummularium*, indeed this may be the best population of the *Agrimonia* in Berwickshire. There is much small-scale habitat variety providing limited opportunities for *Centaurium erythraea*, *Myosotis ramosissima*, *Trifolium arvense*, *T. striatum*, *Valerianella locusta* and *Viola canina* in dry grassland and for *Parnassia palustris*, *Pinguicula vulgaris* and *Selaginella selaginoides* in flushes. Two small bushes of juniper occur on the cliffs, the only known survival on the coast. *Astragalus danicus* grows at the cliff-edge near the ruins of a salmon netting station. It was thought that *Leontodon saxatilis* occurred here, but the plant has now been demonstrated to be a small form of *Leontodon hispidus*, with the normal form not far away.

The presence of the railway precariously close above the eroding slopes of Hilton Bay has led to drastic engineering action. Massive boulders have recently been landed on the beach to build a breakwater to reduce the erosion and plastic netting has been draped over the eroding slopes themselves with a wall of concrete blocks at its foot. The engineering has been fairly successful, which is very bad news for the specialised flora dependent on the erosion to keep the grassland habitat open. The netting has encouraged the spread of whins and other scrub species, so the prospects for the rare *Alchemilla glaucescens* are bleak indeed. The current status of the flush species is also in doubt as the underlying spring system appears to have been disturbed by recent work on the railway above and in the fields beyond.

The former **moorland** above the coast at Lamberton is famous for the remarkable discovery of *Tofieldia pusilla* by John Ray in 1671, new to science, though its locality is now thought to have been just on the English side of the border. Agricultural development of the moorland was much delayed by it being a former war zone and having a fragmented ownership structure. Surprisingly a little survives to this day. One field has a large wet hollow where a calcareous flush community survives more or less intact with *Dactylorhiza incarnata* in two colour forms (or subspecies), *Eriophorum latifolium*, *Parnassia palustris*, *Pedicularis palustris*, *Sagina nodosa*, *Schoenus nigricans*, *Selaginella selaginoides*, *Senecio aquaticus* and the charophyte *Chara globularis/virgata* agg.. The surrounding grassland has *Helictotrichon pubescens*, *Trifolium medium* and *Valeriana dioica*. There is an area of acid grassland with some moorland species to the south and a further flush system towards Mordington with more *Sagina nodosa* and *Selaginella*. *Cerastium arvense* grows on the knowes nearby.

Turning away from the coast to the **River Tweed** it should be noted that the estuary is in England and, though the river is tidal in the hectad, the tides more or less just back-up fresh water so the saline influence is small. The Union Bridge provides an easy point of access to the river and it was the scene for some of the early studies of its aquatic species. *Potamogeton lucens*, *P. perfoliatus* and *P. x salicifolius* are still present but *P. x bottnicus* has not been recorded since 1971. A

sandstone cliff a little above the bridge is a station for *Lactuca virosa* and *Mycelis muralis* and this is probably where *Echium vulgare* was recorded in 1966. The status of both the *Lactuca* and the *Mycelis* is debateable, though if they are introductions both are fully naturalised, particularly the *Lactuca*. Downstream at Paxton House there is a greater variety of habitats. The aquatic species are similar, though *Ranunculus fluitans* and *Zannichellia palustris* are also recorded with the latter perhaps an indicator of slightly saline conditions. The woodland includes modified elm deans with much *Allium ursinum*. *Carex remota* is scarce but two colonies of *Lathraea squamaria* are known, the colony under yews by the old ice house being a fine one. *Ranunculus auricomus*, so scarce in Berwickshire, is recorded from Linn Dean. *Campanula latifolia* and *Sanicula europaea* are a little more frequent. Riverside grassland plants include *Ononis repens* and *Origanum vulgare* while *Carex acuta* grows at the water's edge. *Parietaria judaica* is naturalised on stonework by the river.

The **Whiteadder Water** contrasts with the Tweed in having a much greater diversity of grassland and woodland habitats, though the aquatic flora is somewhat poorer. The junction of the Tweed and Whiteadder is in England. The Foulden braes across the Whiteadder from Hutton Castle Mill to Hutton Mill were, until recently, species-rich grassland with a partly intact haugh below, but the haugh has received fertiliser and the braes have suffered much scrub encroachment. Meanwhile the woodland on the scaurs at Cripple Nick (or Harper Heugh) has suffered from elm die-back leading to colonisation of the gaps by aggressive species such as *Urtica dioica* and *Chamerion*, fuelled by fertiliser run-off from the adjacent fields. A fine colony of *Lathyrus sylvestris* on partly wooded scree under a cliff at Cripple Nick is a highpoint. This has generally been considered a native, but one could debate this view. *Mycelis muralis*, as elsewhere, is probably an introduction. *Malva neglecta* is always an archaeophyte at best, leaving *Malva moschata* as just possibly native with the equally problematic *Vicia sativa* subsp. *segetalis*. While these species suggest that their communities might not be easy to classify, comfort may be taken from *Agrimonia eupatoria*, *Carduus tenuiflorus*, *Helianthemum nummularium*, *Koeleria macrantha*, *Knautia arvensis*, *Ononis repens* and *Polygala vulgaris* in defining a recognisable native calcareous grassland flora. A feature of the Whiteadder is the eroding scaurs at bends in the river with scrub woodland. Species favouring such habitat include *Hypericum hirsutum*, *Orchis mascula*, *Origanum vulgare* and *Vicia sylvatica*.

Foulden Dean is a side-dean off the Whiteadder that has much the same flora as the Foulden Braes but part of it is even more calciferous. *Scabiosa columbaria*, *Listera ovata* and *Viola hirta* are present on the banks with *Dactylorhiza purpurella*, *Festuca pratensis*, *Geum rivale* and *Triglochin palustre* near the burn below. Below Hutton Bridge stands Clarabad with a long strip of scrub woodland on the eroding bank below. This has a reasonably complete woodland flora and more hazel than is normal in Berwickshire. Species present include *Adoxa moschatellina*, *Geranium sylvaticum*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus auricomus*, *Rubus caesius*, *Sanicula europaea* and *Veronica montana*. Following the Whiteadder downstream below Clarabad Mill one comes to the secluded valley know as Tibbie Fowler's Glen after a reclusive woman, supposedly a witch, who once had a cottage there. Much the same mix of species occurs on the braes until the bend of the river is reached where Witches Cleugh lies. The banks here are rich in *Hieracium* species and *Echium vulgare* is present as are *Orchis mascula* and *Primula veris*.

The Lambsmill Burn runs through another side-dean to the Whiteadder. The woodland is much modified but there is a linn below Edrington House where *Poystichum aculeatum* and *P. setiferum* occur with probable hybrids. Woodland species present include *Campanula latifolia* and a little *Hyacinthoides non-scripta* in the more acid woodland, but the current status of the *Gymnadenia conopsea* and *Listera ovata* recorded in 1979 is unknown.

Below Witches Cleugh the Whiteadder runs to Edrington Castle and Cawderstones. The river here is the station for a large colony of *Ranunculus x kelchoensis*. There are oxbows by the river with

Alisma plantago-aquatica, *Iris pseudacorus* and *Scirpus sylvaticus*. This section was until recently overrun with *Heracleum mantegazzianum*. While that species is much reduced, *Allium paradoxum* and *Impatiens glandulifera* abound leaving vanishingly little habitat for *Chrysosplenium alternifolium* and *Stellaria nemorum*.

Scrophularia umbrosa and *Symphytum tuberosum* are widespread by the Whiteadder and the Tweed while *Butomus umbellatus* is more local.

The hill road from Chirnside to Ayton crosses former moorland at Edingtonhill. The Covert there has birchwood with remnants of the moorland flora. *Ceratocaphnos claviculata* is a notable species recorded here in some quantity, but it requires confirmation as the only recent record was just into hectad NT85. A somewhat similar fragment occurs at Hag Wood to the east, but this is even more modified.

Miscellaneous habitat fragments include part of the former Whinfield airfield with *Galium mollugo* and *Sherardia arvensis* in grassland.

Arable weeds have a hard time of it in the intensively farmed cereal land near the Tweed and the Whiteadder. There are some fields on the hill above Mordington and Foulden where *Fumaria bastardii* and *F. densiflora* have recently shown up in crops other than cereals. *Lamium amplexicaule*, *L. confertum* and *L. hybridum* are rather more widespread. *Anthemis arvensis*, *Centaurea cyanus* and *Chrysanthemum segetum* were sown in quantity in 2008 in a strip of turnips grown as game cover near Mordington House. *Papaver dubium* subsp. *lecoqii* has been noted around Paxton and Foulden villages, while *Veronica polita* occurs in the walled garden at Mordington House.

The A1 along the coast has the usual **roadside** halophytes. This was one of the first sections for *Cochlearia danica* to colonise, back in 1994. *Armeria maritima* also occurs by the tarmac with *Rumex longifolius* back from the road. The railway bankings were surveyed by a specially-commissioned team of botanists in 1980, when *Bromus erectus* was discovered naturalised near Lamberton. While its presence has been confirmed since, without trespassing on railway property, the full extent of the colony is not known.

Site Register NT95 Paxton

GR - NT	Ref	Site	Habitats
9050	1	Whinfield Airfield, east section	Grassland
9053	2	Hutton	Ruderal
9054, 9154	3	Foulden Braes	Grassland, woodland, scaurs
9057	4	Edington Hill Covert	Birchwood, former moorland
9154, 9254, 9255	5	Foulden Dean	Calcareous grassland
9254	6	Hutton Bridge	Woodland
9157, 9257	7	Hag Wood	Plantation on former moorland
9250, 9350, 9351	8	Union Bridge	Riverside, wooded cliff
9251, 9252, 9351, 9352, 9452	9	Paxton House	Policy woodland, deans, ponds
9253, 9254, 9354	10	Clarabad Wood	Woodland
9352, 9353	11	Paxton	Ruderal
9354, 9453, 9454	12	Tibbie Fowler's Glen, Witches Cleugh	Riverside, grassland, scaurs
9352, 9353, 9452, 9453, 9454	13	Edrington Castle, Cawderstones	Riverside, woodland, cliffs, ruderal
9354, 9355, 9454, 9455	14	Lambsmill Burn, Edrington House	Dean woodland
9355	15	Foulden	Ruderal
9458, 9459	16	Habchester Fort, Ayton Hill	Grassland
9556	17	Mordington House	Policies
9557, 9558	18	Lamberton Moor	Moorland, dry grassland, wet grassland, flushes, pond
9558, 9658	19	Lamberton Shiels	Former grassland
9757, 9758	20	Lamberton Undercliff	Sea braes, cliffs
9658, 9659	21	Lamberton Shiels, shore below, Hilton Bay, Catcairn Bushes	Sea braes, cliffs
9757	22	Lamberton Toll	Former wetland
95	23	Sundry	Arable habitats
95	24	Sundry	Sundry habitats

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1. Whinfield Airfield, east section, 9050, Habitat fragmentary

Grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Galium mollugo</i>		901507		1999	MEB	Runway
	<i>Sherardia arvensis</i>		903509		2003	MEB	

2. Hutton, 9053, Habitat fragmentary

Ruderal

3. Foulden Braes, 9054, 9154, Habitat good ♥♥

Grassland, woodland, scaurs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Echium vulgare</i>		902548		1999	MEB	
	<i>Hypericum x desetangii</i>		9054		1984	MEB	
	<i>Lathyrus sylvestris</i>	Large	902548		1999	MEB	
			903548		1984	MEB	
	[<i>Malva moschata</i>]		9054		1984	MEB	Probable introduction
	[<i>Malva neglecta</i>]		9054		1984	MEB	
			9154		1985	MEB	
	[<i>Mycelis muralis</i>]	One	904549		1999	MEB	Probable introduction
*	<i>Schoenoplectus lacustris</i>		9054		1984	MEB	
*			9154		1999	MEB, FMA	Aungier
	<i>Vicia sativa subsp. segetalis</i>		9154		1999	MEB, FMA	Aungier

Selected axiophytes: *Agrimonia eupatoria*, 902548, *Carduus tenuiflorus*, 9154, *Chrysosplenium alternifolium*, 9054, 914545, *Elymus caninus*, 9054, 9154, *Helianthemum nummularium*, 9154, *Knautia arvensis*, 902548, *Orchis mascula*, 9054, *Polygala vulgaris*, 9154, *Rosa rubiginosa*, 9054, *Stellaria nemorum*, 9054, 9154, *Vicia sylvatica*, 9154, 902545

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Cardamine amara*, *Carex flacca*, *Conopodium majus*, *Crepis paludosa*, *Festuca gigantea*, *Galium odoratum*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Polystichum aculeatum*, *Rhinanthus minor*, *Scirpus sylvaticus*, *Stellaria holostea*, *Thymus polytrichus*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

Former rare or scarce species: *Blysmus compressus*, 9054, 1873, Dr C Stuart, haugh above Hutton Castle Mill, [*Convolvulus arvensis*], 9054, 1873, Dr C Stuart, sandy pasture above red scour above Hutton Castle Mill, *Epipactis helleborine*, 9154, 1869, Dr C Stuart, Broadmeadows, in tolerable abundance, *Listera ovata*, 9154, 1853, Dr G Johnston, Broadmeadows, *Potamogeton pusillus*, 9054, 1873, Dr C Stuart, Whiteadder near haugh above Hutton Castle Mill

4. Edington Hill Covert, 9057, Habitat moderately good in part ♥

Birchwood, former moorland

Other axiophytes: *Ajuga reptans*, *Stellaria holostea*

Former rare or scarce species: *Antennaria dioica*, 9057, 1873, Dr C Stuart, *Dactylorhiza incarnata*, 9057, 1873, Dr C Stuart, as 'var. *carnosa*', probably *subsp. pulchella*, *Epipactis helleborine*, 9057, 1873, Dr C Stuart, Mains road, *Gymnadenia conopsea*, 9057, 1829, Rev A Baird, marshy field, *Platanthera chlorantha*, 9057, 1873, Dr C Stuart, *Pyrola media*, 9057, 1873, Dr C Stuart, *Pyrola minor*, 9057, 1873, Dr C Stuart, *Trollius europaeus*, 9057, 1900, Dr C Stuart, Edington Woods, *Vicia lathyroides*, 9057, 1873, Dr C Stuart

5. Foulden Dean, 9154, 9254, 9255, Habitat fine ♥♥♥

Calcareous grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Festuca ovina subsp. ophioliticola</i>		920548		1999	MEB	This <i>subsp.</i> is believed to favour calcareous grassland
	<i>Geranium pusillum</i>		9154		1985	MEB	
	<i>Listera ovata</i>		921549		1989	PSL	Lusby
	<i>Melica uniflora</i>		922550		1997	AMcB	McBride
	[<i>Mycelis muralis</i>]		922550		1997	AMcB	McBride, probable introduction
	<i>Scabiosa columbaria</i>		920548		1999	MEB	
	<i>Viola hirta</i>		9254		1989	PSL	Lusby

Selected axiophytes: *Agrimonia eupatoria*, 920548, 921549, *Helianthemum nummularium*, 920548, *Knautia arvensis*, 921549, *Rosa rubiginosa*, 9254, *Vicia sylvatica*, 921545

Other axiophytes: *Ajuga reptans*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex flacca*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Festuca pratensis*, *Geum rivale*, *Helictotrichon pratense*, *Hypericum hirsutum*, *Leontodon hispidus*, *Linum catharticum*, *Lysimachia nemorum*, *Ononis repens*, *Ranunculus bulbosus*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Heracleum mantegazzianum*

Former rare or scarce species: [*Malva moschata*], 9254, 1886, Dr C Stuart, on a haugh above Hutton Bridge, *Scabiosa columbaria*, 921549, 1979, MEB

6. Hutton Bridge, 9254, Habitat fragmentary

Woodland

Former rare or scarce species: *Listera ovata*, 921545, 1979, MEB, good oak/elm wood fragment to south of bridge

7. Hag Wood, 9157, 9257, Habitat fragmentary

Plantation on former moorland

Former rare or scarce species: *Pyrola minor*, 9157, 1891, Dr P W Maclagan

8. Union Bridge, 9250, 9350, 9351, Habitat good in part ♥♥

Riverside, wooded cliff

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Hypericum x desetangsii</i>	Small	931516	84	2001	MEB	Top of wall
	<i>Lactuca virosa</i>		931505		1999	MEB	
			932505	73	2006	MEB	On sandstone rocks and slope below
	[<i>Mycelis muralis</i>]		932512		1999	MEB	Probable introduction
*	<i>Potamogeton lucens</i>		9350		1990	KD	Dale
*			9351		1990	KD	Dale
*	<i>Potamogeton x salicifolius</i>	Large	931513	97	2001	MEB	
*		Large	931515	99	2001	MEB	
*	<i>Veronica catenata</i>		933510		1999	MEB	

Selected axiophytes: *Potamogeton pectinatus*, 9350, *Potamogeton perfoliatus*, 932513, 933509Other axiophytes: *Alisma plantago-aquatica*, *Scirpus sylvaticus*

Former rare or scarce species: *Allium scorodoprasum*, 9351, 1950, Mrs E K Swinton, *Echium vulgare*, 9350, 1966, Mrs E O Pate, *Epipactis helleborine*, 9250, 1893, A A Falconer, *Lathraea squamaria*, 9350, 1921, J H Craw, above Union Bridge, *Listera ovata*, 9250, 1866, J Hardy, common in woods near Fishwick, *Potamogeton pusillus*, 9250, 1971, NTHH, 9351, 1959, Mrs E K Swinton, *Potamogeton x bottnicus*, 9350, 1971, NTHH, *Potamogeton x salicifolius*, 9350, 1971, NTHH, *Valerianella locusta*, 9351, 1829, Dr G Johnston, below Union Bridge

9. Paxton House, 9251, 9252, 9351, 9352, 9452, Habitat good in part ♥♥

Policy woodland, deans, ponds

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Allium scorodoprasum</i>	Small	947524		1999	MEB	English Border, Paxton
	<i>Carex remota</i>		938522		1984	MEB	Linn Burn
	<i>Hypericum x desetangsii</i>		930517		1984	MEB	
			931518		1999	MEB	
	<i>Lathraea squamaria</i>		932517		1987	DR	Rollo, just to north of burn by footbridge
			933522	Large	1999	MEB, PFB	Paxton House, ice house at, under <i>Taxus baccata</i>
*	<i>Potamogeton lucens</i>	Small	9351		1999	MEB	
*			9352		1990	KD	Dale
*			9452		1990	KD	Dale
*	<i>Potamogeton pusillus</i>		9351		1990	COB	
*	<i>Potamogeton x salicifolius</i>	Large	9351		1999	MEB	
	<i>Ranunculus auricomus</i>		9351		1990	COB	
			936523		1990	COB	Linn Dean, east part

Selected axiophytes: *Campanula latifolia*, 9351, 9352, *Carex acuta*, 9351, 943522, *Elymus caninus*, 9351, *Potamogeton pectinatus*, 9351, 9452, *Potamogeton perfoliatus*, 9452, 931514, 932516, *Primula veris*, 9352, 924517, *Ranunculus fluitans*, 9351, 9452, *Stellaria nemorum*, 9352, 931513, *Zannichellia palustris*, 9351, 9452

Other axiophytes: *Adoxa moschatellina*, *Alisma plantago-aquatica*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Carex acutiformis*, *Conopodium majus*, *Festuca gigantea*, *Festuca pratensis*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus bulbosus*, *Sanicula europaea*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Crassula helmsii*, ornamental pond by house, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: *Carex divulsa* subsp. *leersii*, 9352, 1874, J Hardy, in the fern dean, *Centaurium erythraea*, 9351, 1956, S McNeill, Tweed banks, *Potamogeton pusillus*, 9452, 1971, NTHH, *Veronica x lackschewitzii*, 9252, 1889, Dr P W Maclagan, Paxton, pond at Nabdean, could be 924524 or 924525

10. Clarabad Wood, 9253, 9254, 9354, Habitat good ♥♥

Woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ranunculus auricomus</i>		9254		1984	MEB	
	<i>Rubus caesius</i>		926542		1999	MEB	

Selected axiophytes: *Chrysosplenium alternifolium*, 926542, *Geranium sylvaticum*, 929543, *Orchis mascula*, 926542, *Stellaria nemorum*, 926542, *Vicia sylvatica*, 929543

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Conopodium majus*, *Festuca gigantea*, *Geum rivale*, *Hypericum hirsutum*, *Mercurialis perennis*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus bulbosus*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

11. Paxton, 9352, 9353, Habitat fragmentary

Ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Fumaria officinalis</i> subsp. <i>wirtgenii</i>		934530		1992	MEB	Building site
	<i>Viola tricolor</i> subsp. <i>tricolor</i>		934530		1999	MEB	Building site

12. Tibbie Fowler's Glen, Witches Cleugh, 9354, 9453, 9454, Habitat good ♥♥

Riverside, grassland, scaurs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Echium vulgare</i>		944539		1984	MEB	Witches Cleugh, scaur

Selected axiophytes: *Helianthemum nummularium*, 9354, *Knautia arvensis*, 9354, *Orchis mascula*, 930543, *Primula veris*, 931545, 932545, 944539

Other axiophytes: *Adoxa moschatellina*, *Ajuga reptans*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Conopodium majus*, *Geum rivale*, *Hypericum hirsutum*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Polystichum aculeatum*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*

Former rare or scarce species: *Astragalus glycyphyllos*, 9354, 1834, R Dunlop, Whiteadder beyond Clarabad Mill, *Blysmus compressus*, 9354, 1834, Dr G Johnston, below Clarabad Mill, *Cirsium heterophyllum*, 9354, 1831, R Dunlop, banks of Whiteadder above Clarabad Mill, *Echium vulgare*, 9354, 1979, COB, *Euonymus europaeus*, 9354, 1834, R Dunlop, Whiteadder above Clarabad Mill, *Listera ovata*, 9354, 1829, Dr Thompson, woods below Clarabad Mill, *Potamogeton pusillus*, 9354, 1973, NTHH, *Potamogeton x olivaceus*, 9354, 1973, NTHH, 9454, 1973, NTHH, *Pulicaria dysenterica*, 9453, 1853, Dr G Johnston, *Rumex conglomeratus*, 9354, 1979, COB, *Scabiosa columbaria*, 9454, 1853, Dr G Johnston, *Schoenoplectus lacustris*, 9354, 1973, NTHH, *Sparganium emersum*, 9354, 1970, S M Haslam

13. Edrington Castle, Cawderstones, 9352, 9353, 9452, 9453, 9454, Habitat moderately good in part ♥

Riverside, woodland, cliffs, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Epilobium roseum</i>	Small	939533	32	2001	MEB	Several, one with double flowers
*		Small	939533	58	2006	MEB	By river
	[<i>Malva neglecta</i>]		9353		1999	MEB	
*	<i>Persicaria lapathifolia</i>		940532		1992	MEB	By river
*	<i>Ranunculus x kelchoensis</i>		938534		1991	CDP, JMC	Preston, Croft
*		Large	939533	58	2006	MEB	One plant with smaller flowers tangled up with this colony, could be <i>R. circinatus x fluitans</i>

Selected axiophytes: *Agrimonia eupatoria*, 9353, 9453, *Chrysosplenium alternifolium*, 936535, *Geranium sylvaticum*, 944539, *Helianthemum nummularium*, 9453, *Populus tremula*, 9353, *Primula veris*, 9453, *Stellaria nemorum*, 9353, *Vicia sylvatica*, 9453

Other axiophytes: *Alisma plantago-aquatica*, *Allium ursinum*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Callitriche hamulata*, *Festuca gigantea*, *Geum rivale*, *Hypericum hirsutum*, *Iris pseudacorus*, *Mercurialis perennis*, *Ononis repens*, *Origanum vulgare*, *Polystichum aculeatum*, *Scirpus sylvaticus*, *Stellaria holostea*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Impatiens glandulifera*

Former rare or scarce species: [*Artemisia absinthium*], 9353, 1807, Dr J V Thompson, 9453, 1874, J Hardy, introductions, *Euonymus europaeus*, 9353, 1831, Dr G Johnston, wooded bank opposite Edrington Mill, [*Malva moschata*], 9353, 1829, Dr G Johnston, *Potamogeton pusillus*, 9453, 1973, NTHH, *Potamogeton x cooperi*, 9453, 1967, AGL, *Potamogeton x olivaceus*, 9453, 1973, NTHH, *Pyrola minor*, 9353, 1872, Dr C Stuart, *Rubus caesius*, 9353, 1850, Dr G Johnston, *Schoenoplectus lacustris*, 9353, 1973, NTHH, 9453, 1973, NTHH, *Senecio erucifolius*, 9453, 1886, Dr C Stuart, in the Boundary Lane near Edrington, *Stachys officinalis*, 9453, 1807, Dr J V Thompson, Edrington Craigs, near

14. Lambsmill Burn, Edrington House, 9354, 9355, 9454, 9455, Habitat moderately good in part ♥

Dean woodland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Malva moschata</i>]		935546		1997	AMcB	McBride, probable introduction
	<i>Polystichum setiferum</i>		9354		1996	MEB	Possible hybrids with <i>P. aculeatum</i>

Selected axiophytes: *Agrimonia eupatoria*, 935546, *Campanula latifolia*, 942550

Other axiophytes: *Allium ursinum*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza purpurella*, *Festuca gigantea*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus bulbosus*, *Scirpus sylvaticus*, *Thymus polytrichus*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Heracleum mantegazzianum*, *Impatiens glandulifera*, *Sedum album*

Former rare or scarce species: *Gymnadenia conopsea*, 935548, 1979, COB, Steep bank, *Listera ovata*, 935548, 1979, COB, Steep bank

15. Foulden, 9355, Habitat fragmentary

Ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Papaver dubium subsp. lecoqii</i>		925558		1999	MEB	

Selected axiophytes: *Lamium confertum*, 925558

16. Habchester Fort, Ayton Hill, 9458, 9459, Habitat lost

Grassland

Intrusive neophytes: *Hyacinthoides x massartiana*

Former rare or scarce species: *Potentilla anglica*, 9458, 1836, A A Carr, Habchester Fort, G Johnston stated that required confirmation

17. Mordington House, 9556, Habitat fragmentary

Policies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Veronica polita</i>		951561		2008	MEB, BNC	Several in walled garden

18. Lamberton Moor, 9557, 9558, Habitat fine in part ♥♥♥

Moorland, dry grassland, wet grassland, flushes, pond

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex dioica</i>	Large	953575		1992	MEB	
			955582		1992	MEB	
	<i>Cerastium arvense</i>		953575		1991	MEB	
	<i>Dactylorhiza incarnata</i>		955582		1999	MEB	'Two forms, one rich crimson, the other pallid pink', probably <i>subsp. pulchella</i> and <i>subsp. incarnata</i>
	<i>Eleocharis quinqueflora</i>	Large	953575		1992	MEB	
			955582		1999	MEB	
	<i>Eriophorum latifolium</i>	Large	955582		1992	MEB	
	<i>Hypericum humifusum</i>		953575		1991	MEB	
	<i>Potamogeton pusillus</i>		953575		1991	MEB	
	<i>Sagina apetala subsp. apetala</i>	Small	955581		1991	MEB	Dry bank
	<i>Sagina nodosa</i>		953575		1991	MEB	
		Small	955582		1991	MEB	

	<i>Schoenus nigricans</i>		955582		1999	MEB	
	<i>Selaginella selaginoides</i>		953575		1991	MEB	
		Small	955582		1991	MEB	
	<i>Veronica catenata</i>		953575		1991	MEB	Pond

Charophytes: *Chara globularis/virgata* agg., 955582, 1999, MEB, recorded as *C. globularis*, calcareous mire, modest colony

Selected axiophytes: *Hydrocotyle vulgaris*, 9557, 955582, *Menyanthes trifoliata*, 9557, 955582, 957588, *Parnassia palustris*, 955582, *Pedicularis palustris*, 953575, 955582, *Pinguicula vulgaris*, 9557, 954584, 955582, 957588

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Ajuga reptans*, *Alisma plantago-aquatica*, *Anemone nemorosa*, *Briza media*, *Carex disticha*, *Carex flacca*, *Carex hostiana*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Conopodium majus*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Erica tetralix*, *Galium uliginosum*, *Geum rivale*, *Helictotrichon pubescens*, *Isolepis setacea*, *Linum catharticum*, *Lychnis flos-cuculi*, *Potentilla palustris*, *Senecio aquaticus*, *Thymus polytrichus*, *Trifolium medium*, *Triglochin palustre*, *Valeriana dioica*

Former rare or scarce species: *Antennaria dioica*, 9558, 1829, Dr G Johnston, *Botrychium lunaria*, 9558, 1869, Dr C Stuart, one specimen only, *Carex dioica*, 957588, 1980, MEB, northeast face of hill, good flushes, small colony, *Dactylorhiza incarnata*, 951586, 1980, MEB, good colony near fence, 954584, 1980, MEB, small disturbed area near road, 957588, 1980, MEB, northeast face of hill, good flushes, strong colonies, *Diphasiastrum alpinum*, 9559, 1831, Dr G Johnston, *Drosera rotundifolia*, 954584, 1980, MEB, small disturbed area near road, *Epipactis palustris*, 9558, 1836, A A Carr, *Equisetum hyemale*, 9558, 1836, A A Carr, abundantly, *Euphrasia micrantha*, 956582, 1960, Miss E I Biggar, BSBI party, *Genista anglica*, 9558, 1836, A A Carr, sparingly, *Gnaphalium sylvaticum*, 9558, 1829, Dr G Johnston, *Gymnadenia conopsea*, 9558, 1836, A A Carr, *Hippuris vulgaris*, 9557, 1965, AGL, pond between Lamberton Moor and Mordington, *Huperzia selago*, 9559, 1831, Dr G Johnston, *Listera cordata*, 9558, 1872, W Shaw, among heather, *Orchis morio*, 9558, 1942, J Brown, a few spikes were picked in flower, *Ranunculus peltatus*, 9558, 1889, Dr P W Maclagan, *Schoenus nigricans*, 954584, 1980, MEB, small disturbed area near road, 957588, 1980, MEB, northeast face of hill, good flushes, several good colonies, *Sparganium emersum*, 9557, 1965, AGL, pond between Lamberton Moor and Mordington, near whin covert, *Trollius europaeus*, 9558, 1836, A A Carr, *Viola tricolor* subsp. *tricolor*, 9558, 1965, AGL

19. Lamberton Shiels, 9558, 9658, Habitat lost

Former grassland

Former rare or scarce species: *Hypericum humifusum*, 9658, 1829, Rev A Baird, Lamberton Shiels, above, *Platanthera bifolia*, 9658, 1836, A A Carr, Lamberton Shiels

20. Lamberton Undercliff, 9757, 9758, Habitat fine ♥♥♥

Sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Carex distans</i>		9757		1999	PFB	
*	<i>Carex pendula</i>		9757		1999	PFB	
*		Large	971584		2001	MEB, LWG	Here and at intervals south, fine colonies in flushes and under cliffs
*	<i>Centaurium erythraea</i>	Modest	970585	68	2001	MEB, LWG	
*		Modest	970587	83	2001	MEB, LWG	
*		Modest	972583	08	2001	MEB, LWG	

*	<i>Gymnadenia conopsea</i>		9758		1991	FGH	Hardy
*	<i>Rubus caesius</i>		969588		2001	MEB, LWG	
*		Large	970587	27	2004	MEB, PFB	

Selected axiophytes: *Agrimonia eupatoria*, 9757, 9758, *Anthyllis vulneraria*, 970586, *Asplenium marinum*, 975579, *Carex otrubae*, 9757, *Carlina vulgaris*, 970586, *Equisetum telmateia*, 9757, 9758, *Orchis mascula*, 9757, 970586, *Pinguicula vulgaris*, 9757, 9758, *Polygala vulgaris*, 9758, *Populus tremula*, 970586, 970588, 971583, *Vicia sylvatica*, 9757, 9758

Other axiophytes: *Aira caryophyllea*, *Allium ursinum*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex flacca*, *Cochlearia officinalis*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Eupatorium cannabinum*, *Geum rivale*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Phyllitis scolopendrium*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*

Former rare or scarce species: *Astragalus glycyphyllos*, 9757, 1916, A H Evans, *Catapodium rigidum*, 970586, 1981, COB

21. Lamberton Shiels, shore below, Hilton Bay, Catcairn Bushes, 9658, 9659, Habitat outstanding in part ♥♥♥♥♥

Sea braes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Alchemilla glaucescens</i>	Large	967593		2000	MEB	
*	<i>Astragalus danicus</i>	One	966593	75	2003	MEB, ENHS	
*		Large	969590	33	2002	MEB, BNC	
*	<i>Catapodium rigidum</i>		966595	11	2003	MEB, ENHS	
*		Large	967593	60	2010	MEB	By plastic netting and in gaps in concrete wall
*		Large	967597		1999	MEB	Very plentiful just above shore and for a considerable distance uphill
*		Large	968589		1999	MEB	
*	<i>Centaurium erythraea</i>	Twenty	965596	44	2000	MEB, PFB	
*		Large	965597		2001	MEB, LWG	
*		Ten	966594	44	2010	MEB	
*		Two	967589	99	2010	MEB	
*	<i>Myosotis ramosissima</i>	Large	966594	17	2000	MEB, PFB	
*		One	967590	65	2000	MEB, PFB	
*	<i>Rubus caesius</i>		969588	48	2004	MEB, PFB	
*	<i>Sanguisorba minor subsp. minor</i>	Large	967594	21	2003	MEB, ENHS	
*		Large	969593	63	2000	MEB, PFB	
*	<i>Selaginella selaginoides</i>		968592		1991	DGL	

*	<i>Trifolium arvense</i>		9659		2005	JTM	Mercer
*	<i>Trifolium striatum</i>		9658		2003	JM	Muscott
*		Small	966593	74	2000	MEB, PFB	
*	<i>Valerianella locusta</i>		965597		2000	MEB	
*	<i>Viola canina</i>		9659		1990	FGH	Hardy
*	<i>Viola hirta</i>		967593		1999	MEB	

Selected axiophytes: *Agrimonia eupatoria*, 9658, 9659, *Anthyllis vulneraria*, 9658, 967593, *Asplenium marinum*, 9658, *Asplenium marinum*, 969591, *Carduus tenuiflorus*, 967592, *Carex otrubae*, 968593, *Carlina vulgaris*, 966595, 967593, 968588, 968591, 969588, 969590, *Equisetum telmateia*, 9658, 965599, *Geranium sylvaticum*, 9658, *Helianthemum nummularium*, 9659, *Juniperus communis subsp. communis*, 967594, two bushes, *Knautia arvensis*, 967593, *Ligusticum scoticum*, 9658, 967596, *Orchis mascula*, 9659, 969588, 969589, *Parnassia palustris*, 968589, *Pinguicula vulgaris*, 968588, 968589, 968591, *Polygala vulgaris*, 9659, 968589, *Populus tremula*, 969587, *Primula veris*, 9658, 966595, 967593, 967593, *Rosa rubiginosa*, 9659, *Saxifraga granulata*, 965596, *Vicia sylvatica*, 9658, 9659

Other axiophytes: *Aira caryophyllea*, *Ajuga reptans*, *Allium ursinum*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex pulicaris*, *Carex viridula subsp. brachyrrhyncha*, *Cochlearia officinalis*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Geum rivale*, *Helictotrichon pratense*, *Helictotrichon pubescens*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Luzula pilosa*, *Lychnis flos-cuculi*, *Ononis repens*, *Origanum vulgare*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*, *Vulpia bromoides*

Intrusive neophytes: *Centranthus ruber*, *Fallopia japonica*

Former rare or scarce species: *Carex distans*, 9659, 1979, COB, *Daucus carota subsp. carota*, 9659, 1980, C M Sargent, J O Mountford, Lamberton Railway, *Gentianella amarella*, 9659, 1836, A A Carr, sea banks below Lamberton Shiels, accepted G Johnston, *Honckenya peploides*, 9659, 1807, Dr J V Thompson, *Rosa pimpinellifolia*, 9659, 1807, Dr J V Thompson, *Sedum rosea*, 9659, 1829, Dr G Johnston, between Lamberton and Burnmouth, *Valerianella locusta*, 9659, 1980, C M Sargent, J O Mountford, *Viola hirta*, 9659, 1980, C M Sargent, J O Mountford

22. Lamberton Toll, 9757, Habitat lost

Former wetland

Selected axiophytes: *Carduus tenuiflorus*, 9757, *Knautia arvensis*, 9757

Former rare or scarce species: *Epipactis palustris*, 9757, 1829, Dr G Johnston, field below, *Eriophorum latifolium*, 9757, 1829, Dr G Johnston, field below, *Schoenus nigricans*, 9757, 1829, Dr G Johnston, field below

23. Sundry arable habitats NT95, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Aethusa cynapium</i>		916519		1991	JW	Wimham, Broadmeadows, set-aside
	<i>Centaurea cyanus</i>		957565		2008	MEB, BNC	Mordington House, near, sown in game crop of turnips
	<i>Chrysanthemum segetum</i>		957565		2008	MEB, BNC	Mordington House, near, sown in game crop of turnips
		Large	973579		2003	JM	Muscott, Lamberton, below
	<i>Erodium cicutarium</i>		9757		1991	MEB	Lamberton, below
	<i>Fumaria bastardii</i>		940580		2005	LWG	Peelham, winter beans, turnips, oats
		Two	948578		2005	LWG	Peelham, turnips

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<i>Fumaria densiflora</i>		940580		2005	LWG	Peelham, winter beans, turnips, oats
	Three	941575		2005	LWG	Peelham, beans
		974572		1985	MEB	Lamberton Toll, roots
		974574		1999	MEB	Lamberton, below
<i>Papaver dubium subsp. lecoqii</i>		932537		1999	MEB	Paxton, near
		933537		1999	MEB	Paxton, near
<i>Viola tricolor</i>		972575		1994	MEB	Lamberton, below

Selected axiophytes: *Galeopsis speciosa*, 940580, Peelham, *Lamium amplexicaule*, 9659, Lamberton, 912537, Hutton, 974570, Lamberton, below, *Lamium confertum*, 909539, Hutton, 912537, Hutton, 927537, Clarabad, near, 934542, Clarabad Mill, 938530, Paxton, *Lamium hybridum*, 9659, Lamberton, 909539, Hutton, 933537, Paxton, 934535, Paxton, 938530, Paxton, 940580, Peelham, 952599, Ayton Hill

Former rare or scarce species: *Euphorbia exigua*, 9259, 1836, A A Carr, roadside between Peelwalls and Bastleridge, *Fumaria densiflora*, 973574, 1981, MEB, Lamberton, roots field, *Geranium pusillum*, 9353, 1807, Dr J V Thompson, Paxton, hedges near, *Mentha arvensis*, 9351, 1952, Mrs E K Swinton, Union Bridge, *Ranunculus arvensis*, 9352, 1873, Kelly, A, Paxton, near, *Scandix pecten-veneris*, 9255, 1951, AGL, Foulden, near, *Sherardia arvensis*, 9757, 1807, Dr J V Thompson, Lamberton Shiels, at turnpike, *Silene noctiflora*, 9255, 1931, A A Falconer, Foulden, *Stachys arvensis*, 9757, 1807, Dr J V Thompson, Lamberton, gravelly cornfield below, plentiful

24. Sundry NT95, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Atriplex littoralis</i>]	Small	966593		1999	MEB	Lamberton, A1 near
		Small	973571		2002	MEB	English Border, A1 at
	[<i>Daucus carota subsp. carota</i>]		956562		2008	MEB, BNC	Mordington House, near, sown in set-aside
	[<i>Malva moschata</i>]		956562		2008	MEB, BNC	Mordington House, near, sown in set-aside

Selected axiophytes: *Saxifraga granulata*, 9659, Lamberton, A1 near, *Vicia sylvatica*, 948577, Mordington, near

Former rare or scarce species: *Allium vineale*, 921527, 1972, G Grahame, Spittal House, Paxton, roadside at, *Baldellia ranunculoides*, 9356, 1922, WFS Berwickshire County Botanical Record, Foulden, *Epipactis helleborine*, 9757, 1916, A H Evans, Lamberton, *Galium boreale*, 9151, 1831, Dr G Johnston, roadside half way between here and West Fishwick, *Listera ovata*, 9658, 1829, Dr G Johnston, boggy ground on Ayton road at 4 mile stone [from Berwick], [*Nymphoides peltata*], 9156, 1840, G Henderson, Foulden New Mains, in a large pond or dam head behind the farm, introduced from Hen Poo, Duns Castle, *Pulicaria dysenterica*, 9757, 1836, A A Carr, Lamberton, marshy ground near by the sea side near old coal pit, *Ranunculus circinatus*, 9156, 1853, Dr G Johnston, Foulden East Mains, mill dam, *Silaum silaus*, 9151, 1835, Prof J H Balfour, Fishwick, near [probably sent to him by an anonymous recorder], *Trollius europaeus*, 9155, 1900, Dr C Stuart, Foulden West Mains, in the strips

NT96 Eyemouth

(resurveyed 2006, 2010)

Hectad Description

Overview

38% of the coastal hectad NT96 is land, all of which falls in Berwickshire. It lies between sea level and 195m at Ayton Hill.

The geology is complex and has been extensively studied. Relatively acid Silurian rocks underlie the higher ground to the west of St Abbs Head and form much of the cliffs between Burnmouth and Eyemouth while tongues of the Lower Old Red Sandstone have weathered to give the productive farmland around Ayton and towards Coldingham. St Abbs Head is an intrusive feature, largely of andesite and basalt but there is vent agglomerate immediately adjacent in Starney Bay. Further andesite outcrops are responsible for the gorges along the Ale Water and for Hairy Ness by Eyemouth Fort. More vent agglomerate outcrops at Killedraught Bay, Fleurs Dean and St Abbs village. Carboniferous sandstones and limestones outcrop around Burnmouth, while Chester Hill is capped by Upper Old Red Sandstone conglomerate.

The complex geology has led to a varied coastline in what is the most species-rich hectad in Berwickshire, despite its limited land area. Sadly the coast is ploughed almost to the cliffs except at St Abbs Head and on the Silurian rock nearby, so the botanical interest is largely on the sea braes and shores. Inland, the main features are the woodlands along the Ale and Eye Waters though there is grassland interest at Chester Hill and north of Millar's Moss.

Eyemouth is the largest town in Berwickshire and there are villages at Ayton, Coldingham, St Abbs and Burnmouth. The harbour at Eyemouth has recently been enlarged and there is modest industrial development. There are small harbours at St Abbs and Burnmouth. The A1 trunk road and the mainline railway pass though the hectad.

Habitats

The **coast** provides the principal habitats of the hectad. In the southernmost section around Ross Point the cliffs are steep and inaccessible while above the houses at Ross there is much scrub. The ravine at Ross has lost some of its interest recently, including a flush with *Pinguicula vulgaris*, but there is *Equisetum telmateia* and *Eupatorium cannabinum*, the latter a widespread species on the sea braes. The braes north to Burnmouth are rich in *Hieracia* and *Origanum vulgare* is frequent.

The ravine below Burnmouth has crumbling slopes prone to slippages and is very species-rich but, alas, it is now dominated by *Cotoneaster* species and *Centranthus ruber* with sloes and whins also encroaching on the grassland. *Rubus caesius* is quite plentiful immediately behind the beach with *Ranunculus sceleratus* nearby, while *Sanguisorba minor*, *Viola hirta*, *Myosotis ramosissima* and *Valerianella locusta* survive as features of the slopes. The first two of these species are under threat from the intrusive neophytes while the last two struggle in the face of rabbit burrowing and grazing, though the rabbits do help to keep the habitat open. *Leontodon saxatilis* was thought to be present alongside the *Viola hirta* but it proves to be a small form of *L. hispidus*. Normal *L. hispidus* is plentiful on the braes not far away. A form of *Petroselinum crispum* with flat rather than crisped leaves is well naturalised here. There is a good colony of *Geranium sanguineum* just beyond the houses at Partanhall, a rarity in Berwickshire but plentiful on the coast south of Berwick.

As the braes continue north the scrub is mainly sloe and is confined to the higher slopes. Below this there is splendid calcareous grassland with an abundance of *Primula veris* and *Orchis mascula* accompanied by *Carlina vulgaris*, *Helianthemum nummularium*, *Polygala vulgaris*, *Saxifraga granulata* and great masses of *Vicia sylvatica*. *Arabis hirsuta*, *Catapodium rigidum*, *C. marimum*, *Thalictrum minus*, *Trifolium fragiferum* and *Viola canina* are present in small quantity with *Ligusticum scoticum* and *Triglochin maritimum* on the rocks at the shore. The vegetation changes abruptly where the Silurian rocks begin and the coast north is mainly inaccessible cliff. The bay just beyond Fancove Head has some accessible ledges where the calcareous grassland species reappear. The land drops away beyond Blaikie Heugh and on the slope past Horse Head there are small colonies of *Viola tricolor* in the grassland.

The coast south of Eyemouth, seaward of Gunsgreen, is varied and interesting with many small coves and low promontories. The Eyemouth Golf Course is adjacent and much good habitat has been lost over the years to agriculture and now to the fairways and greens. Fertiliser runoff onto the braes is an increasing issue. Nevertheless the botanical interest remains high. *Astragalus danicus* is scattered at the cliff top, there is a tiny patch of maritime heath with a fine population of *Scilla verna*, one slope has a magnificent colony of *Viola canina* and wet places on the rocks harbour *Carex distans*, *Schoenus nigricans*, *Seriphidium maritimum*, *Spergularia media* and *Triglochin maritimum*. *Ligusticum scoticum* is widespread. However the new harbour wall has destroyed a rich shoreline where *Primula veris* and *Orchis mascula* were formerly plentiful and dumping has introduced a suite of neophytes, in particular *Allium paradoxum*, *Crocasmia x crocosmiflora* and *Sedum album*.

Eyemouth Fort occupies a promontory on the Old Red Sandstone to the north of the town and its turbulent history has ensured the destruction of any grassland interest. However the northwest side of the promontory is andesite and at the very tip stands Hairy Ness. Here there is a tiny amphitheatre where *Puccinellia distans subsp. borealis* is found in a largely vegetation-free area. Following the cliff northwest the slopes become less rocky and *Euphrasia tetraquetra* and *Centuarium erythraea* occur. Killedraught Bay lies just to the north again and for a modest length the sea braes are very species-rich with *Carlina vulgaris*, *Gymnadenia conopsea*, *Listera ovata* and other calcicoles. *Rosa rugosa* has recently naturalised here, forming an unwelcome thicket behind the shore below.

There is little habitat at the top of the cliffs at Linkim Kip, but *Primula veris* remains constant through to the foot of Fleurs Dean, where *Carlina vulgaris* also flourishes. Fleurs Dean itself is much given over to scrub and its botanical interest is declining, with *Cynoglossum officinale* one of the casualties. However small open flushed areas survive for the present where *Carex pulicaris*, *Dactylorhiza fuchsii*, *Gymnadenia conopsea* and *Pinguicula vulgaris* are found. Linkim Shore has been much botanised over the years so there is evidence that the interest of the sandy grassland behind the beach has declined. *Myosotis ramosissima* and *Valerianella locusta* just hang on but *Vicia lathyroides* was last seen in 1994 so its survival is more doubtful. There is a good show of bluebells in spring under the bracken on the slopes behind where a tiny colony of *Corydalis claviculata* was refound in 2010. Immediately to the north of Linkim Shore at Yellow Craig Head there is a complex of bays, promontories, saltmarsh and flushes of high botanical interest. Highlights are *Carex distans*, *C. extensa*, *C. otrubae*, *Eleocharis quinqueflora*, *Glaux maritima*, *Parnassia palustris*, *Pinguicula vulgaris*, *Spergularia media* and *Triglochin maritimum*. A wholly unexpected recent arrival is *Crambe maritima*. One plant has flourished on a small beach and flowered for the first time in 2009.

Coldingham Bay has a sandy beach popular with holiday makers in the summer so the disappearance of *Cakile maritima* in the 1990's was attributed to them. This seems to have been a fallacy as the *Cakile* has now re-colonised in some abundance. The frequency of *Atriplex* species,

especially *A. laciniata*, is similarly variable. The modest dunes behind the beach with *Ammophila arenaria*, allegedly deliberately introduced to stabilise the sand, and *Leymus arenarius* are also home to a small colony of *Geranium sanguineum*, better colonies of *Carex arenaria* and *Thalictrum minus* and a large population of *Stellaria pallida* by the beach huts. The grass banks are no longer grazed and scrub is spreading, but *Primula veris* is still widespread. Homeli Knowe, a fort-like feature at the foot of Milldown Burn has a few *Gymnadenia conopsea* and many *Listera ovata* with *Helianthemum nummularium*, *Koeleria macrantha*, *Primula veris* and *Orchis mascula*. *Astragalus danicus* appears to have been lost since 1996. The *Anthyllis vulneraria* here formerly supported a colony of Small Blue butterflies, but these died out quite recently though another colony has been discovered near Eyemouth. The Milldown Burn has a small dean with woodland species including *Phyllitis scolopendrium*, which has probably increased recently. Behind the north end of the beach *Clematis vitalba* has naturalised in great abundance over bracken and other vegetation.

The cliffs to the immediate south of St Abbs village suffer from dumping and *Sedum album* in particular has colonised to excess, endangering a colony of *Trifolium arvense*, though this species is also present about the harbour. A small colony of *Daucus carota* at the foot of the cliffs is the sole extant population known in Berwickshire and does not seem to relate to cultivars. It has a long recorded history in this neighbourhood. Starney Bay, to the north of the village has related geology and *Trifolium arvense* is plentiful on the cliffs. There is a little *Astragalus danicus* on the cliff top and the slopes below have *Agrimonia eupatoria*, *Centaureum erythraea*, *Helianthemum nummularium* and *Orchis mascula*.

Ligusticum scoticum is plentiful on the north face of White Heugh where the geology changes to andesite. This geological fault properly marks the beginning of St Abbs Head, very much the Berwickshire Mecca of birdwatchers and botanists. The botanical interest is secondary to the sea birds and has been much modified over the centuries by settlement, cultivation, quarrying, the construction of a reservoir on the site of a mire and even a short-lived nine-hole golf course. In the circumstances it is perhaps remarkable that so much has survived with the main losses relating to maritime heath and mire communities. The key to the high survival rate is the hardness of the andesite and basalt, and their mineralogy is what favours the specialist plants of the head. While *Minuartia verna* is the most characteristic of these, with good colonies on inland cliffs at Kirk Hill and near Petticowick, the very extensive population of *Astragalus danicus* at the cliff edge and on the knowes with *Koeleria macrantha* as an associate is perhaps more significant. Here they are accompanied by abundant *Armeria maritima* with *Silene uniflora* more restricted to the cliff edge. *Sagina subulata* has recently been discovered on an undistinguished knowe not far from the old lighthouse and near a small colony of *Viola canina*.

The slopes below Kirk Hill and by Mire Loch have some notable annuals: *Anagallis arvensis*, *Catapodium rigidum*, *Myosotis ramosissima*, *Sherardia arvensis*, *Torilis nodosa*, *Trifolium striatum* and much *Vulpia bromoides*. Some of these annuals, the *Torilis* in particular, are threatened by the spread of *Sedum album*. The coastal rocks are very inaccessible but there are further populations of *Ligusticum scoticum* and a little *Catapodium maritimum*. The cliffs on the northwest side of the old lighthouse have substantial but totally inaccessible colonies of *Sedum rosea*. At Petticowick the north end of the geological fault defining St Abbs Head is reached and Silurian rocks follow northwards. *Juncus ambiguus* occurs by a seepage on the beach where occasional plants of *Puccinellia distans* subsp. *borealis* may be found. This grass has its main colony on a sea stac in Broadhaven Bay nearby, with a little *Seriphidium maritimum*. Conversely, the main colony of the *Seriphidium* is on a boulder beach adjacent. The rocky slopes of Broadhaven Bay have good colonies of *Orchis mascula* and *Hyacinthoides non-scripta*, the latter being absent on the andesite. In the recesses of the bay by West in Thirle Heugh there are further colonies of *Sedum rosea*, some plants of which may be reached with care.

Inland from West in Thirle there are a series of rocky knowes across to Millar's Moss Reservoir. Most of the **inland grassland** here is fertilised and the botanical interest has suffered accordingly. *Stellaria pallida* remains frequent on the tops and *Cerastium arvense* is quite widespread on the lower slopes. *Filago minima* and *Geranium pusillum* are not faring well and *Filago vulgaris* has not been seen since 1983. Elsewhere inland grassland is rare. There are fragments on knowes by the Eye Water above the Victoria Jubilee Bridge near Ayton. Here *Carex muricata* subsp. *lamprocarpa* just survives with *Koeleria macrantha* but *Dianthus deltoides* appears to have been lost. *Malva neglecta* occurs here in two places and also in a number of other localities near the coast as an archaeophyte. It is often associated with *M. moschata* and *M. sylvestris*. In better condition is the grassland on rocks and a steep slope at Chester Hill near Burnmouth. Here a calcareous community occurs, not dissimilar to that on the sea braes below, with plentiful *Primula veris* and *Orchis mascula* and an unexpected colony of *Arabis hirsuta*. *Viola lutea* just survives in the remains of a more acid community on the hill top.

Wetland is almost limited to the two small reservoirs at Millar's Moss and Mire Loch. The former is notable for *Potamogeton filiformis* which has its headquarters in the nearby Coldingham Loch. There is also *Ranunculus peltatus*, *Zannichellia palustris* and the charophyte *Chara globularis/virgata* agg. but the *Ranunculus baudotii* recorded in 1954 has never been found again and may have been casual. However *Littorella uniflora* has disappeared since 1994 so the water chemistry may have been changing. Mire Loch is much used by Kittiwakes for bathing and is not very species-rich, though the adjacent flushes have much *Dactylorhiza purpurella* and *Hydrocotyle vulgaris*. A taxon that survived the mire destruction, and may even have originated then, is *Equisetum x litorale*.

Woodland is mainly represented by the deans along the Ale and Eye Waters. Whitfield Wood by the Ale Water was formerly very wet woodland with moorland adjacent and had a specialist flora but only vestiges of these communities survive. The Ale Water has a long series of deep gorges with apparent botanical potential. The reality is rather disappointing. *Allium ursinum*, *Phyllitis scolopendrium* and *Polystichum aculeatum* are plentiful as are *Claytonia sibirica* and *Symphytum tuberosum* as introductions but more specialist woodland indicators like *Adoxa moschatellina* and *Sanicula europaea* are very scarce. Near the foot of the Ale Water the geology changes and *Geum rivale*, *Hypericum hirsutum* and *Saxifraga granulata* appear. Just at the junction with the Eye Water there is a remarkable rock outcrop, the Kip Rock. Here *Allium vineale* var. *compactum* and *Echium vulgare* are found. The steep banks opposite have an even more unexpected community with *Astragalus glycyphyllos* and *Thalictrum minus*. While the Eye Water both above this point to Ayton and downstream to Netherbyres has many pleasant wooded banks they are much modified by plantings and by intrusive neophytes such as *Allium paradoxum* and *Doronicum pardalianches*. There is *Cardamine amara* and a little *Campanula latifolia*. *Myrrhis odorata* and *Oenanthe crocata* are very frequent. *Berula erecta* occurs in an old mill stream. Some of the rocky banks have colonies of *Daphne laureola*, thought to be an introduction in Berwickshire, but a well-naturalised one. The few plants of *Carex pendula* at Netherbyres could be garden escapes as could the *Polystichum setiferum* nearby while *Tulipa sylvestris* is a well-naturalised introduction near the house. All the *Viburnum opulus*, especially evident around Eyemouth, is clearly planted.

Moorland is all but extinct in the hectad away from the few coastal fragments. Nevertheless a surprising number of moorland and moorland-edge species may be found in the Feuarsmoor, Mileknowe and Drill Plantations, Longueville and Whitfield Wood. There is a little *Calluna* with such species as *Achillea ptarmica*, *Carex disticha*, *C. flacca*, *Geum rivale*, *Rhinanthus minor* and *Trifolium medium*. *Rhinanthus* is a species in serious decline in Berwickshire and the colonies here are some of the best remaining in the county. The woodland rides are one of the few localities in Berwickshire where *Mentha arvensis* is still found, as it almost gone from arable fields.

The settlements have a variety of **ruderal habitats** with species of interest. Outside Coldingham there is a rocky knove at Coldingham Law with *Geranium pusillum* among the remnants of a grassland flora but there is also a colony of *Artemisia absinthium*, notable because it could be a survival from plants cultivated for medicinal purposes by the monks of Coldingham Priory. This species is also found in St Abbs and at least until very recently at Ross, below Burnmouth. *Epilobium roseum* is present in Coldingham, St Abbs and Eyemouth while *Coronopus squamatus* is a speciality of the Eyemouth area, being more often found around the town than in the fields, though it used to be frequent in field gateways at Gunsgreen before the golf course development. *Hordeum murinum* is almost restricted to the coastal strip in Berwickshire and occurs here and there around Coldingham, St Abbs and Eyemouth. *Fumaria capreolata* was found at the base of a wall in Eyemouth in 2010, a similar habitat to its one other Berwickshire locality at Cockburnspath. *Sagina maritima* occurs about the harbours of St Abbs, Burnmouth and Eyemouth and occasionally by roads. Eyemouth has been mentioned under a variety of habitat headings and, despite its predominately urban nature, its monad, NT9464, is the most botanically diverse in Berwickshire in terms of rare or scarce plant species with twenty-seven such species present.

The roadsides have the usual halophytes but have been relatively little surveyed for other plants of interest. The railway has not been surveyed, but no banks worthy of particular attention have been noted. However *Ceterach officinarum* has a good colony on the lane leading to the old Ayton station.

The hectad has a relatively rich **arable weed** flora, especially in the fields adjacent to the coast, but it is now rare to see many plants of the scarcer species. *Anthriscus caucalis* has prospered briefly in two fields on Northfield in recent years but *Chrysanthemum segetum* has all but disappeared except in wildflower sowings. *Stachys arvensis* is occasionally met with at the headland by the coastal path and *Anagallis arvensis* is persistent in one field at Burnmouth where *Borago officinalis* has recently become naturalised where it had been grown as a crop. *Fumaria* species are well represented. *Fumaria purpurea* appeared in some profusion along a headland to the north of Eyemouth in 2000 and has been met with on disturbed ground elsewhere about the town. One plant of *F. bastardii* was seen in 2010 but *F. densiflora* has not been seen since 1981. *F. muralis* subsp. *boraei* and *F. officinalis* subsp. *officinalis* are widespread with *F. officinalis* subsp. *wirtgenii* occasional. *Lamium amplexicaule*, *L. confertum* and *L. hybridum* are all quite frequent.

Index of Sites NT96 Eyemouth

GR - NT	Ref	Site	Habitats
9061, 9160	1	Victoria Bridge, Eye Water	Grassland on rocky knowes, riverside
9063, 9064, 9163	2	Whitfield Wood, Ale Water	Wet woodland, burnside, heathy grassland
9065, 9066	3	Coldingham, east section, Coldingham Law	Ruderal, rocky knowe
9067, 9068	4	Millar's Moss	Grassland on rocky knowes, reservoir
9062, 9063, 9162, 9163	5	Feuarsmoor, Mileknowe and Drill Plantations, Longueville	Woodland on former moorland
9166	6	Coldingham Bay	Sandy beach, dunes, cliffs, burnside
9167, 9168, 9266, 9267	7	St Abbs Village, Northfield	Harbour, cliffs, pond, ruderal
9167	8	St Abbs Head NNR, Starney Bay	Cliff tops, sea braes
9168, 9169	9	St Abbs Head NNR, St Abbs Head	Grassland on rocky knowes, cliff tops, cliffs, gullies, reservoir on site of former mire
9068, 9069	10	St Abbs Head NNR, Petticowick	Grassland on rocky knowes, cliffs, rocky beach
9068, 9069	11	West in Thirle, Broadhaven Bay	Cliffs, gullies
9260, 9261, 9361	12	Ayton, Ayton Castle, Eye Water	Ruderal, dean woodland, grassland
9162, 9262, 9263	13	Linthill, Ale Water near, Little Dean	Dean woodland, rock outcrops
9362, 9462	14	Old Linthill, Ale Water, Eye Water	Dean woodland, basic rock outcrop
9363, 9364, 9365, 9463, 9464, 9465	15	Eyemouth, Eyemouth Fort, Hairy Ness	Harbour, sandy beach, cliff tops, sea braes, dean woodland, ruderal
9364, 9465	16	Killiedraught Bay	Sea braes
9165, 9264, 9265	17	Fleurs Dean, Linkim Kip	Dean with base-rich grassland and scrub, sea braes
9265, 9266, 9365	18	Linkim Shore, Yellow Craig	Sandy beach and grassland, base-rich flushes, rocky foreshore
9560	19	Chester Hill	Base-rich crumbling cliffs, grassland
9560, 9660	20	Burnmouth, south	Cliffs, sea braes, ruderal
9561	21	Burnmouth, north	Base-rich crumbling cliffs, sea braes
9562	22	Fancove Head	Cliff tops
9464, 9563, 9564	23	Gungreen	Cliff tops, sea braes, base-rich flushes, harbour wall, ruderal
96	24	Sundry	Arable habitats
96	25	Sundry	Sundry habitats

Site Register NT96 Eyemouth

1. Victoria Bridge, Eye Water, 9061, 9160, Habitat fragmentary

Grassland on rocky knowes, riverside

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Carex muricata</i> subsp. <i>lamprocarpa</i>	Two	916603	20	2009	MEB	Road verge rocks
	<i>Malva neglecta</i>		912607		1994	MEB	Archaeophyte
			918603		1994	MEB	

Selected axiophytes: *Berula erecta*, 918603, 918609, *Chenopodium bonus-henricus*, 917603, *Silene vulgaris*, 915603

Other axiophytes: *Conopodium majus*, *Koeleria macrantha*, *Ranunculus aquatilis*, *Thymus polytrichus*

Former rare or scarce species: *Dianthus deltoides*, 9160, 1900, C Bailey, rocks on the banks of the Eye Water between Ayton and East Reston, *Filago vulgaris*, 9160, 1900, C Bailey, hedgebank on the road from Ayton to Victoria Jubilee Bridge, 9160, 1900, C Bailey, banks of the Eye Water between Ayton and East Reston, *Hypericum humifusum*, 9160, 1829, Dr G Johnston, Eye above Ayton, *Ranunculus circinatus*, 9160, 1900, C Bailey

2. Whitfield Wood, Ale Water, 9063, 9064, 9163, Habitat fragmentary

Wet woodland, burnside, heathy grassland

Other axiophytes: *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Carex flacca*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Galium odoratum*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Rhinanthus minor*, *Stellaria holostea*, *Trifolium medium*, *Valeriana officinalis*

Intrusive neophytes: *Crocsmia x crocosmiiflora*, *Doronicum pardalianches*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*

Former rare or scarce species: *Clinopodium vulgare*, 9163, 1874, Dr C Stuart, *Corallorhiza trifida*, 9063, 1905, D S Fish, on the opposite side of the road from the original station, 9163, 1866, W Shaw, in a wood on the roadside between Alemill and Whitfield, *Goodyera repens*, 9063, 1891, Dr P W Maclagan, *Listera ovata*, 9163, 1931, A A Falconer, *Pyrola minor*, 9063, 1891, Dr P W Maclagan, *Sanguisorba officinalis*, 9163, 1871, W Shaw, *Thalictrum minus*, 9163, 1836, A A Carr, *Viola tricolor* subsp. *tricolor*, 906637, 1994, MEB

3. Coldingham, east section, Coldingham Law, 9065, 9066, Habitat fragmentary

Ruderal, rocky knowe

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Aethusa cynapium</i>	Small	903658	94	2010	MEB	By lane
		Small	904658	24	2010	MEB	By lane
	[<i>Artemisia absinthium</i>]	5 cells	907657		2010	MEB	Coldingham Law, on rock outcrop and in quite thick grass nearby
	<i>Epilobium roseum</i>		903658	39	2010	MEB	Bank of burn
			903661	70	2010	MEB	
	<i>Fumaria officinalis</i> subsp. <i>wirtgenii</i>		907656		1994	MEB	Garden
	<i>Geranium pusillum</i>	One	907657	23	2010	MEB	Coldingham Law, rock outcrop
	<i>Hordeum murinum</i>		902659	70	2010	MEB	
	[<i>Malva moschata</i>]		905657	19	2010	MEB	Pathside, introduction

[<i>Scabiosa columbaria</i>]		904660	09	2010	MEB	Coldingham Priory, sown
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Other axiophytes: *Mercurialis perennis*, *Thymus polytrichus*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Centranthus ruber*, *Symphoricarpos albus*

Former rare or scarce species: *Coronopus squamatus*, 9065, 1853, Dr G Johnston, waste grounds about, *Epipactis helleborine*, 9065, 1916, A H Evans, *Malva neglecta*, 9065, 1942, Miss E Logan Home, *Rubus caesius*, 9065, 1895, J Hardy, in hedge by lane to Coldingham Law, *Sambucus ebulus*, 9065, 1831, Rev A Baird, *Spergularia rubra*, 9066, 1956, Miss H M Brown

4. Millar's Moss, 9067, 9068, Habitat moderately good ♥

Grassland on rocky knowes, reservoir

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Cerastium arvense</i>		901680	70	2010	MEB	
			902679	49, 79	2010	MEB	
			902680	90	2010	MEB	
			902682	85	2010	MEB	
		4 cells	903682		2010	MEB	
			903683	70	2010	MEB	
		Large	904679		1994	MEB	
		Small	904683	64	2010	MEB	
	<i>Filago minima</i>	Small	905682	47	2010	MEB	Just above rocks
	<i>Geranium pusillum</i>		902681	39	2010	MEB	
	<i>Potamogeton filiformis</i>		903681	84, 96	2010	MEB	
			905681	64, 82, 87	2010	MEB	Near outflow
	<i>Ranunculus peltatus</i>		902684	77	2010	MEB	
	<i>Rorippa nasturtium-aquaticum</i>		905682		1994	MEB	

Selected axiophytes: *Stellaria pallida*, 901688, 902685, 903683, 903684, 903685, 904683, 904684, 905684, *Zannichellia palustris*, 9068

Other axiophytes: *Aira caryophyllea*, *Conopodium majus*, *Iris pseudacorus*, *Vulpia bromoides*

Former rare or scarce species: *Cerastium semidecandrum*, Small, 903682, 1983, MEB, sandy knowe, *Filago minima*, Four, 903682, 1983, MEB, sandy knowe, *Filago vulgaris*, three, 903682, 1983, MEB, sandy knowe, *Gymnadenia conopsea*, 9068, 1910, Rev J J M L Aiken, Westerside and Northfield, boundary wall between, *Littorella uniflora*, 904681, 1994, MEB, 905682, 1981, MEB, *Montia fontana subsp. chondrosperma*, 904687, 1954, P S Green, *Potentilla anglica*, 9067, 1829, Dr G Johnston, Coldingham, heath one mile north of Coldingham (as requiring confirmation), *Ranunculus baudotii*, 903682, 1954, P S Green, *Scleranthus annuus*, 903682, 1983, MEB, *Sherardia arvensis*, small colony, 903682, 1983, MEB, sandy knowe, *Trifolium striatum*, large colony, 903682, 1983, MEB, sandy knowe, *Vicia orobus*, 9067, 1895, J Hardy, Blackpots farm, Coldingham, *Vicia sativa subsp. segetalis*, 9068, 1910, Rev J J M L Aiken

5. Feuarsmoor, Mileknowe and Drill Plantations, Longueville, 9062, 9063, 9162, 9163, Habitat fragmentary

Woodland on former moorland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Mentha arvensis</i>		911631	18	2010	MEB	Damp area in ride
	<i>Rorippa nasturtium-aquaticum</i>		910627	03	2010	MEB	Runnel below pond

Selected axiophytes: *Equisetum sylvaticum*, 906632

Other axiophytes: *Achillea ptarmica*, *Carex disticha*, *Carex flacca*, *Geum rivale*, *Rhinanthus minor*, *Trifolium medium*

6. Coldingham Bay, 9166, Habitat good ♥♥

Sandy beach, dunes, cliffs

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Allium vineale</i>	Small	918662	05	2007	NC, ENHS	Crowther, small clump 8m up cliff face
	<i>Ammophila arenaria</i>	Modest	917664		2010	JM, BEHS	Muscott, Sumner, and more widely
	<i>Atriplex laciniata</i>	One	919662	75	2010	MEB	In boulders
			919663		2006	JM, ENHS	Muscott
	<i>Cakile maritima</i>	23	916664		2008	MEB, PFB	Edge of marram
		12	916665		2008	MEB, PFB	Edge of marram
		39	916666		2008	MEB, PFB	Edge of beach
		Five	917664	24, 25	2008	MEB, PFB	Edge of marram
		One	918663		2006	JB	Blane
	<i>Carex arenaria</i>	3 cells	916664		2005	MEB	
		Modest	917664	17, 37	2005	MEB	Sand dunes
		Modest	918664	53	2005	MEB	Colony on rocks above sea
	<i>Carex distans</i>	Modest	918663	19	2005	MEB	
		Modest	919663	08	2005	MEB	Colony on rocks above sea
	<i>Carex extensa</i>		9166		2006	JM, ENHS	Muscott
	[<i>Echium vulgare</i>]		9166		2006	JM, ENHS	Muscott, sown near car park
	<i>Elytrigia juncea</i>		916665		1999	TD	Dargie
	[<i>Geranium lucidum</i>]		915665	10	2010	MEB	By wall, introduction
	<i>Geranium sanguineum</i>	Small	916664	95	2010	MEB	
		Modest	917664	06	2001	MEB	
	<i>Gymnadenia conopsea subsp. borealis</i>	Two	918662	93	2010	DGL	
	<i>Honckenya peploides</i>	Modest	919663	09	2010	MEB	
	<i>Hordeum murinum</i>	Modest	915665	33	2005	MEB	
			915665	74	2010	MEB	Pathside
			917667	27	2010	MEB	Pathside
			918668	04	2010	MEB	Pathside
			919669	77	2010	MEB	Pathside
	<i>Juncus gerardii</i>		919662	55	2010	MEB	
	<i>Leymus arenarius</i>		917664	70	2010	JM, BEHS	Muscott, Sumner
	<i>Listera ovata</i>	4 cells, 350	918663		2010	DGL	
			918664	60	2010	DGL	
	<i>Puccinellia maritima</i>		9166		2006	JM, ENHS	Muscott
	<i>Rorippa nasturtium-</i>		9166		1994	MEB	

<i>aquaticum</i>						
[<i>Rosa pimpinellifolia</i>]		915664	20	2010	MEB	Planted in new hedge
<i>Spergularia media</i>		9166		2006	JM, ENHS	Muscott
<i>Thalictrum minus</i>	Modest	916664	60, 69	2010	MEB	
	Modest	916665	41	2010	MEB	
	Modest	917664	21, 30	2010	MEB	
<i>Triglochin maritimum</i>		9166		1994	MEB	

Selected axiophytes: *Agrimonia eupatoria*, 915663, *Anthyllis vulneraria*, 9166, *Carex otrubae*, 918663, *Helianthemum nummularium*, 917663, 918663, 918664, *Knautia arvensis*, 915663, *Orchis mascula*, 918664, *Primula veris*, 916664, 916665, 917663, 917664, 918662, 918663, 918664, *Silene vulgaris*, 9166, *Stellaria pallida*, 915666

Other axiophytes: *Achillea ptarmica*, *Allium ursinum*, *Anemone nemorosa*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex caryophylla*, *Carex disticha*, *Carex flacca*, *Cochlearia officinalis*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Ranunculus bulbosus*, *Silene uniflora*, *Thymus polytrichus*, *Triglochin palustre*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Hippophae rhamnoides*, *Hyacinthoides x massartiana*, *Rosa rugosa*

Former rare or scarce species: *Astragalus danicus*, Modest, 918663, 1996, R Singleton, Homeli Knowe, *Atriplex x taschereaui*, 917665, 1977, MEB, *Botrychium lunaria*, 917664, 1968, Mrs E O Pate, *Centaurium erythraea*, 9166, 1886, Rev G Macfarlane, *Cynoglossum officinale*, 9166, 1834, Dr G Johnston, *Daucus carota subsp. carota*, 9166, 1977, MEB, *Erodium cicutarium*, 9166, 1944, Miss E Logan Home, *Glaux maritima*, 9166, 1942, Miss E Logan Home, *Salsola kali subsp. kali*, 9166, 1836, A A Carr, *Stellaria neglecta*, 9166, 1956, Miss E P Beattie, *Trifolium arvense*, 9166, 1956, Miss H M Brown

7. St Abbs Village, Northfield, 9167, 9168, 9266, 9267, Habitat moderately good in part ♥

Harbour, cliffs, pond, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Ammophila arenaria</i>		9167		1994	MEB	
	[<i>Artemisia absinthium</i>]	Modest	920672	05	2010	MEB	Crag at rear of yard
	<i>Atriplex laciniata</i>		920675		1994	MEB	
	<i>Cerastium semidecandrum</i>		913676		1993	MEB	Northfield, bank by road
	<i>Daucus carota subsp. carota</i>	Ten	920669	55	2005	MEB	Sandy grassland at foot of cliff
	<i>Epilobium roseum</i>		920672	48	2010	MEB	Foot of wall
	<i>Geranium pusillum</i>	One	912677	98	2010	MEB	Northfield, bank by road
			916675		2005	LWG	Northfield
	<i>Honckenya peploides</i>		9167		1994	JM, ML	Murray, Little
	<i>Hordeum murinum</i>		915675		2006	MEB	Starney path
			918673	77	2010	MEB	
			919672	42	2010	MEB	
			919673	15	2010	MEB	
			920670	21, 49	2010	MEB	
	<i>Leymus arenarius</i>		9167		1994	JM, ML	Murray, Little
	<i>Malva neglecta</i>		919671	39	2010	MEB	Native or naturalised
	[<i>Rosa pimpinellifolia</i>]		9167		1994	JM, ML	Murray, Little, planted

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<i>Sagina apetala</i> subsp. <i>apetala</i>		913676		1993	MEB	Northfield, bank by road
<i>Trifolium arvense</i>		919672	68	2010	MEB	Top of brick wall
		919673	42	2010	MEB	Rock in harbour car park
	Large	920669	45, 56	2005	MEB	On cliff ledge
	3 cells	920670		2005	MEB	Cliff ledge
	Small	920674		1994	MEB	Harbour
<i>Trifolium striatum</i>	Six	912677	88, 98	2010	MEB	Bank by road
	Small	912678	26	2006	MEB	St Abbs Head, road to, bank
<i>Veronica polita</i>		920671	30	2010	MEB	Pathside

Selected axiophytes: *Anthyllis vulneraria*, 920669, [*Populus tremula*], 916676, planted, *Rosa rubiginosa*, 9167

Other axiophytes: *Armeria maritima*, *Brachypodium sylvaticum*, *Cochlearia officinalis*, *Eupatorium cannabinum*, *Koeleria macrantha*, *Ononis repens*, *Phyllitis scolopendrium*, *Silene uniflora*, *Thymus polytrichus*, *Vulpia bromoides*

Intrusive neophytes: *Centranthus ruber*, *Crococsmia x crocosmiiflora*, *Hippophae rhamnoides*, *Hyacinthoides x massartiana*, *Impatiens glandulifera*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: *Antennaria dioica*, 9167, 1896, R H Dunn, *Astragalus danicus*, 920670, 1973, MEB, *Carex arenaria*, 920670, 1973, MEB, *Carex distans*, 920670, 1977, MEB, *Cerastium arvense*, 9167, 1886, Rev G Macfarlane, *Dianthus deltoides*, 9167, 1896, R H Dunn, *Erodium cicutarium*, 9167, 1896, R H Dunn, *Glaux maritima*, 9167, 1896, R H Dunn, *Gymnadenia conopsea*, 9167, 1834, Dr G Johnston, [*Hyoscyamus niger*], 9167, 1853, Dr G Johnston, introduction, *Littorella uniflora*, 9167, 1834, Dr G Johnston, mill pond, *Sparganium natans*, 9167, 1833, R Dunlop

8. St Abbs Head NNR, Starney Bay, 9167, Habitat outstanding ♥♥♥♥♥

Cliff tops, sea braes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Anthriscus caucalis</i>	One	916676	34	2006	MEB	At reserve entrance, casual from arable adjacent
*	<i>Astragalus danicus</i>	7 cells	916679		2008	MEB	
*	<i>Centaureum erythraea</i>	5 cells	916677		2006	MEB	
*	<i>Sagina apetala</i> subsp. <i>apetala</i>	Large	916677		1993	MEB	On ant hills
*	<i>Trifolium arvense</i>	Large	916678	79	2005	MEB	On cliffs
*		Large	917679	03, 39	2005	MEB	On cliffs

Selected axiophytes: *Agrimonia eupatoria*, 915677, 916676, 916677, *Anthyllis vulneraria*, 916676, *Carduus tenuiflorus*, 916675, *Helianthemum nummularium*, 916676, 916677, *Ligusticum scoticum*, 916677, *Orchis mascula*, 916677, 917676, *Primula veris*, 916677, 917676

Other axiophytes: *Aira caryophyllea*, *Armeria maritima*, *Brachypodium sylvaticum*, *Carex flacca*, *Cochlearia officinalis*, *Conopodium majus*, *Dactylorhiza fuchsii*, *Helictotrichon pratense*, *Iris pseudacorus*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Ononis repens*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*

Intrusive neophytes: *Hyacinthoides x massartiana*, small colony, *Sedum album*, large colony

Former rare or scarce species: *Atriplex laciniata*, 916677, 1977, MEB, Starney Bay, *Vicia lathyroides*, 916677, 1977, MEB

9. St Abbs Head NNR, St Abbs Head, 9168, 9169, Habitat outstanding ♥♥♥♥♥

Grassland on rocky knowes, cliff tops, cliffs, gullies, reservoir on site of former mire

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Astragalus danicus</i>		910689	57	2006	MEB	
*		5 cells	910692		2004	MEB	
*		3 cells	910693		2004	MEB	
*			911688	88	2006	MEB	
*		3 cells	911691		2004	MEB	
*		7 cells	911692		2004	MEB	
*		4 cells	911693		2004	MEB	
*		7 cells	912690		2004	MEB	
*		9 cells	912691		2004	MEB	
*		6 cells	912692		2004	MEB	
*		9 cells	913688		2004	MEB	
*		6 cells	913689		2004	MEB	
*			913690	70, 80	2004	MEB	
*		6 cells	913691		2004	MEB	
*			913693		2006	LWG	
*			914685	69	2006	MEB	
*		4 cells	914689		2004	MEB	
*		13 cells	914690		2004	MEB	
*		6 cells	914691		2004	MEB	
*		Two	915686	46, 64	2006	MEB	
*		3 cells	915687		2004	MEB	
*		6 cells	915688		2004	MEB	
*		15 cells	915689		2004	MEB	
*			915690	01, 20	2004	MEB	
*		11 cells	916686		2004	MEB	
*		10 cells	916687		2004	MEB	
*		3 cells	916688		2004	MEB	
*		3 cells	917680		2004	MEB	
*			917684	85, 87	2004	MEB	
*		12 cells	917686		2004	MEB	
*		3 cells	918681		2004	MEB	
*			918682	89	2006	MEB	
*			918683	99	2004	MEB	
*		5 cells	918684		2004	MEB	
*		4 cells	919681		2004	MEB	
*		3 cells	919682		2004	MEB	
*		4 cells	919683		2004	MEB	
*			919684	00, 11	2004	MEB	
*	<i>Catapodium marinum</i>	Two	915693		2006	KJR	Rideout, seaward end of Eelicar Rocks
*		Small	918687		2006	KJR	Rideout, Waimie Carr, small colony at end of promontory
*	<i>Catapodium rigidum</i>	3 cells	910690		2006	MEB, PFB	Just above Lighthouse road
*		Three	913686	93	2006	MEB, PFB	Mire Loch, by
*		Large	914686	20	2006	MEB, PFB	Mire Loch, on rock outcrop by
*	<i>Cochlearia officinalis subsp. scotica</i>	Six	917685		2007	MFG	Godfrey, in soil-filled cracks in rocks at head of shingle beach
*	[<i>Convolvulus arvensis</i>]	Large	913690	15	2006	MEB	By former Lighthouse garden

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*	<i>Equisetum x litorale</i>		911686		1996	MEB	Mire Loch, by
*		Modest	918683	62	2006	MEB	Wuddy Heugh, flush near
*	<i>Filago vulgaris</i>		9168		1991	Anon	St Abbs Head Rangers, Mire Loch, east side
*			912689		1985	SRW	Warman, Mire Loch, near foot
*	<i>Gymnadenia conopsea</i>	Six	919683		1995	KJR, OL	Rideout, Leyshon, Wuddy Heugh
*	<i>Minuartia verna</i>	Two	910690	24	2006	MEB, PFB	One by road, one on rock near
*		Six	911691	35	2002	MEB	
*		80	911692	95	2002	MEB	
*		50	915686		2002	MEB	
*	<i>Myosotis ramosissima</i>	Small	913686	83, 92	2006	MEB	
*		Small	914685	38	2006	MEB	
*			914686	02	2006	MEB	
*			914686	20, 30	2006	MEB	
*		Modest	915685	77, 79	2006	MEB	
*		14 cells	915686		2007	MEB	
*		Large	915687	11, 21	2006	MEB	
*			916685	05	2006	MEB	
*	<i>Rorippa nasturtium-aquaticum</i>		910689		1992	CDP, PH	Preston, Hollingsworth
*			913687		1994	MEB	
*			917684	66	2006	MEB	
*	<i>Sagina apetala subsp. apetala</i>		914686	02	2006	MEB	
*	<i>Sagina subulata</i>	177	911691		2002	MEB	Bare, peaty patch on knowe
*		20	911691	15	2006	MEB, PFB	On steep rather bare earthy bank
*		15	912692	12	2002	MEB	At roadside
*		Seven	912692	01	2006	MEB, PFB	On hard verge by road
*		Two	913691	76	2002	MEB	On path
*	<i>Sedum rosea</i>	Small	911692	87	2009	MEB, BSBI	Half way up cliff below 'Minuartia mound'
*		Large	912692	56	2006	MEB	Middle of cliff
*			912693		1986	A MacD	MacDonald
*		Modest	913692		2006	MEB	Middle of cliff
*			913693		1977	MEB	Recent survey inadequate
*			914692		1977	MEB	Recent survey inadequate
*	<i>Sherardia arvensis</i>	Two	915686	53	2006	MEB	
*	<i>Spergularia media</i>		918687		1991	RRE	Elliot, foot of rocks
*	<i>Torilis nodosa</i>	23	914686	30	2009	JMcI	McIntosh and BSBI party
*		Small	915686	64, 65	2007	MEB	
*	<i>Trifolium arvense</i>		915693		1995	OJL	Leyshon, undercliff by Eelicar Rock
*		Ten	916686		1993	MEB	Kirk Hill
*		Large	917680	45	2005	MEB	Plentiful on cliffs
*	<i>Trifolium striatum</i>	Six	913686	74, 91	2006	MEB, PFB	
*		4 cells	914686	03	2006	MEB, PFB	
*		One	915686	45	2006	MEB	
*	<i>Viola canina</i>	Ten	911691	56	2006	MEB	
*			912691		2000	MEB	

Charophytes: *Chara globularis/virgata* agg., 911686, 1996, J J Day, Mire Loch, recorded as *C. virgata*

Selected axiophytes: *Anagallis arvensis*, 915686, *Anthyllis vulneraria*, 910690, 911686, 914685, *Berula erecta*, 911686, *Carduus tenuiflorus*, 911686, 911688, 915686, 917684, 917685, 917686, *Carex otrubae*, 917685, *Hydrocotyle vulgaris*, 910689, 911686, *Ligusticum scoticum*, 916687, 916688, *Orchis mascula*, 912692, *Primula veris*, 911692, 914691, *Saxifraga granulata*, 913686, 914685, 914686, *Zannichellia palustris*, 911686

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex caryophyllea*, *Carex disticha*, *Carex flacca*, *Carex viridula* subsp. *brachyrrhyncha*, *Cochlearia officinalis*, *Conopodium majus*, *Dactylorhiza maculata*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Iris pseudacorus*, *Koeleria macrantha*, *Lychnis flos-cuculi*, *Ononis repens*, *Ranunculus bulbosus*, *Silene uniflora*, *Thymus polytrichus*, *Triglochin palustre*, *Vulpia bromoides*

Intrusive neophytes: *Hippophae rhamnoides*, small patch, *Hyacinthoides x massartiana*, *Rosa rugosa*, modest thicket, *Sedum album*, large colony

Former rare or scarce species: *Apium inundatum*, 9168, 1896, R H Dunn, *Arabis hirsuta*, 915686, 1981, S R Warman, *Baldellia ranunculoides*, 9168, 1829, Rev A Baird, in a ditch at the foot of St Abbs Head, 9168, 1896, R H Dunn, *Carex arenaria*, 916685, 1977, MEB, East Hurker, plentiful, 917684, 1986, A Macdonald, *Carex distans*, 914691, 1986, A Macdonald, south of Lighthouse, in two seepages, *Hordeum murinum*, 9168, 1977, MEB, Mire Loch, near, *Lemna trisulca*, 9168, 1977, MEB, *Malva neglecta*, 9168, 1963, DGL, *Potamogeton filiformis*, 9168, 1896, R H Dunn, *Potamogeton pusillus*, 9168, 1969, AGL, *Spergularia media*, 918680, 57, 1977, MEB, low cliff, *Vicia lathyroides*, 914686, 1983, MEB, Kirk Hill

10. St Abbs Head NNR, Petticowick, 9068, 9069, Habitat outstanding ♥♥♥♥♥

Grassland on rocky knowes, cliffs, rocky beach

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Astragalus danicus</i>	4 cells	907692		2004	MEB	
*			908690	38	2004	MEB	
*			908691	03, 05	2004	MEB	
*		13 cells	908692		2004	MEB	
*		5 cells	908693		2004	MEB	
*		4 cells	908694		2004	MEB	
*			909691	99	2004	MEB	
*		8 cells	909692		2004	MEB	
*	<i>Cakile maritima</i>		906690		1991	RRE	Elliot
*	<i>Catabrosa aquatica</i>		909689		1993	DP	Patterson, Mire Loch, path in reeds
*	<i>Catapodium marinum</i>	15	907690	99	2006	MEB	Unstable bank
*		One	908690	09	2006	MEB	Unstable bank
*	<i>Catapodium rigidum</i>	Small	909690	17	2006	MEB, PFB	Lighthouse road, by passing place
*	<i>Equisetum x litorale</i>		908689	63, 74	2006	MEB	Runnel
*			908690	01, 51	2006	MEB, PFB	Into quite dry grassland
*		Modest	909689	06	2006	MEB, PFB	
*		Modest	909690	04, 10	2006	MEB, PFB	
*	<i>Juncus ambiguus</i>	3 cells	907690		2006	MEB, PFB	Foot of slope
*	<i>Minuartia verna</i>	750	908691		2002	MEB	
*		370	909690		2002	MEB	
*	<i>Puccinellia distans</i> subsp. <i>borealis</i>	One	907690	99	2006	MEB, PFB	Plant at back of beach with prostrate stem

*	<i>Rorippa nasturtium-aquaticum</i>		909690	10	2006	MEB	
*	<i>Sagina apetala subsp. apetala</i>	Four	908690	78	2006	MEB, PFB	
*		Two	909690	27	2006	MEB, PFB	Passing place
*	<i>Viola canina</i>	Six	909691	14	2007	MEB	Head of gully

Selected axiophytes: *Anagallis arvensis*, 909690, *Anthyllis vulneraria*, 909691, *Berula erecta*, 909689, *Carduus tenuiflorus*, 909690, *Carex otrubae*, 907690, 907691, *Hydrocotyle vulgaris*, 909689, 909690, *Orchis mascula*, 907690, 908691, 908692, *Saxifraga granulata*, 908691, 909691, *Stellaria pallida*, 908691, 908692

Other axiophytes: *Achillea ptarmica*, *Aira caryophyllea*, *Armeria maritima*, *Brachypodium sylvaticum*, *Carex caryophyllea*, *Carex flacca*, *Cochlearia officinalis*, *Conopodium majus*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Koeleria macrantha*, *Linum catharticum*, *Lychnis flos-cuculi*, *Ranunculus bulbosus*, *Silene uniflora*, *Thymus polytrichus*, *Triglochin palustre*, *Vulpia bromoides*

Former rare or scarce species: *Hypericum humifusum*, 9069, 1896, R H Dunn, *Trifolium striatum*, Small, 909692, 1983, MEB, steep grassy slope, *Vicia lathyroides*, small colony, 909691, 1977, MEB, slope

11. West in Thirle, Broadhaven Bay, 9068, 9069, Habitat good in part ♥♥

Cliffs, gullies

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Puccinellia distans subsp. borealis</i>	Small	906690	44	2006	MEB	Few high on ledge of stac, 5m altitude
*	<i>Sedum rosea</i>		900689		1986	A MacD	MacDonald
*			905689	58	2006	MEB	
*		Small	907690	04	2006	MEB	
*	<i>Seriphidium maritimum</i>	3x3m	906690	35, 44	2002	MEB	Plus few on stac above
*	<i>Thalictrum minus</i>		903690		1981	MEB	

Selected axiophytes: *Orchis mascula*, 906690, *Stellaria pallida*, 905690

Other axiophytes: *Brachypodium sylvaticum*, *Eupatorium cannabinum*, *Hyacinthoides non-scripta*

Former rare or scarce species: *Coeloglossum viride*, 9068, 1895, J Hardy, sea banks above West-in-Thirle

12. Ayton, Ayton Castle, Eye Water, 9260, 9261, 9361, Habitat moderately good in part♥

Ruderal, dean woodland, grassland

Selected axiophytes: *Campanula latifolia*, 930612, *Chrysosplenium alternifolium*, 936615, 936616, *Elymus caninus*, 936616, *Knautia arvensis*, 929604

Other axiophytes: *Allium ursinum*, *Cardamine amara*, *Eupatorium cannabinum*, *Mercurialis perennis*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Symphoricarpos albus*

Former rare or scarce species: *Carex remota*, 9261, 1893, T Renton, *Cerastium arvense*, 9260, 1893, T Renton, *Coeloglossum viride*, 9261, 1866, J Hardy, a marshy field near Ayton, [*Convolvulus arvensis*], 9260, 1836, A A Carr, *Dianthus deltoides*, 9261, 1900, C Bailey, in the shade of rocks on the path above the river,

Ayton, along the banks of the Eye Water, *Fumaria capreolata*, 9260, 1878, Cmdr F M Norman, *Lactuca virosa*, 9260, 1829, Dr G Johnston, near the six mile stone [to Berwick], [*Malva moschata*], 9261, 1893, J Anderson, introduction, *Pyrola minor*, 9361, 1893, W Shaw, in most of the woods, *Sparganium natans*, 9260, 1871, W Shaw, Eye, *Trifolium striatum*, 9261, 1893, W Shaw, *Valerianella locusta*, 9261, 1834, A A Carr, Eye below Ayton Bridge, *Viola tricolor*, 9260, 1900, C Bailey, Berrybank, Ayton

13. Linthill, Ale Water near, Little Dean, 9162, 9262, 9263, Habitat moderately good in part ♥

Dean woodland, rock outcrops

Selected axiophytes: *Agrimonia eupatoria*, 922627, *Elymus caninus*, 916633, *Orchis mascula*, 927627, *Saxifraga granulata*, 923626

Other axiophytes: *Adoxa moschatellina*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Conopodium majus*, *Festuca gigantea*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Sanicula europaea*, *Stellaria holostea*, *Valeriana officinalis*, *Veronica montana*

Intrusive neophytes: *Allium paradoxum*, *Rhododendron ponticum*

Former rare or scarce species: *Dianthus deltoides*, 9262, 1836, A A Carr, banks of Ale Water, *Neottia nidus-avis*, 917625, 1985, R McBeath, under beech, fragment of woodland, *Valerianella locusta*, 9263, 1868, J Hardy, *Viola hirta*, 920632, 1978, MEB, 14, *Arabis hirsuta*, 9362, 1868, W Shaw, *Centaureum erythraea*, 9362, 1868, J Hardy, *Clinopodium vulgare*, 9362, 1871, T Renton, *Crepis mollis*, 9362, 1893, Dr P W Maclagan, *Euonymus europaeus*, 9362, 1893, Dr F Douglas, *Myosotis ramosissima*, 9362, 1893, W Shaw, banks of Eye and Ale, *Rosa pimpinellifolia*, 9362, 1868, J Hardy, *Rubus caesius*, 9362, 1868, J Hardy, *Sagina subulata*, 9362, 1836, A A Carr, banks of Ale Water, *Sanguisorba minor subsp. minor*, 9362, 1868, J Hardy, *Vicia lathyroides*, 9362, 1831, Dr G Johnston, on the precipitous and dry rocky banks

14. Old Linthill, Ale Water, Eye Water, 9362, 9462, Habitat good in part ♥♥

Dean woodland, basic rock outcrop

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Allium vineale</i>	Two	939626	52	2010	MEB	Rock ledge, var. <i>compactum</i> , often double headed
	<i>Astragalus glycyphyllos</i>	10 clumps	940626	13	2010	MEB	
	<i>Echium vulgare</i>		939626		1994	MEB	
	<i>Galium mollugo</i>	50x50cm	938625	95	2010	MEB	Bank above Eye Water
	<i>Listera ovata</i>	Three	938625	74, 98	2010	MEB	
		Modest	938626		1994	MEB	
	<i>Thalictrum minus</i>	10x5m	940626	13, 24	2010	MEB	
	<i>Valerianella locusta</i>	Modest	938626		1994	MEB, PFB	

Selected axiophytes: *Campanula latifolia*, 939629, *Elymus caninus*, 936620, 939625, *Rosa rubiginosa*, 9362, *Saxifraga granulata*, 937626, 938626, 940626, *Vicia sylvatica*, 9362

Other axiophytes: *Ajuga reptans*, *Allium ursinum*, *Anemone nemorosa*, *Brachypodium sylvaticum*, *Bromopsis ramosa*, *Cardamine amara*, *Conopodium majus*, *Crepis paludosa*, *Festuca gigantea*, *Geum rivale*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Mercurialis perennis*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Quercus petraea*, *Ranunculus bulbosus*, *Sanicula europaea*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*

Intrusive neophytes: *Allium paradoxum*, *Doronicum pardalianches*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Hyacinthoides x massartiana*, *Rhododendron ponticum*, *Symphoricarpos albus*

15. Eyemouth, Eyemouth Fort, Hairy Ness, 9363, 9364, 9365, 9463, 9464, 9465, Habitat moderately good in part ♥

Harbour, sandy beach, cliff tops, sea braes, dean woodland, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Astragalus danicus</i>		943648		1994	MEB	Eyemouth Fort, pathside
	<i>Atriplex laciniata</i>	Small	942645	75	2010	MEB	
			942646	46, 54	2010	MEB	Back of beach
		Large	942647	57	2010	MEB	
	<i>Carex pendula</i>	One	941633	09	2008	MEB	Netherbyres, Eye Water near, south bank, foot of rivulet
	<i>Catapodium marinum</i>	Large	944641	31	2010	MEB	Wall top
			946646		1994	MEB	
	[<i>Centaurea cyanus</i>]	One	938647	84	2010	MEB	Casual by gas store
		Large	944635		2004	MEB	Municipal flower bed, sown
	<i>Centaureum erythraea</i>	Large	938649		1994	MEB, BSBI	
	[<i>Convolvulus arvensis</i>]	Modest	934642	82	2010	MEB	Creeping out from garden
		Modest	942644	26	2010	MEB	
		Large	942646	63	2010	MEB	
		Modest	942647	57	2010	MEB	Back of beach
	<i>Coronopus squamatus</i>	One	937647	72	2010	MEB	Pathside
			939643	00, 56	2000	MEB	Garden, 20 Northburn Road
			941648		1994	MEB	
		Small	942644	25, 34, 36	2010	MEB	Road edges and banking
		Small	942645	16	2010	MEB	Banking
	[<i>Echium vulgare</i>]	Small	944635		2005	MEB	Planted strip
	<i>Elytrigia juncea</i>		946646		1994	MEB	
	<i>Epilobium roseum</i>	Small	944641	03	2010	MEB	Lane
	<i>Erodium cicutarium</i>	One	948644	14	2001	MEB	Eyemouth Industrial Estate
	<i>Euphrasia tetraquetra</i>	Large	938648	56	2002	MEB, WFS	Sea braes
			938649	22	2010	MEB	Cliff top
	<i>Fumaria capreolata</i>	One	942643	64	2010	MEB	Foot of wall
	[<i>Geranium lucidum</i>]		944639	41	2010	MEB	Pathside, introduction
	<i>Glaux maritima</i>		938650	90	2010	MEB	Cliff top
			939650	01, 11, 21	2010	MEB	Cliff top
	<i>Honckenya peploides</i>		9364		2010	MEB	
		Small	942645	83	2010	MEB	By road
		Large	942646	55	2010	MEB	Back of beach
			942646	71	2010	MEB	Back of beach
		Small	942647	44	2010	MEB	Foot of cliffs
		Large	942647	32	2010	MEB	Back of beach
	<i>Hordeum murinum</i>		9364		1994	MEB, BSBI	
			942642	84	2010	MEB	Yard
			942644	28	2010	MEB	
			942645	11, 15	2010	MEB	Pathside
	<i>Juncus ambiguus</i>		944640		2000	MEB	Eye Water, mouth of
	<i>Juncus gerardii</i>		940650		1994	MEB	Hairy Ness
	[<i>Malva moschata</i>]		942645	15	2010	MEB	Banking, introduction
	<i>Malva neglecta</i>	Large	942644	37	2010	MEB	Native or naturalised
	<i>Myosotis ramosissima</i>	Two	948644	14	2001	MEB	Eyemouth Industrial Estate

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<i>Polystichum setiferum</i>	One	942635	29	2008	MEB	Netherbyres, Eye Water near, north bank
<i>Puccinellia distans</i> <i>subsp. borealis</i>	Small	940650	06	2010	MEB	Det. Dr T A Cope, in largely vegetation-free amphitheatre on promontary with slight accumulation of sand and stones over bare rock where plants grow, 20m altitude
<i>Puccinellia maritima</i>		940650		1994	MEB	Hairy Ness
[<i>Rosa pimpinellifolia</i>]		938647	84	2010	MEB	Planted
		943637		2010	MEB	Planted
<i>Sherardia arvensis</i>	Two	948644	14	2001	MEB	Eyemouth Industrial Estate
<i>Spergularia media</i>		938650	90, 91	2010	MEB	
		939650	11, 21, 95	2010	MEB	
		940650	05, 06	2010	MEB	By rock pools in amphitheatre on promontary
<i>Triglochin maritimum</i>		945640		1994	MEB	Eye Water, mouth of
<i>Veronica polita</i>	One	937647	62	2010	MEB	Pathside
[<i>Viburnum opulus</i>]		9464		1994	MEB	Planted
		943637	62	2010	MEB	Planted here and more widely

Selected axiophytes: *Agrimonia eupatoria*, 9364, *Anthyllis vulneraria*, 9364, 942647, *Berula erecta*, 939630, *Carex otrubae*, 943645, 946646, *Helianthemum nummularium*, 9464, *Knautia arvensis*, 945634, *Lamium amplexicaule*, 948644, *Lamium confertum*, 940641, 948644, *Lamium hybridum*, 948644, 949644, *Saxifraga granulata*, 939630, *Solanum dulcamara*, 944637, *Stellaria pallida*, 942645

Other axiophytes: *Allium ursinum*, *Armeria maritima*, *Brachypodium sylvaticum*, *Carex flacca*, *Carex pulicaris*, *Cochlearia officinalis*, *Dactylorhiza purpurella*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Polystichum aculeatum*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Silene uniflora*, *Thymus polytrichus*, *Trifolium medium*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Centranthus ruber*, *Crococsmia x crocosmiiflora*, *Fallopia japonica*, *Heracleum mantegazzianum*, *Hippophae rhamnoides*, *Hyacinthoides x massartiana*, *Rosa rugosa*, *Sedum album*, *Symphoricarpos albus*

Former rare or scarce species: *Allium oleraceum*, 9463, 1831, Rev A Baird, in woods at Netherbyres, [*Artemisia absinthium*], 9464, 1836, A A Carr, introduction, [*Convolvulus arvensis*], 9463, 1893, W Shaw, Gunsgreen Hill, *Daucus carota subsp. carota*, 9464, 1942, Miss E Logan Home, *Glaux maritima*, 9464, 1836, Mr Duncan, sides of Eye near its mouth, [*Hyoscyamus niger*], 9464, 1834, G Henderson, introduction, *Hypericum humifusum*, 9463, 1829, Rev A Baird, Netherbyres, near, *Minuartia verna*, 9464, 1834, A A Carr, Eyemouth Fort, north of, *Neottia nidus-avis*, 9463, 1829, Rev A Baird, Netherbyres, [*Nuphar lutea*], 9463, 1853, Dr G Johnston, Netherbyres, pond at, *Potentilla tabernaemontani*, 9363, 1866, T Renton, Netherbyres Mill, *Thalictrum flavum*, 9463, 1829, Rev A Baird, Netherbyres, *Torilis nodosa*, 9463, 1893, W Shaw, 9464, 1871, W Shaw, waste places, *Trifolium arvense*, 9463, 1829, Rev A Baird, banks of Eye opposite Netherbyres, *Valerianella locusta*, 9463, 1853, Dr G Johnston, Eye near Netherbyres, 9464, 1942, Miss E Logan Home

16. Killiedraught Bay, 9364, 9465, Habitat fine ♥♥♥

Sea braes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Atriplex laciniata</i>		935648		2000	MEB	
			936646		1994	MEB	
	<i>Cakile maritima</i>	One	936647	74	2010	MEB	
	<i>Elytrigia juncea</i>	Small	935647	83	2010	MEB	Back of beach
	<i>Gymnadenia conopsea</i>		935647		1994	MEB	
	<i>Honckenya peploides</i>	5 cells	935647		2010	MEB	
			936647		2010	MEB	
	<i>Listera ovata</i>	Fifteen	935646	89	2010	MEB	
		7 cells	935647		2010	MEB	

Selected axiophytes: *Carlina vulgaris*, 935647, *Orchis mascula*, 935647, 936647, 937648, *Polygala vulgaris*, 935646, *Primula veris*, 934648, 935646, 935647, 936647, *Saxifraga granulata*, 934648, 935646, 936647, *Vicia sylvatica*, 9364

Other axiophytes: *Carex pulicaris*, *Hypericum hirsutum*, *Leontodon hispidus*, *Rhinanthus minor*, *Trifolium medium*

Intrusive neophytes: *Allium paradoxum*, *Buddleja davidii*, *Hyacinthoides x massartiana*, *Rosa rugosa*, large thicket

17. Fleurs Dean, Linkim Kip, 9165, 9264, 9265, Habitat fine in part ♥♥♥

Dean with base-rich grassland and scrub, sea braes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Elytrigia juncea</i>		931653		1994	MEB	Callercove Point
	<i>Gymnadenia conopsea</i>	One	923653	54	2010	MEB	
	<i>Honckenya peploides</i>	Large	923655	72	2010	MEB	
			924654	77	2010	MEB	
	<i>Polypodium interjectum</i>	Small	930652		1994	MEB	Linkim Kip

Selected axiophytes: *Agrimonia eupatoria*, 928652, *Anthyllis vulneraria*, 924654, *Carlina vulgaris*, 924654, *Ligusticum scoticum*, 928653, 931652, *Orchis mascula*, 923653, 924654, 925654, *Pinguicula vulgaris*, 923653, *Primula veris*, 923653, 923654, 924653, 924654, 925654, 926654, 927653, 928651, 928652, 929651, 929652, 930651, 931651, 932650, 932651, 932652, *Vicia sylvatica*, 924654, 928652, 929651, 930653, 931651, 932652

Other axiophytes: *Anemone nemorosa*, *Brachypodium sylvaticum*, *Briza media*, *Bromopsis ramosa*, *Carex flacca*, *Carex pulicaris*, *Dactylorhiza fuchsii*, *Festuca gigantea*, *Geum rivale*, *Helictotrichon pratense*, *Hypericum hirsutum*, *Leontodon hispidus*, *Linum catharticum*, *Mercurialis perennis*, *Ononis repens*, *Phyllitis scolopendrium*, *Rhinanthus minor*, *Stellaria holostea*, *Thymus polytrichus*

Intrusive neophytes: *Allium paradoxum*, *Crococsmia x crocosmiiflora*, *Heracleum mantegazzianum*

Former rare or scarce species: *Allium vineale*, 922654, 1960, Dr F H Perring, BSBI party led by, *Cynoglossum officinale*, 925655, 1956, G Grahame, Linkim, south of, *Gymnadenia conopsea subsp. densiflora*, 9265, 1960, AGL [*subsp.* not checked more recently], *Silaum silaus*, 9264, 1893, W Shaw, road to Coldingham, *Torilis nodosa*, 9264, 1871, W Shaw, Hallydown, waste places

18. Linkim Shore, Yellow Craig, 9265, 9266, 9365, Habitat fine in part ♥♥♥

Sandy beach and grassland, base-rich flushes, rocky foreshore

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Atriplex littoralis</i>		9266		2006	JM, ENHS	Muscott
	<i>Cakile maritima</i>		9265		2006	JM, ENHS	Muscott
	<i>Carex distans</i>		920662	27, 47, 94	2010	MEB	
			920662	37	2010	MEB	
			921658	70	2010	MEB	
			921659	82, 84	2010	MEB	
			921660	56, 59	2010	MEB	
		5 cells	921661		2010	MEB	
			921661	41	2010	MEB	
			921662	31	2010	MEB	
			922659		2010	JM	Muscott
	<i>Carex extensa</i>		920662	94	2010	MEB	
			921659	84	2010	MEB	
	<i>Crambe maritima</i>	One	921660	65	2010	MEB	Not flowering 2010, flowered 2009
	<i>Eleocharis quinqueflora</i>		921658	50	2010	MEB	
	<i>Glaux maritima</i>		921658	89, 98	2010	MEB	
			921658	97	2010	DGL	
			921659	43, 80, 96	2010	MEB	
		4 cells	921660		2010	MEB	
			922658	07	2010	MEB	
	<i>Honckenya peploides</i>	4 cells	921657		2010	MEB	
		Large	929652	14	2010	MEB	
	<i>Juncus gerardii</i>		920662	76, 94	2010	MEB	
			921658	98	2010	MEB	
			921659	80, 96	2010	MEB	
			921660	59	2010	MEB	
			921661	56	2010	MEB	
			921662	32	2010	MEB	
			922658	07	2010	MEB	
			922659	60	2010	JM	Muscott
	<i>Leymus arenarius</i>		921656		2007	NC, ENHS	Crowther
	<i>Myosotis ramosissima</i>	Two	922655	95	2010	MEB	
		Two	923655	04	2010	MEB	On ant hills
	<i>Puccinellia maritima</i>		921662		1994	MEB	
	<i>Puccinellia maritima</i>	Small	922659		2010	JM	Muscott
	<i>Spergularia media</i>		921658	89	2010	MEB	
			921662		1994	MEB	
			922659		2010	JM	Muscott
	<i>Triglochin maritimum</i>		921659	80, 96	2010	MEB	
			921660	58	2010	MEB	
			921662		1994	MEB	
			922658	07	2010	MEB	
			922659		2010	JM	Muscott
	<i>Valerianella locusta</i>	One	922655	53	2007	NC, ENHS	Crowther

	<i>Valerianella locusta</i>		923655	05	2001	MEB	
	<i>Vicia lathyroides</i>		9265		1994	MEB	

Selected axiophytes: *Anthyllis vulneraria*, 9266, *Carex otrubae*, 920662, 921658, 921659, 921661, 921662, 922659, *Ceratocarpus claviculata*, 921661, *Helianthemum nummularium*, 921660, *Ligusticum scoticum*, 921663, *Parnassia palustris*, 920662, *Pinguicula vulgaris*, 920663, 921658, 921663, *Saxifraga granulata*, 922655, 923655, *Stellaria pallida*, 923655

Other axiophytes: *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex flacca*, *Carex pulicaris*, *Carex viridula* subsp. *brachyrrhyncha*, *Cochlearia officinalis*, *Crepis paludosa*, *Dactylorhiza fuchsii*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Iris pseudacorus*, *Koeleria macrantha*, *Leontodon hispidus*, *Lychnis flos-cuculi*, *Mercurialis perennis*, *Ononis repens*, *Ranunculus bulbosus*, *Rhinanthus minor*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*, *Triglochin palustre*

Intrusive neophytes: *Doronicum pardalianches*

Former rare or scarce species: *Astragalus danicus*, 9265, 1956, AGL, *Carex arenaria*, 9265, 1956, AGL, *Carex pendula*, 9266, 1910, Rev J J M L Aiken, Milldown, marshy headland, *Daucus carota* subsp. *carota*, 9265, 1922, Rev J J M L Aiken, *Elytrigia juncea*, 923656, 1981, MEB, *Glaucium flavum*, 9265, 1963, DGL, 921663, 1949, G Grahame, Yellow Craig

19. Chester Hill, 9560, Habitat good in part ♥♥

Base-rich crumbling cliffs, grassland

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Arabis hirsuta</i>	16	952602	86, 92	2010	MEB	Crumbling rock face
		Five	953601	39, 58	2010	MEB	Crumbling rock face
		One	953602	11	2010	MEB	Crumbling rock face

Selected axiophytes: *Orchis mascula*, 952602, 953601, 953602, *Primula veris*, 952602, 953601, 953602, *Saxifraga granulata*, 952602, 953601, 953602, 954601, *Vicia sylvatica*, 952602, 953601, 953602, *Viola lutea*, 952602

Other axiophytes: *Aira caryophyllea*, *Carex caryophyllea*, *Carex flacca*, *Conopodium majus*, *Koeleria macrantha*, *Leontodon hispidus*, *Linum catharticum*, *Ranunculus bulbosus*, *Thymus polytrichus*

20. Burnmouth, south, 9560, 9660, Habitat good in part ♥♥

Cliffs, sea braes, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	[<i>Artemisia absinthium</i>]		958608		1998	RMcB	McBeath
	<i>Atriplex laciniata</i>		958609	32	2010	MEB	
	<i>Coronopus squamatus</i>		957609	85	2004	MEB, PFB	Burnmouth Harbour
	<i>Fumaria purpurea</i>	Small	955609	26	2010	MEB	Foot of wall near railway
	<i>Hypericum x desetangsii</i>		961602	65, 91	2010	MEB	Laneside
*	<i>Listera ovata</i>	Two	957609		2005	JTM, AM	Mercer
	<i>Rubus caesius</i>		957609	76, 94	2004	MEB, PFB	
		Large	961605	42	2004	MEB, PFB	
*	<i>Viola canina</i>	One	956609	84	2010	MEB	

Selected axiophytes: *Anthyllis vulneraria*, 9560, *Equisetum telmateia*, 9660, 959606, 960605, 961605, *Silene vulgaris*, 9560, *Vicia sylvatica*, 958609, 964605

Other axiophytes: *Brachypodium sylvaticum*, *Cochlearia officinalis*, *Eupatorium cannabinum*, *Hyacinthoides non-scripta*, *Hypericum hirsutum*, *Leontodon hispidus*, *Ononis repens*, *Origanum vulgare*, *Stellaria holostea*

Intrusive neophytes: *Buddleja davidii*, *Centranthus ruber*

Former rare or scarce species: *Cakile maritima*, 9660, 1979, MEB, *Fumaria densiflora*, Modest, 962602, 1979, N F Stewart, Railway line, *Lactuca virosa*, 9560, 1853, Dr G Johnston, *Schoenus nigricans*, 9660, 1853, Dr G Johnston, Ross, ravine above, *Trifolium arvense*, 9660, 1979, MEB, *Viola hirta*, 9660, 1829, Dr G Johnston, Ross, ravine above

21. Burnmouth, north, 9561, Habitat excellent in part ♥♥♥♥

Base-rich crumbling cliffs, sea braes

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Arabis hirsuta</i>	Four	957617	06	2010	MEB	Probably an outlier of a colony on cliffs above
	[<i>Artemisia absinthium</i>]		956610	92	2000	MEB	
	<i>Cakile maritima</i>	One	957613	82	2010	MEB	Back of beach
*	<i>Catapodium marinum</i>		957615		1999	MEB	
*	<i>Catapodium rigidum</i>		956610	97	2001	MEB	
*			957615	39	2001	MEB	
*		Small	957615	52	2010	MEB	
*		Small	957615	68	2010	MEB	
	<i>Cerastium arvense</i>	50x50cm	956611	48	2010	MEB	Bank above path
*	<i>Geranium sanguineum</i>	Eight	957612	41, 52, 53	2010	MEB	Bank edge above lane
*		32	957613	81	2010	MEB	Steep slope
*		20	957613	98	2010	MEB	Slippage on slope
*		Six	957614	61, 90	2010	MEB	Slippage on slope
*		One	957615	65	2010	MEB	Steep slope
	<i>Hordeum murinum</i>		9561		1994	MEB	
*	<i>Listera ovata</i>		9561		2005	JTM, AM	Mercer
	[<i>Malva moschata</i>]		957610	01	2010	MEB	Near house, introduced
*	<i>Myosotis ramosissima</i>		956611	99	2010	MEB	
*			956612	81, 90, 91	2010	MEB	Scattered but disrupted by rabbits
*			957612	03, 12	2010	MEB	
*	<i>Rubus caesius</i>		954610	99	2010	MEB	Bank by road
*			956611	80	2010	MEB	
*			956618	90	2010	MEB	
*			957617	05	2010	MEB	
*	<i>Sanguisorba minor</i> <i>subsp. minor</i>		956610	48	2010	MEB	Above road
*		5 cells	956610		2010	MEB	
*		4 cells	956611		2010	MEB	
*		5 cells	957611		2010	MEB	
*			957612	30, 53	2010	MEB	
*		One	957613	81	2010	MEB	
	[<i>Smyrniium olusatrum</i>]		957611		2005	JTM, AM	Mercer, by path to Partanhall [presumed introduction, MEB]
*	<i>Spergularia media</i>	Small	957617	35	2010	MEB	

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*	<i>Thalictrum minus</i>	Small	956617	92	2001	MEB	
*		Two	957616	44	2010	MEB	
*	<i>Trifolium arvense</i>		9561		2005	JTM, AM	Mercer
*	<i>Trifolium fragiferum</i>	Small	957617	22	2010	MEB	Behind boulder beach
*	<i>Triglochin maritimum</i>	10x5m	957617	35	2010	MEB	By rock pool
*	<i>Valerianella locusta</i>		956611	99	2010	MEB	
*			956612	81, 90, 91	2010	MEB	Scattered but disrupted by rabbits
*		Large	957614	40	2010	MEB	
*			957615	40	2010	MEB	
*			957611	21	2001	MEB	
*	<i>Viola canina</i>	One	957615	64	2010	MEB	On firm rock in eroding slope
*			958617		1990	FGH	Hardy
*	<i>Viola hirta</i>	Small	956610	68	2010	MEB	Below lane
*		24	957611	06, 16, 17	2010	MEB	Above lane
*	<i>Viola x intersita</i>	One	957615	82	2010	MEB	

Selected axiophytes: *Anthyllis vulneraria*, 956619, 957615, 957616, *Carlina vulgaris*, 956610, 956611, 956617, 956619, 957611, 957612, 957613, 957615, 957616, 957617, *Equisetum telmateia*, 9561, *Helianthemum nummularium*, 956610, 956612, 957610, 957611, 957612, 957613, 957615, *Knautia arvensis*, 957610, *Ligusticum scoticum*, 956618, 957617, *Orchis mascula*, 956617, 956618, 957614, 957615, 957616, 957617, *Polygala vulgaris*, 956617, 956619, 957611, 957615, 957616, 957617, *Primula veris*, 955610, 956610, 956617, 956618, 956619, 957614, 957615, 957616, 957617, *Saxifraga granulata*, 956612, 956617, 956618, 957614, 957615, 957617, *Vicia sylvatica*, 956618, 956619, 957614, 957615

Other axiophytes: *Aira caryophyllea*, *Allium ursinum*, *Armeria maritima*, *Brachypodium sylvaticum*, *Briza media*, *Carex flacca*, *Cochlearia officinalis*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Helictotrichon pratense*, *Hypericum hirsutum*, *Iris pseudacorus*, *Leontodon hispidus* [includes a small population of a diminutive form, previously mistaken for *L. saxatilis*, at 956610, 956611, 957611], *Linum catharticum*, *Ononis repens*, *Origanum vulgare*, *Ranunculus bulbosus*, *Silene uniflora*, *Stellaria holostea*, *Thymus polytrichus*, *Trifolium medium*. [There are large populations of two forms of *Viola riviniana*, the normal form with a pale spur and glabrous leaves and a second form with a dark spur and hairy leaves]

Intrusive neophytes: *Allium paradoxum*, *Centranthus ruber*, massive colonies, *Cotoneaster horizontalis*, *C. integrifolius* and *C. simonsii*, massive colonies, *Hyacinthoides x massartiana*, *Rosa rugosa*, *Sedum album*
Former rare or scarce species: *Allium vineale*, 9561, 1960, AGL, *Astragalus danicus*, 9561, 1979, MEB, *Astragalus glycyphyllos*, 9561, 1831, A A Carr, ravine above Ross (lost by 1861 to railway construction), *Carduus nutans*, 9561, 1960, AGL, *Cerastium semidecandrum*, 9561, 1979, COB, *Gentianella campestris*, 9561, 1853, Dr G Johnston, coast at intervals north from Burnmouth, *Gymnadenia conopsea*, 9561, 1963, AGL, [*Hyoscyamus niger*], 9561, 1886, Rev G Macfarlane, introduction, *Hypericum humifusum*, 9561, 1960, AGL, *Rosa pimpinellifolia*, 9561, 1886, Rev G Macfarlane, *Scleranthus annuus*, 9561, 1960, AGL, behind school

22. Fancove Head, 9562, Habitat moderately good ♥

Cliff tops

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Catapodium maritimum</i>	Modest	952625	57	2010	MEB	Top of eroding slope
*	[<i>Convolvulus arvensis</i>]		956621		1993	DP	Patterson
*	<i>Geranium pusillum</i>		956621		1997	JM	Muscott

Selected axiophytes: *Anthyllis vulneraria*, 953626, *Carlina vulgaris*, 952626, 953626, *Helianthemum nummularium*, 952625, 953626, *Orchis mascula*, 953626, 955622, *Primula veris*, 952626, 953625, 953626, 955620, 955624, *Saxifraga granulata*, 953626, *Vicia sylvatica*, 952626

Other axiophytes: *Aira caryophyllea*, *Armeria maritima*, *Brachypodium sylvaticum*, *Cochlearia officinalis*, *Dactylorhiza purpurella*, *Helictotrichon pratense*, *Koeleria macrantha*, *Linum catharticum*, *Ononis repens*, *Silene uniflora*, *Thymus polytrichus*, *Valeriana officinalis*

Former rare or scarce species: *Catapodium marinum*, small colony, 955626, 1981, MEB, Eroding rock ledges on sea cliffs, 956620, 1979, MEB, large colony, 956623, 1981, MEB, *Catapodium rigidum*, 9562, 1979, COB, *Sagina apetala subsp. apetala*, 9562, 1960, AGL, *Viola tricolor subsp. tricolor*, 9562, 1956, AGL, Fancove Head, whins near

23. Gunsgreen, 9464, 9563, 9564, Habitat excellent in part ♥♥♥♥

Cliff tops, sea braes, base-rich flushes, harbour wall, ruderal

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
*	<i>Astragalus danicus</i>		949644	54, 78	2005	MEB	
*		Small	949645	83	2010	MEB	
*			950644	78, 86, 88	2005	MEB	
*			952642	60	2005	MEB	
*			952643	22, 23, 32	2005	MEB	
*		Large	953640	86, 95	2005	MEB	Path
*			954635	58, 69	2005	MEB, PFB	
*			954636	40, 51, 69	2008	MEB	
*			954637	45	2005	MEB, PFB	
*			954638	80, 82, 93	2005	MEB, PFB	
*			955633	00, 10, 11	2005	MEB, PFB	
*	<i>Carex distans</i>		948646	75	2010	MEB, PFB	
*			949646	44, 70	2010	MEB, PFB	
*			950644	57	2010	MEB, PFB	
*	<i>Carex distans</i>		951644	25, 55	2010	MEB, PFB	
*			953640	18	2010	MEB, PFB	
*			954638	57	2010	MEB, PFB	
*		4 cells	954639		2010	MEB, PFB	
*	<i>Catapodium marinum</i>		947645	47, 52, 53	2010	MEB, PFB	Sea wall
*			948646	33	2010	MEB, PFB	Pathside
*			948646	85	2010	MEB, PFB	Coastal rocks
*	<i>Centaurium erythraea</i>	50	951643	84, 94	2010	MEB, PFB	At top of slope by tiny path down slope
	[<i>Convolvulus arvensis</i>]		947646	43	2010	MEB, PFB	Against harbour wall

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	<i>Coronopus squamatus</i>		949644	21	2010	MEB, PFB	Dumped soil
		Small	949646	22	2010	MEB, PFB	Pathside
	[<i>Daucus carota</i> subsp. <i>carota</i>]	Small	947644	67	2010	MEB, PFB	Sown on bank
	[<i>Echium vulgare</i>]		947644	66	2010	MEB, PFB	Sown on bank
*	<i>Euphrasia tetraquetra</i>	Small	949645	77	2010	MEB, PFB	
	<i>Fumaria purpurea</i>	Small	948646	54	2010	MEB	Disturbed ground
		Small	949644	31	2010	MEB	Spoil heap
*	<i>Glaux maritima</i>		949646	33, 44	2010	MEB, PFB	
*	<i>Juncus gerardii</i>		948646	75	2010	MEB, PFB	
*			949646	43	2010	MEB, PFB	
*			953640	66	2010	MEB, PFB	
*	<i>Rorippa nasturtium-aquaticum</i>		9564		1994	MEB	
*	<i>Schoenus nigricans</i>		954638	18, 58	2010	MEB, PFB	
*		7 cells	954639		2010	MEB, PFB	On spectacular rim of wet rocks
*	<i>Scilla verna</i>	Large	950644	86	2010	MEB, PFB	
*		Large	951644	60	2008	MEB	
*		5 cells	952643		2010	MEB, PFB	
*	<i>Seriphidium maritimum</i>	3x3m	953640	27	2010	MEB, PFB	At foot of rocks
*	<i>Spergularia media</i>		949646	43	2010	MEB, PFB	
*			954640	16	2010	MEB, PFB	Quite high on rocks
*	<i>Thalictrum minus</i>	Small	949644	68	2010	MEB, PFB	Rock ledges
*		4 cells	950644		2010	MEB, PFB	On slope
*	<i>Triglochin maritimum</i>		9563		1993	DP	Patterson
*	<i>Vicia sativa</i> subsp. <i>segetalis</i>		949644	32	2010	MEB	By car park
*		Large	950640	60	2005	MEB	
*	<i>Viola canina</i>	20	949644	63, 74	2010	MEB	
*		6 cells, 1,000	950644		2010	MEB	
*		Two	954638	74	2010	MEB, PFB	
*	<i>Viola tricolor</i> subsp. <i>tricolor</i>		953632	91	2005	MEB, PFB	
*		4 cells	954631		2005	MEB, PFB	
*			954632	67	2005	MEB, PFB	

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*	<i>Viola x intersita</i>	Modest	949644	43	2010	MEB	
*	<i>Viola x intersita</i>	Nine	954634	47, 74	2005	MEB, PFB	Cliff top with <i>Calluna</i> nearby
*		One	954635	30	2005	MEB, PFB	Close to patch of <i>Calluna</i>

Selected axiophytes: *Agrimonia eupatoria*, 9564, 949644, *Anthyllis vulneraria*, 9464, 953640, *Carduus tenuiflorus*, 947645, *Carduus tenuiflorus*, 949645, *Carex otrubae*, 953640, *Helianthemum nummularium*, 9564, 949644, 954636, *Ligusticum scoticum*, 948646, 949646, 951643, 951644, 952642, 953640, 954639, 954640, 954641, *Orchis mascula*, 949645, *Polygala vulgaris*, 9564, *Primula veris*, 950644, *Vicia sylvatica*, 947645

Other axiophytes: *Armeria maritima*, *Carex flacca*, *Cochlearia officinalis*, *Dactylorhiza purpurella*, *Eupatorium cannabinum*, *Koeleria macrantha*, *Ononis repens*, *Silene uniflora*, *Thymus polytrichus*, *Triglochin palustre*, *Valeriana officinalis*

Intrusive neophytes: *Allium paradoxum*, *Crococsmia x crocosmiiflora*, *Rosa rugosa*, *Sedum album*

Former rare or scarce species: *Sagina nodosa*, 9563, 1893, W Shaw, *Samolus valerandi*, 9563, 1924, Rev J J M L Aiken, *Trifolium fragiferum*, 9563, 1893, W Shaw, *Triglochin maritimum*, 9564, 1942, WFS
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24. Sundry arable habitats NT96, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Anthriscus caucalis</i>	One	906681	84	2010	MEB	Millars Moss, near, cereal margin
		Large	907684	88, 97	2010	MEB	Millars Moss, near, cereal margin
		5 cells	908684		2010	MEB	Millars Moss, near, cereal margin
		One	914674	50	2005	MEB	Northfield, one at edge of strawberry field
		Large	915675		2005	LWG	Northfield, winter rape field, around margin of
		24 cells, 200	916676		2005	MEB	Northfield, winter rape field, around margin of
	<i>Centaurea cyanus</i>		914665	82	2010	MEB	St Vedas Hotel, near, bank under development, ex garden seed bank
	<i>Chrysanthemum segetum</i>	Large	915625		1994	MEB	Feuarsmoor Plantation, dumped soil
	<i>Coronopus squamatus</i>		927653		1994	MEB	Hallydown Shore, above
		Modest	952639		1994	MEB	Gunsgreenhill, in a number of places over these fields
		100	963600		2001	MEB, LWG	Lamberton Holdings
	<i>Fumaria bastardii</i>	One	910627	16	2010	MEB	Mileknowe Plantation, dump by pond
	<i>Fumaria officinalis subsp. wirtgenii</i>		911662		2010	MEB	Milldown Burn, near, stubble
			914665	82	2010	MEB	St Vedas Hotel, near, bank under development, ex garden seed bank
			915662	40	2010	MEB	Milldown, building site
			915663	38	2010	MEB	Milldown, near, disturbed ground in lane
		Small	916667	09	2010	MEB	Coldingham Bay, near, wheat field
	<i>Fumaria purpurea</i>	500	934644		2000	MEB	Barefoots, near, oil seed rape, also in hedge bank
		12	949624		2000	MEB	Gunsgreen, south of, in oil seed rape

	One	950621		2000	MEB	Fancove Head, near, in oil seed rape
<i>Persicaria lapathifolia</i>		945635		1994	MEB	Netherbyres
<i>Stachys arvensis</i>		924653		1994	MEB	Fleurs Dean, near
		957619		1997	JM	Muscott, Breeches Rock, near

Selected axiophytes: *Anagallis arvensis*, 9162, Ayton Little Dean, near, 9562, Burnmouth towards Hurker's Haven, fields, 906637, Whitfield North Wood, 909634, Longueville, 954611, Burnmouth Hill, 955611, Burnmouth, 957613, Burnmouth braes, near, *Lamium amplexicaule*, 9063, North Wood, 9167, St Abbs coast, 9265, Linkim Shore, 9362, Ayton Mains, 928645, Hallydown, near, 933643, Eyemouth, by, 949624, Gunsgreen, south of, 952608, East Flemington, 953608, Flemington Inn, opposite, 953627, Blaikie Heugh, near, 956617, Burnmouth braes, near, *Lamium confertum*, 909634, Longueville, 910683, Northfield. near, 914674, Northfield, St Abbs, 916675, St Abbs, Northfield Farm, 928645, Hallydown, near, 930648, Hallydown, 932649, Killiedraught Bay, 933643, Eyemouth, by, 954607, Burnmouth, *Lamium hybridum*, 9063, North Wood, 906656, Coldingham, 927630, Linthill, near, 927653, Hallydown Shore, 928645, Hallydown, near, 932649, Killiedraught Bay, 933643, Eyemouth, by, 938626, Old Linthill, 949624, Gunsgreen, south of, 952608, East Flemington, 953627, Blaikie Heugh, near, 956616, Burnmouth, 956617, Burnmouth braes, near

Former rare or scarce species: *Aethusa cynapium*, 9167, 1855, Prof J H Balfour, St Abbs, *Anagallis arvensis* subsp. *foemina*, 9167, 1896, R H Dunn, St Abbs, 9463, 1865, J Hardy, Highlaws, Eyemouth, *Anthriscus caucalis*, 9166, 1942, Miss E Logan Home, Coldingham Shore, *Centaurea cyanus*, 9461, 1893, W Shaw, Fairnieside, *Chrysanthemum segetum*, 9167, 1829, Dr G Johnston, St Abbs Head, fields near, 9264, 1967, Mrs E O Pate, Hallydown, near, 9461, 1893, W Shaw, Fairnieside, 9464, 1829, Rev A Baird, Gunsgreen, 9561, 1979, COB, Burnmouth, *Euphorbia exigua*, 9165, 1893, W Shaw, Fleurs, Coldingham, 9463, 1871, W Shaw, Gunsgreen Hill, *Fumaria densiflora*, 945635, 1981, MEB, Netherbyres, field of mixed vegetables, *Fumaria officinalis* subsp. *wirtgenii*, 953608, 1986, MEB, Flemington Inn, opposite, *Papaver argemone*, 9463, 1960, AGL, Gunsgreen Hill, fields, 9561, 1965, Mrs E O Pate, Burnmouth, *Ranunculus sardous*, 9065, 1874, Dr J R Scott, Coldingham, near, 9464, 1942, Miss E Logan Home, Eyemouth, *Scandix pecten-veneris*, 9167, 1895, R H Dunn, St Abbs, 9660, 1960, AGL, Burnmouth, arable field above Ross, *Stachys arvensis*, 9362, 1868, J Hardy, Ale Water, near, in a field where the soil is gravelly, 9463, 1893, W Shaw, Gunsgreen, near, *Valerianella dentata*, 9061, 1871, W Shaw, East Reston, cornfields, 9264, 1871, W Shaw, Hallydown, cornfields, 9361, 1893, T Renton, Ayton, near, 9462, 1871, W Shaw, Redhall

25. Sundry NT96, Habitat fragmentary

S	Rare or scarce species	Popul ⁿ	GR-NT	10m	Date	Rec ^{der}	Comment
	<i>Vicia sativa</i> subsp. <i>segetalis</i>		950616	83	2005	MEB	Roadside, near turning to Fainieside

Selected axiophytes: [*Prunus padus*], 910667, Coldingham and St Abbs, road between, planted

Former rare or scarce species: *Catapodium rigidum*, 9460, 1869, Dr C Stuart, Flemington, near, *Galium mollugo*, 9461, 1992, MEB, A1 north of Burnmouth, 9461, 1985, MEB, A1, Chesterbank, roadside, [*Hyoscyamus niger*], 9461, 1836, E Colville, Fairnieside, near, introduction, *Polystichum setiferum*, 914636, 1976, R McBeath, lane near Alemill, *Sagina nodosa*, 9064, 1874, Dr C Stuart, Bee Edge, near

Table of Populations of Rare or Scarce Species

Notes

1. **Sites excluding sundry.** The number of sites with an extant population of the taxon listed
2. **Sites including sundry.** Populations in arable land or otherwise outwith sites are added
3. **Sites excluding planted, sown and casual.** The more obvious introductions are excluded, but not populations that could be naturalised introductions
4. **SSSI sites.** The number of sites with an extant population of the taxon listed that falls within a SSSI. This is not the same as the number of SSSIs as not all site boundaries match SSSI boundaries
5. **Status.** In addition to recognised archaeophytes, including many arable weeds, there are other taxa that may not be native. These include several British native or archaeophyte species that appear to have colonised Berwickshire naturally in the last twenty years: these are listed as colonists. Some taxa have naturalised populations as well as native or archaeophyte populations: these are not indicated separately. There are some taxa with uncertain status.

Vascular Plants

Sites excluding sundry	Sites including sundry	Sites excluding planted, sown and casual	SSSI sites	Rare or scarce species	Status
4	8	8		<i>Aethusa cynapium</i>	Archaeophyte
2	2	2	1	<i>Alchemilla glaucescens</i>	
1	1	1		<i>Allium scorodoprasum</i>	Archaeophyte?
7	7	7	4	<i>Allium vineale</i>	Archaeophyte?
3	3	3	1	<i>Ammophila arenaria</i>	
1	1	1		<i>Anagallis tenella</i>	
5	5	5	1	<i>Antennaria dioica</i>	
1	3	3	1	<i>Anthriscus caucalis</i>	
3	3	3		<i>Apium inundatum</i>	
1	1	1		<i>Apium nodiflorum</i>	
4	4	4	2	<i>Arabis hirsuta</i>	
5	5	5		<i>Artemisia absinthium</i>	Archaeophyte
1	1	1	1	<i>Aster tripolium</i>	Colonist
10	10	10	7	<i>Astragalus danicus</i>	
2	2	2	1	<i>Astragalus glycyphyllos</i>	
8	8	8	3	<i>Atriplex laciniata</i>	
2	9	9		<i>Atriplex littoralis</i>	Colonist
5	5	5		<i>Ballota nigra</i>	Archaeophyte
1	1	1		<i>Beta vulgaris subsp. maritima</i>	Colonist
2	2	2	1	<i>Bidens cernua</i>	
5	5	5	3	<i>Blysmus compressus</i>	
1	1	1	1	<i>Blysmus rufus</i>	
5	6	6	1	<i>Botrychium lunaria</i>	
	1	1		<i>Bromus commutatus</i>	Colonist
	1	1		<i>Bromus secalinus</i>	Colonist
7	7	7	2	<i>Cakile maritima</i>	

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1	2	2		<i>Carduus nutans</i>	
2	2	2		<i>Carex arenaria</i>	
1	1	1		<i>Carex diandra</i>	
13	13	13	2	<i>Carex dioica</i>	
7	7	7	4	<i>Carex distans</i>	
3	3	3		<i>Carex divulsa subsp. leersii</i>	
3	3	3	1	<i>Carex extensa</i>	
7	7	7	2	<i>Carex laevigata</i>	
1	1	1	1	<i>Carex lasiocarpa</i>	
1	1	1		<i>Carex limosa</i>	
6	7	7		<i>Carex muricata subsp. lamprocarpa</i> (<i>C. muricata subsp. pairae</i>)	
2	4	4		<i>Carex pallescens</i>	
7	8	7	2	<i>Carex pendula</i>	
14	14	14	5	<i>Carex remota</i>	
10	13	13	4	<i>Carex vesicaria</i>	
13	15	15	1	<i>Catabrosa aquatica</i>	
6	6	6	5	<i>Catapodium maritimum</i>	
4	4	4	4	<i>Catapodium rigidum</i>	
3	8	1		<i>Centaurea cyanus</i>	Archaeophyte
9	9	9	5	<i>Centaurium erythraea</i>	
12	12	12	5	<i>Cerastium arvense</i>	
16	16	16		<i>Cerastium semidecandrum</i>	
7	8	8		<i>Chelidonium majus</i>	Archaeophyte
2	8	5		<i>Chrysanthemum segetum</i> (<i>Glebionis segetum</i>)	Archaeophyte
2	2	2	1	<i>Cicuta virosa</i>	
1	1	1	1	<i>Circaea x intermedia</i>	
10	11	11	4	<i>Cirsium heterophyllum</i>	
6	6	6	1	<i>Clinopodium vulgare</i>	
3	3	3	1	<i>Cochlearia officinalis subsp. scotica</i>	
1	1	1	1	<i>Convallaria majalis</i>	
15	17	17	2	<i>Convolvulus arvensis</i>	Archaeophyte
4	4	4	3	<i>Corallorhiza trifida</i>	
4	5	5		<i>Coronopus squamatus</i> (<i>Lepidium coronopus</i>)	Archaeophyte
1	1	1		<i>Crambe maritima</i>	Colonist
1	1	1		<i>Crepis mollis</i>	
1	1	1		<i>Cryptogramma crispa</i>	
1	2	2		<i>Cynoglossum officinale</i>	
12	12	12	3	<i>Dactylorhiza incarnata subsp. incarnata</i>	
4	4	4	2	<i>Dactylorhiza incarnata subsp. pulchella</i>	
3	5	1		<i>Daucus carota subsp. carota</i>	
8	8	8	1	<i>Dianthus deltoides</i>	
6	8	8		<i>Diphasiastrum alpinum</i>	
14	15	15	4	<i>Drosera rotundifolia</i>	
14	16	11	3	<i>Echium vulgare</i>	
17	17	17	3	<i>Eleocharis quinqueflora</i>	
6	6	6	2	<i>Elytrigia juncea</i>	
1	1	1		<i>Elytrigia x laxa</i>	
8	8	8	3	<i>Epilobium roseum</i>	
5	5	5	2	<i>Equisetum x litorale</i>	
8	8	8	2	<i>Eriophorum latifolium</i>	

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11	14	14	2	<i>Erodium cicutarium</i>	
1	1	1	1	<i>Erophila majuscula</i>	
8	9	6	2	<i>Euonymus europaeus</i>	
16	16	16	2	<i>Euphrasia micrantha</i>	
17	18	18	3	<i>Euphrasia scottica</i>	
2	2	2	1	<i>Euphrasia tetraquetra</i>	
1	1	1		<i>Festuca ovina subsp. ophioliticola</i>	Taxonomy in flux
5	5	5		<i>Filago minima</i>	
7	7	7	2	<i>Filago vulgaris</i>	
	5	5		<i>Fumaria bastardii</i>	Archaeophyte
2	2	2		<i>Fumaria capreolata</i>	
1	7	7		<i>Fumaria densiflora</i>	Archaeophyte
5	13	13		<i>Fumaria officinalis subsp. wirtgenii</i>	Archaeophyte
4	11	11		<i>Fumaria purpurea</i>	
6	6	6	5	<i>Galium boreale</i>	
5	10	8		<i>Galium mollugo</i>	
12	12	12	5	<i>Galium palustre subsp. elongatum</i>	
1	1	1	1	<i>Galium sternerii</i>	
12	12	12	1	<i>Genista anglica</i>	
1	1	1		<i>Geranium columbinum</i>	
10	11	11	1	<i>Geranium lucidum</i>	Neophyte?
15	16	16	1	<i>Geranium pusillum</i>	
2	2	2	1	<i>Geranium sanguineum</i>	
3	3	3	2	<i>Glaucium flavum</i>	
5	5	5	2	<i>Glaux maritima</i>	
				<i>Gymnadenia conopsea subsp. borealis (G. borealis)</i>	
11	11	11	3		
2	3	3		<i>Hippuris vulgaris</i>	
11	11	11	4	<i>Honckenya peploides</i>	
8	9	9	1	<i>Hordeum murinum</i>	Archaeophyte
1	1	1		<i>Huperzia selago</i>	Colonist
5	7	7	2	<i>Hypericum humifusum</i>	
				<i>Hypericum maculatum subsp. obtusiusculum</i>	Casual?
	2	2			
19	19	19	3	<i>Hypericum x desetangsii</i>	
2	4	4	1	<i>Juncus ambiguus (J. ranarius)</i>	
6	6	6	3	<i>Juncus gerardii</i>	
10	11	11		<i>Lactuca virosa</i>	
12	12	12	3	<i>Lathraea squamaria</i>	
1	1	1		<i>Lathyrus sylvestris</i>	
3	3	3	1	<i>Lemna trisulca</i>	
1	1	1		<i>Leontodon saxatilis</i>	Neophyte?
5	5	5	2	<i>Leymus arenarius</i>	
1	1	1		<i>Linnaea borealis</i>	
8	9	9		<i>Listera cordata (Neottia cordata)</i>	
15	15	15	3	<i>Listera ovata (Neottia ovata)</i>	
2	2	2		<i>Littorella uniflora</i>	
23	26	26		<i>Lycopodium clavatum</i>	
4	5	5	1	<i>Lythrum portula</i>	
21	23	19	2	<i>Malva moschata</i>	Archaeophyte
11	11	10		<i>Malva neglecta</i>	Archaeophyte
4	4	4	2	<i>Melampyrum pratense</i>	
13	13	13	3	<i>Melica uniflora</i>	
6	7	7		<i>Mentha arvensis</i>	
5	5	5	1	<i>Milium effusum</i>	

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2	2	2	2	<i>Minuartia verna</i>	
1	1	1	1	<i>Molinia caerulea</i> subsp. <i>arundinacea</i>	
17	18	18	2	<i>Montia fontana</i> subsp. <i>chondrosperma</i>	
4	4	4		<i>Montia fontana</i> subsp. <i>variabilis</i>	
14	14	14	3	<i>Mycelis muralis</i>	Archaeophyte
17	17	17	6	<i>Myosotis ramosissima</i>	
3	3	3	1	<i>Nuphar lutea</i>	
2	4	4		<i>Ophioglossum vulgatum</i>	
2	5	5		<i>Papaver dubium</i> subsp. <i>lecoqii</i> (<i>P. lecoqii</i>)	Archaeophyte
8	19	19	6	<i>Persicaria lapathifolia</i>	
3	3	3	1	<i>Phegopteris connectilis</i>	
3	3	2	1	<i>Plantago media</i>	
2	2	2	2	<i>Platanthera bifolia</i>	
1	1	1		<i>Poa angustifolia</i>	Neophyte?
6	6	6	3	<i>Polypodium interjectum</i>	
9	9	8	2	<i>Polystichum setiferum</i>	
3	3	3		<i>Potamogeton alpinus</i>	
2	2	2	1	<i>Potamogeton filiformis</i>	
8	8	8	8	<i>Potamogeton lucens</i>	
3	3	3		<i>Potamogeton obtusifolius</i>	
15	16	16	9	<i>Potamogeton pusillus</i>	
5	5	5	5	<i>Potamogeton x bottnicus</i>	
1	1	1	1	<i>Potamogeton x nitens</i>	
6	6	6	6	<i>Potamogeton x olivaceus</i>	
15	15	15	15	<i>Potamogeton x salicifolius</i>	
1	1	1		<i>Potentilla anglica</i>	
2	2	2		<i>Potentilla x mixta</i>	
3	3	3	2	<i>Puccinellia distans</i> subsp. <i>borealis</i>	
5	5	5	2	<i>Puccinellia maritima</i>	
13	13	13	3	<i>Pyrola minor</i>	
12	12	12	5	<i>Ranunculus auricomus</i>	
6	6	6	6	<i>Ranunculus circinatus x fluitans</i>	
2	2	2	1	<i>Ranunculus lingua</i>	
8	9	9	1	<i>Ranunculus peltatus</i>	
	1	1		<i>Ranunculus sardous</i>	Archaeophyte
6	6	6	6	<i>Ranunculus x kelchoensis</i>	
3	3	3	1	<i>Rorippa islandica</i>	
10	10	10	5	<i>Rorippa nasturtium-aquaticum</i> (<i>Nasturtium officinale</i>)	
20	24	17	2	<i>Rosa pimpinellifolia</i> (<i>R. spinosissima</i>)	
10	11	11	5	<i>Rubus caesius</i>	
2	2	2		<i>Rubus chamaemorus</i>	
2	2	2	1	<i>Rubus saxatilis</i>	
9	9	9	4	<i>Rumex conglomeratus</i>	
1	2	2		<i>Rumex maritimus</i>	
9	9	9	4	<i>Sagina apetala</i> subsp. <i>apetala</i>	
9	9	9	2	<i>Sagina nodosa</i>	
1	1	1	1	<i>Sagina subulata</i>	
1	1	0		<i>Salix caprea</i> subsp. <i>sphacelata</i>	
3	3	3	2	<i>Salix myrsinifolia</i>	
4	4	4	1	<i>Salix phylicifolia</i>	
2	2	2	2	<i>Sanguisorba minor</i> subsp. <i>minor</i> (<i>Poterium sanguisorba</i> subsp.	

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				<i>sanguisorba)</i>	
4	4	2		<i>Scabiosa columbaria</i>	
7	7	7	4	<i>Schoenoplectus lacustris</i>	
1	1	1		<i>Schoenoplectus tabernaemontani</i>	
2	2	2	1	<i>Schoenus nigricans</i>	
1	1	1	1	<i>Scilla verna</i>	
14	15	15	1	<i>Scleranthus annuus</i>	
1	1	1	1	<i>Scutellaria galericulata</i>	
9	9	9	9	<i>Sedum rosea</i>	
10	10	10		<i>Sedum villosum</i>	
11	11	11	4	<i>Selaginella selaginoides</i>	
				<i>Seriphidium maritimum (Artemisia</i>	
3	3	3	3	<i>maritima)</i>	
10	16	16	2	<i>Sherardia arvensis</i>	
2	3	3	1	<i>Silaum silaus</i>	
1	1	0		<i>Smyrniolum olusatrum</i>	Archaeophyte
1	1	1	1	<i>Sorbus rupicola</i>	
13	13	13	6	<i>Sparganium emersum</i>	
8	8	8	4	<i>Spergularia media</i>	
14	19	19	2	<i>Spergularia rubra</i>	
	2	2		<i>Stachys arvensis</i>	Archaeophyte
				<i>Stachys officinalis (Betonica</i>	
1	3	1		<i>officinalis)</i>	
2	2	2	1	<i>Stellaria neglecta</i>	Status unknown
1	1	1	1	<i>Stellaria palustris</i>	
8	8	8	6	<i>Thalictrum minus</i>	
1	2	2	1	<i>Torilis nodosa</i>	
				<i>Trichophorum cespitosum</i>	
5	6	6	4	<i>nothosubsp. foersteri (T. x foersteri)</i>	
				<i>Trichophorum cespitosum subsp.</i>	
3	3	3	2	<i>cespitosum (T. cespitosum)</i>	
2	2	2	1	<i>Trientalis europaea</i>	
11	11	11	5	<i>Trifolium arvense</i>	
1	1	1	1	<i>Trifolium fragiferum</i>	
14	14	14	3	<i>Trifolium striatum</i>	
6	6	6	3	<i>Triglochin maritimum (T. maritima)</i>	
6	7	7	3	<i>Trollius europaeus</i>	
1	2	2		<i>Ulex gallii</i>	
10	10	10	7	<i>Vaccinium oxycoccus</i>	
9	9	9	5	<i>Valerianella locusta</i>	
17	17	17	6	<i>Veronica catenata</i>	
11	14	14		<i>Veronica polita</i>	Archaeophyte
6	6	6	4	<i>Veronica x lackschewitzii</i>	
12	15	4	3	<i>Viburnum opulus</i>	
8	8	8	3	<i>Vicia lathyroides</i>	
1	1	1		<i>Vicia orobus</i>	
9	16	15	3	<i>Vicia sativa subsp. segetalis</i>	Archaeophyte
2	2	2		<i>Viola arvensis x lutea</i>	
8	8	8	6	<i>Viola canina</i>	
4	4	4	3	<i>Viola hirta</i>	
6	11	11	1	<i>Viola tricolor subsp. tricolor</i>	
4	4	4	2	<i>Viola x intersita</i>	
1,331	1,501	1,444	422	Total Populations	
221	227	227	154	Species Count	

Charophytes

Sites excluding sundry	Sites including sundry	Sites excluding planted, sown and casual	SSSI sites	Rare or scarce species	Status
9	10	10	2	<i>Chara globularis/virgata</i> agg.	
1	1	1		<i>Chara vulgaris</i>	
6	8	8	1	<i>Nitella flexilis/opaca</i> agg.	
1	1	1	1	<i>Tolypella glomerata</i>	
17	20	20	4	Total Populations	
4	4	4	3	Species Count	

Table of Monad (1km square) frequency of Axiophytes and Intrusive Neophytes in the period 1987-2010 (based on a sample survey)

Selected Axiophytes

40	<i>Agrimonia eupatoria</i>
21	<i>Anagallis arvensis</i>
32	<i>Anthyllis vulneraria</i>
8	<i>Asplenium marinum</i>
33	<i>Berula erecta</i>
23	<i>Callitriche hermaphroditica</i>
49	<i>Campanula latifolia</i>
22	<i>Carduus tenuiflorus</i>
18	<i>Carex acuta</i>
30	<i>Carex curta (C. canescens)</i>
16	<i>Carex otrubae</i>
33	<i>Carex paniculata</i>
19	<i>Carex riparia</i>
10	<i>Carlina vulgaris</i>
39	<i>Ceratocarpus claviculata</i>
22	<i>Chenopodium bonus-henricus</i>
60	<i>Chrysosplenium alternifolium</i>
10	<i>Cystopteris fragilis</i>
28	<i>Elymus caninus</i>
33	<i>Equisetum sylvaticum</i>
13	<i>Equisetum telmateia</i>
12	<i>Festuca filiformis</i>
58	<i>Galeopsis speciosa</i>
84	<i>Geranium sylvaticum</i>
18	<i>Gymnocarpium dryopteris</i>
79	<i>Helianthemum nummularium</i>
29	<i>Hydrocotyle vulgaris</i>
44	<i>Juniperus communis subsp. communis</i>
33	<i>Knautia arvensis</i>
73	<i>Lamium amplexicaule</i>
70	<i>Lamium confertum</i>

33	<i>Lamium hybridum</i>
13	<i>Ligusticum scoticum</i>
29	<i>Menyanthes trifoliata</i>
20	<i>Narthecium ossifragum</i>
30	<i>Orchis mascula</i>
32	<i>Parnassia palustris</i>
24	<i>Pedicularis palustris</i>
43	<i>Pinguicula vulgaris</i>
17	<i>Polygala vulgaris</i>
33	<i>Populus tremula (some planted)</i>
22	<i>Potamogeton pectinatus</i>
19	<i>Potamogeton perfoliatus</i>
29	<i>Primula veris</i>
61	<i>Prunus padus (some planted)</i>
15	<i>Ranunculus fluitans</i>
17	<i>Ranunculus trichophyllus</i>
29	<i>Rosa rubiginosa (some planted)</i>
30	<i>Salix pentandra (some planted)</i>
31	<i>Salix repens</i>
69	<i>Saxifraga granulata</i>
23	<i>Silene vulgaris</i>
15	<i>Solanum dulcamara</i>
32	<i>Solidago virgaurea</i>
36	<i>Stellaria nemorum</i>
23	<i>Stellaria pallida</i>
26	<i>Vaccinium vitis-idaea</i>
18	<i>Vicia sylvatica</i>
32	<i>Viola lutea</i>
12	<i>Zannichellia palustris</i>

Other Axiophytes

92	<i>Achillea ptarmica</i>
54	<i>Adoxa moschatellina</i>
45	<i>Aira caryophylla</i>
119	<i>Ajuga reptans</i>
65	<i>Alchemilla filicaulis subsp. vestita</i>
27	<i>Alisma plantago-aquatica</i>
88	<i>Allium ursinum</i>
92	<i>Anemone nemorosa</i>
29	<i>Armeria maritima</i>
106	<i>Brachypodium sylvaticum</i>
102	<i>Briza media</i>

48	<i>Bromopsis ramosa</i>
42	<i>Callitriche hamulata</i>
65	<i>Cardamine amara</i>
35	<i>Carex acutiformis</i>
56	<i>Carex caryophylla</i>
124	<i>Carex disticha</i>
137	<i>Carex flacca</i>
34	<i>Carex hostiana</i>
65	<i>Carex pulicaris</i>
	<i>Carex viridula subsp. brachyrrhyncha</i>
45	<i>(C. lepidocarpa)</i>

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33	<i>Cochlearia officinalis</i>
135	<i>Conopodium majus</i>
96	<i>Crepis paludosa</i>
56	<i>Dactylorhiza fuchsii</i>
52	<i>Dactylorhiza maculata</i>
61	<i>Dactylorhiza purpurella</i>
41	<i>Dryopteris carthusiana</i>
77	<i>Erica tetralix</i>
32	<i>Eupatorium cannabinum</i>
31	<i>Festuca gigantea</i> (<i>Schedonorus giganteus</i>)
55	<i>Festuca pratensis</i> (<i>Schedonorus pratensis</i>)
45	<i>Galium odoratum</i>
111	<i>Galium uliginosum</i>
165	<i>Geum rivale</i>
50	<i>Helictotrichon pratense</i> (<i>Avenula pratensis</i>)
25	<i>Helictotrichon pubescens</i> (<i>Avenula pubescens</i>)
72	<i>Hyacinthoides non-scripta</i>
56	<i>Hypericum hirsutum</i>
118	<i>Iris pseudacorus</i>
38	<i>Isolepis setacea</i>
41	<i>Koeleria macrantha</i>
70	<i>Leontodon hispidus</i>
90	<i>Linum catharticum</i>
101	<i>Luzula pilosa</i>

123	<i>Lychnis flos-cuculi</i> (<i>Silene flos-cuculi</i>)
65	<i>Lysimachia nemorum</i>
111	<i>Mercurialis perennis</i>
51	<i>Ononis repens</i>
52	<i>Oreopteris limbosperma</i>
35	<i>Origanum vulgare</i>
64	<i>Phyllitis scolopendrium</i> (<i>Asplenium scolopendrium</i>)
62	<i>Polystichum aculeatum</i>
98	<i>Potentilla palustris</i>
46	<i>Potentilla palustris</i> (<i>Comarum palustre</i>)
31	<i>Ranunculus aquatilis</i>
53	<i>Ranunculus bulbosus</i>
47	<i>Rhinanthus minor</i>
29	<i>Sanicula europaea</i>
28	<i>Scirpus sylvaticus</i>
23	<i>Senecio aquaticus</i>
24	<i>Silene uniflora</i>
134	<i>Stellaria holostea</i>
145	<i>Thymus polytrichus</i>
100	<i>Trifolium medium</i>
72	<i>Triglochin palustre</i> (<i>T. palustris</i>)
68	<i>Valeriana dioica</i>
103	<i>Valeriana officinalis</i>
61	<i>Veronica montana</i>
63	<i>Veronica scutellata</i>
30	<i>Vulpia bromoides</i>

Intrusive Neophytes

79	<i>Allium paradoxum</i>
22	<i>Buddleja davidii</i>
17	<i>Centranthus ruber</i>
1	<i>Cotoneaster integrifolius</i> (Burnmouth)
3	<i>Crassula helmsii</i>
14	<i>Crocsmia x crocosmiiflora</i>
55	<i>Doronicum pardalianches</i>
40	<i>Fallopia japonica</i>
10	<i>Glyceria maxima</i>

49	<i>Heracleum mantegazzianum</i>
9	<i>Hippophae rhamnoides</i>
55	<i>Hyacinthoides x massartiana</i>
46	<i>Impatiens glandulifera</i>
61	<i>Rhododendron ponticum</i>
18	<i>Rosa rugosa</i>
26	<i>Sedum album</i>
58	<i>Symphoricarpos albus</i>

Table of Extinct Species

Note

Status. In addition to recognised archaeophytes, including many arable weeds, there are other taxa in the following list of extinctions that may not have been native. These include several British native or archaeophyte species that appear to have colonised Berwickshire naturally but never to have become fully established: these are listed as casuals. Some taxa listed as extinct natives in the CRPR are now thought likely to have been introductions: these are listed as neophytes. There are some taxa with uncertain status, including possible errors of identification: these are listed as dubious or annotated as a query (?).

Last Record	Taxon	Status
1853	<i>Allium oleraceum</i>	
1886	<i>Anacamptis pyramidalis</i>	
1896	<i>Anagallis arvensis</i> subsp. <i>foemina</i>	Archaeophyte
1886	<i>Arctostaphylos uva-ursi</i>	
1993	<i>Arenaria serpyllifolia</i> subsp. <i>leptoclados</i> (<i>A. leptoclados</i>)	
1977	<i>Atriplex x taschereaui</i>	Casual
1922	<i>Baldellia ranunculoides</i>	
1960	<i>Bromus hordeaceus</i> subsp. <i>thominei</i>	Dubious
1915	<i>Carex aquatilis</i>	
1878	<i>Carex muricata</i> subsp. <i>muricata</i>	Neophyte?
1916	<i>Carex spicata</i>	
1853	<i>Cladium mariscus</i>	
1874	<i>Clinopodium acinos</i>	Casual
1947	<i>Coeloglossum viride</i>	
1892	<i>Diphasiastrum complanatum</i>	
1828	<i>Drosera anglica</i>	
1853	<i>Eleocharis multicaulis</i>	
1875	<i>Eleogiton fluitans</i>	
1982	<i>Epipactis helleborine</i>	
1836	<i>Epipactis palustris</i>	
1836	<i>Equisetum hyemale</i>	
1957	<i>Euphorbia exigua</i>	Archaeophyte
1907	<i>Euphrasia rostkoviana</i> (<i>E. officinalis</i>)	
1839	<i>Festuca vivipara</i>	
1893	<i>Filipendula vulgaris</i>	Neophyte?
1866	<i>Galeopsis angustifolia</i>	Archaeophyte
1961	<i>Genista tinctoria</i>	
1836	<i>Gentianella amarella</i>	Dubious
1968	<i>Gentianella campestris</i>	
1989	<i>Gnaphalium sylvaticum</i>	
1993	<i>Goodyera repens</i>	
1960	<i>Gymnadenia conopsea</i> subsp. <i>densiflora</i> (<i>G. densiflora</i>)	
1885	<i>Hordelymus europaeus</i>	
1956	<i>Hyoscyamus niger</i>	Archaeophyte
1902	<i>Lepidium campestre</i>	Archaeophyte
1867	<i>Lotus glaber</i> (<i>L. tenuis</i>)	Casual?
1946	<i>Medicago minima</i>	Casual
1983	<i>Melica nutans</i>	

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1853	<i>Mentha pulegium</i>	Casual
1913	<i>Mertensia maritima</i>	
1985	<i>Neottia nidus-avis</i>	
1881	<i>Nymphoides peltata</i>	Neophyte
1838	<i>Oenanthe aquatica</i>	
1942	<i>Orchis morio (Anacamptis morio)</i>	
1902	<i>Osmunda regalis</i>	
1965	<i>Papaver argemone</i>	Archaeophyte
1984	<i>Parapholis strigosa</i>	Casual
1873	<i>Platanthera chlorantha</i>	
1916	<i>Potamogeton coloratus</i>	
1906	<i>Potamogeton gramineus</i>	
1973	<i>Potamogeton x cooperi</i>	
1959	<i>Potentilla argentea</i>	
1866	<i>Potentilla tabernaemontani</i>	
1867	<i>Pseudorchis albida</i>	
1853	<i>Pulicaria dysenterica</i>	
1913	<i>Pyrola media</i>	
1878	<i>Radiola linoides</i>	
1966	<i>Ranunculus arvensis</i>	Archaeophyte
1954	<i>Ranunculus baudotii</i>	Casual
1989	<i>Ranunculus circinatus</i>	
1880	<i>Rosa micrantha</i>	Planted
1960	<i>Rumex palustris</i>	Casual
1902	<i>Rumex pseudoalpinus (R. alpinus)</i>	Archaeophyte
1960	<i>Salsola kali</i>	Casual
1956	<i>Sambucus ebulus</i>	Archaeophyte
1924	<i>Samolus valerandi</i>	
1978	<i>Sanguisorba officinalis</i>	
1900	<i>Saxifraga hirculus</i>	
1960	<i>Scandix pecten-veneris</i>	Archaeophyte
1969	<i>Senecio erucifolius</i>	
1971	<i>Silene noctiflora</i>	Archaeophyte
1931	<i>Sison amomum</i>	Casual
1902	<i>Sium latifolium</i>	Dubious
1982	<i>Sparganium natans</i>	
1940	<i>Suaeda maritima</i>	Casual
1831	<i>Symphytum officinale</i>	Dubious
1877	<i>Teesdalia nudicaulis</i>	
1836	<i>Thalictrum flavum</i>	
1960	<i>Trifolium scabrum</i>	
1853	<i>Utricularia intermedia sens. lat.</i>	
1974	<i>Utricularia minor</i>	
1902	<i>Utricularia vulgaris sens. lat.</i>	
1916	<i>Valerianella dentata</i>	Archaeophyte

Table of Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs) and Scottish Wildlife Trust Reserves

SSSIs and SACs (indicated by an asterisk * in the site accounts)

Abbey St Bathans Woods – Brush Wood and Godscroft Wood 7363, 7463, Bankend Wood 7562, Shannabank wood 7562, 7662, Butterwell Wood 7661, 7761, Retreat Wood 7760, Wild Wood 7760, Elba 7860, Aikyside Wood Junipers 7960, Aikyside Wood 7961

Airhouse Wood 4753

Bemersyde Moss 6032, 6132, 6133

Burnmouth Coast – Ramfaulds 9564, Scout Point 9563, Fancove Head 9562, Burnmouth Braes 9561, Burnmouth Harbour 9560, Ross 9660, Hilton Bay 9659, Lamberton Shiels, below 9658, 9758, Lamberton, English Border below 9757, Lamberton Undercliff 9757, 9758

Coldingham Loch 8968

Crook Burn East, Dyshaugh 6958, 6959

Drone Moss 8466, 8467

Gaitheugh (Gateheugh) – Leaderfoot 5734, Gledswood 5834, Gaitheugh (Gateheugh) 5933, 5934, Bemersyde, below 5833

Gordon Moss 6342

Greenlaw Moor – Dogden Moss 6749, 6849, 6949, Greenlaw Kaims 6850, 6950, 7050, 7051, Fangrist Burn 6949, 7049, Greenlaw Moor 7048, 7049, 7148, 7149, 7150, 7151, 7248, Hule Moss 7149, Kyles Hill 7249, 7250, 7251

The Hirsell – Dundock Wood 8039, 8040, 8139, 8140, Hirsell Lake 8240, The Hirsell, Leet Water at 8141, 8240, 8241

Langtonlees Cleugh 7352, 7452

Long Moss, Coldingham Common 8568

Lurgie Loch 6739

Pease Bay Coast – Ramsheugh Bay 7772, Cove 7871, Pease Bay (part) 7971

Pease Dean – Pease Dean, lower 7970, Pease Dean, upper 7969

St Abbs to Fastcastle – Midden Craig 8370, Rammel Cove 8470, Telegraph Hill 8570, Fast Castle 8670, Dowlaw Dean 8670, Lumsdaine Shore 8770, 8769, Westerside Dean 8869, Earnsheugh 8969, Petticowick 9068, 9069, St Abbs Head 9169, Kirk Hill 9168, Mire Loch 9168, Starney Bay 9167

Tweed River (the SAC, which is wider than the SSSI) – River Tweed, Whiteadder Water, Blackadder Water, Leet Water, Eden Water, Leader Water. (Does not include some burns such as Fangrist Burn 6948 outwith Greenlaw Moor SSSI. Does not include Eye and Ale Waters which are a separate catchment)

SWT Reserves not SSSIs (indicated by an cross † in the site accounts)

Duns Castle (reserve by agreement) – Witches Hill 7754, St Mary's Glade 7755, Hen Poo 7754, Colonel's Walk 7755, Mill Dam 7855

Pease Dean (part outwith SSSI owned by SWT) – Tower Dean 7869, 7870, 7970

Explanatory Note

The monad (1km) GRs for the main sections of each site are listed above, but some marginal monads are omitted

Errors in the Berwickshire Vice-county Rare Plant Register 2004

Sites of Botanical Interest

The table of Good Sites, page 171, omits Pease Bay 7970.

Historical Records

Further research has added to and refined the historical localities and status of a number of species. The most significant changes are:

- *Carex punctata*, the 1882 record for Burnmouth, Berwickshire 9561 relates to Bournemouth, Dorset.
- *Dactylorhiza incarnata*, some of the historical records relate to *D. purpurella*, in particular the record for Mire Loch, St Abbs Head 9168
- *Ribes spicatum*, the two records as a planted introduction probably relate to *R. alpinum*.
- *Rosa spinosissima* (*R. pimpinellifolia*), the record for St Abbs Head 9168 is an error and the record for St Abbs Coast 9167 relates to an introduction.

The table of Extinct Species, page 13, gives a false impression of the number of native extinctions. Several species listed are now considered to have been former casuals, archaeophytes or neophytes and several others have now been refound or have recolonised. A revised table is included in this site register.

Spelling Mistakes

- For *Festuca ovina ssp. opiolitica* read *Festuca ovina ssp. ophiolitica*
- For *Hordelymus europeus* read *Hordelymus europaeus*
- For *Sison amonom* read *Sison amomom*

Circulation of this provisional edition of the Site Register

Botanical Society of the British Isles

- Vice-county Recorder for Berwickshire and contributing botanists
- Vice-county Recorder for Roxburghshire and Selkirkshire
- Vice-county Recorder for Peeblesshire
- Vice-county Recorder for North Northumberland
- Scottish Officer
- Head of Research and Development
- Chairman of BSBI Plant Unit
- Shrewsbury Library

Berwickshire Naturalists' Club Library

Borders Forest Trust

National Trust for Scotland, St Abbs Head NNR

Natural History Society of Northumbria

Royal Botanic Garden Edinburgh

Scottish Borders Council Planning Department

Scottish Natural Heritage

- Scottish Borders Regional Office
- Inverness Headquarters

Scottish Wildlife Trust

- Berwickshire Support Group
- Edinburgh Headquarters

The Wildlife Information Centre (Lothians and Borders Biological Record Centre)

Tweed Forum

Index of Sites

Hectad - NT	Reference	Rating	Site (<i>secondary names in italics</i>)
86	36	0	Abbey Burn
76	11	0	Abbey Hill
55	2	1	Addinston Hill, wet meadow north of
76	26	3	Aikyside Wood
45	7	2	Airhouse Wood and Quarry
86	35	0	Ale Water Bridge
85	8	1	Allanbank
85	15	0	Allanton
85	16	1	Allanton Bridge, Whitehall, Bluestoneford
75	21	0	Almaheart, Primrose Hill
74	21	0	Anton's Hill
86	8	1	Atton Dean
86	16	0	Auchencrow
76	25	0	Avenue Wood, White Gate Wood
95	16	0	<i>Ayton Hill</i>
96	12	1	Ayton, Ayton Castle, Eye Water
76	18	3	Bankend Wood
64	28	0	Bellitaw Craigs
53	10	1	Bemersyde Hill, Scott's View
63	5	3	Bemersyde Moss
66	4	0	Berrybank Wood, Whiteadder below (VC 81 part, also VC 82)
85	12	0	Billie Burn
73	5	0	Birgham
73	4	1	Birgham Haugh
73	6	2	Birgham Wood (part NT74, NT84)
84	3	2	Birgham Wood (see NT73)
74	23	2	Birgham Wood (see NT73)
74	20	1	Bishop's Bog (Fernyrig Bog)
85	18	1	Bite-about Wood
53	8	2	Black Hill
85	8	1	Blackadder Mount
85	23	0	Blackburn Fox Covert
76	31	0	<i>Blackburnrig Dean</i>
76	1	1	Blackford Rig, Philip Burn
74	8	0	<i>Blaeberry Plantation</i>
85	7	1	Blanerne
63	17	2	Blinkbonny
94	1	3	Blount Bank, Blount Island
84	19	3	Blount Bank
85	16	1	Bluestoneford
54	12	4	Blythe Water
64	13	2	Bonarparte's Covert
54	10	1	Boon Bridge
65	1	1	Boondreigh Burn, upper section
54	11	2	Boondreigh Water, Dod Mill
76	28	1	Bowshiel Dean
87	10	3	Brander Heugh
86	7	0	<i>Broad Bog</i>
96	11	2	Broadhaven Bay
86	11	0	Brockholes Dean
86	5	0	Brockholes Wood
63	8	1	Brotherstone Hill
63	9	1	Brotherstone Moss (VC 81 part, also VC 80)
55	13	4	Brunta Burn
76	17	2	Brush Wood, Godscroft Wood
86	1	0	Bunkle Edge, Drakemire, Fawcett Wood
85	4	1	Bunkle Wood
96	21	4	Burnmouth, north
96	20	2	Burnmouth, south
86	31	0	Buskin Burn
63	7	2	Butchercote Craigs
76	31	0	Butterdean Wood, Blackburnrig Dean
76	21	2	Butterwell Wood
65	5	1	Byrecleugh
74	26	0	Cairns Mill
74	19	0	<i>Caldra</i>
55	1	1	Carfraemill, Leader Water near
83	1	1	Carham, Tweed opposite
54	7	1	Carolside, north section
53	1	1	Carolside, south section
95	21	5	Catcairn Bushes
76	2	0	Catch Hill
85	19	1	Causewaybank Sandpit
95	13	1	Cawderstones
54	8	1	Chapel on Leader
84	14	0	<i>Charley's Brae</i>
74	15	0	Charterhall Aerodrome
74	14	0	Charterhall House, Charterhall Wood
96	19	2	Chester Hill
85	17	0	Chirnside
85	10	0	Chirnsidebridge
95	10	2	Clarabad Wood
75	1	2	Cleckinshaw
45	1	2	Clints Hill
75	15	0	Cockburn Law
75	18	2	Cockburn Mill
77	2	0	Cockburnspath
96	6	2	Coldingham Bay
86	19	4	Coldingham Common
86	39	4	Coldingham Loch
96	3	0	Coldingham, east section, Coldingham Law

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86	37	0	Coldingham, west section	74	17	0	Eccles
84	13	0	Coldstream, east section	74	18	0	Eccles Pools
83	4	0	Coldstream, Leet Water at	64	16	0	Eden Water
83	7	0	Coldstream, west section	76	20	0	Edgar's Cleugh
64	5	0	Corsbie Bog	54	5	0	Edgarhope Wood, Drummonds-hall
64	10	2	Corsbie Fen	95	4	1	Edington Hill Covert
77	5	2	Cove, Cove Harbour	85	22	1	Edington Mill
63	12	0	Covehouse Burn	76	28	1	Edmond's Dean, Bowshiel Dean
86	22	0	Coveyhaugh, Lemington Dean	95	13	1	Edrington Castle, Cawderstanes
53	3	1	Cowdenknowes	95	14	1	Edrington House
85	9	0	Craigswalls Wood	85	7	1	Edrom, Blanerne
66	6	0	Cranshaws	76	24	3	Elba Wood
56	1	2	Crib Law, north section	76	15	1	Ellerburn Wood
55	4	1	Crib Law, south section	64	2	3	Everett Moss
55	13	4	Cromwells, Brunta Burn	77	8	2	Ewelairs
75	4	2	Crook Burn, Dyshaugh, east section	96	15	1	Eyemouth, Eyemouth Fort, Hairy Ness
65	18	2	Crook Burn, Dyshaugh, west section	96	22	1	Fancove Head
76	16	1	Crooked Bank, Laughing Law	64	32	4	Fangrist Burn
66	1	0	Crow Cleugh, Duddy Bank	64	1	0	Fans
74	25	0	<i>Crown Gorse</i>	87	8	4	Fast Castle
75	24	0	Cumledge	86	1	0	<i>Fawcett Wood</i>
63	4	0	Dalcove, Tweedside near	74	25	0	Fernyrig, Paxton Wood, Crown Gorse
75	7	1	Dirrington Great Law, east section	96	5	0	Feuarsmoor, Mileknowe and Drill Plantations, Longueville
65	15	1	Dirrington Great Law, west section	83	2	2	Fireburnmill, Tweed near
54	11	2	Dod Mill	94	3	3	Fishwick Mains, riverside below, St Thomas's Island
64	24	5	Dogden Moss, east section	65	4	0	Flass Old Wood
65	11	5	Dogden Moss, north edge	96	17	3	Fleurs Dean, Linkim Kip
64	23	5	Dogden Moss, west section	74	7	2	Flourishwalls Burn
87	9	3	Dowlaw Dean	74	19	0	Fogo, Caldera
86	15	4	Dowlaw Moss	75	5	0	Foul Burn Bridge
86	1	0	<i>Drakemire</i>	95	15	0	Foulden
96	5	0	<i>Drill Plantation</i>	95	3	2	Foulden Braes
86	14	3	Drone Moss	95	5	3	Foulden Dean
75	3	0	Dronshiel, east section	76	12	1	Frampath Burn
65	17	0	Dronshiel, west section	94	2	1	Frockham Brae, Horndean
54	5	0	<i>Drummonds-hall</i>	53	6	5	Gaitheugh (Gateheugh)
53	9	0	Dryburgh	75	13	0	Gavinton
66	1	0	<i>Duddy Bank</i>	63	17	2	Girrick, Blinkbonny
83	3	0	Dundock Wood	53	5	3	Gledswood
76	4	0	Dunglass Common	76	32	0	Glen Fin
77	1	2	Dunglass Dean (VC 81 part, also VC 82)	76	17	2	Godscroft Wood
77	3	0	Dunglass Dean, near foot	64	8	3	Gordon Bogs, central section, Gordon Moss SSSI
75	19	0	Duns	64	9	1	Gordon Bogs, central section, outwith SSSI
75	17	2	Duns Castle	64	11	1	Gordon Bogs, east section, north of Lightfield
76	3	0	Dunter Law	64	1	0	Gordon Bogs, west section, Fans
65	2	2	Dye Water Cleughs	64	18	1	Gordon Community Woodland, north of old railway
65	10	1	Dye Water, Rathburne to Wrunklaw	64	17	1	Gordon Community Woodland, south of old railway
55	12	0	Dye Water, upper section				
53	4	0	Earlston				
55	9	1	Earnsclough Water				
86	40	1	Earnsheugh				
76	27	1	Ecclaw Hill				

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64 14 1	Gordon Meadow	75 22 2	Hoardweel
64 27 0	Gore Bridge, Middlemoor	76 6 1	Hoprigshiels Wood
86 23 1	Grange Plantation	94 2 1	Horndean
86 2 1	Grantshouse	74 24 1	Horse Bog
86 12 0	Green Wood, Houndwood	65 8 3	Horseupcleugh
86 10 1	Greenburn Plantation	86 12 0	<i>Houndwood</i>
76 8 0	Greenhope Wood	86 18 0	Houndwood House
64 31 3	Greenlaw Dean, main section	66 7 0	<i>Howbog</i>
74 6 0	Greenlaw Dean Pond	86 17 0	Howburn
75 1 2	Greenlaw Kaims and Burns, east section (Cleckinshaw)	75 16 0	Howe Burn, lower section
65 14 2	Greenlaw Kaims and Burns, west section	74 12 1	Howe Burn, upper section
86 29 0	Greenlaw Knowe (Knowle)	86 6 1	Howpark Burn
74 7 2	Greenlaw Moor, Flourishwalls Burn, Hule Moss, Kyles Hill	74 7 2	Hule Moss
75 6 1	Greenlaw Moor, Kyles Hill, north section	74 2 1	Hume Castle
74 5 0	Greenlaw, Greenlaw Dean, lower section	74 3 2	Hume Craigs, east section
96 23 4	Gunsgreen	64 29 2	Hume Craigs, west section
95 16 0	Habchester Fort, Ayton Hill	74 1 3	Hume Mill
95 7 0	Hag Wood	64 4 0	Huntly Wood
96 15 1	Hairy Ness	95 2 0	Hutton
53 11 0	Halidean Mill Moss	95 6 0	Hutton Bridge
64 22 2	Halliburton, Blackadder Water near	64 7 0	Jordanlaw Moss
75 9 0	Hardens Hill	54 6 0	Kedslie
65 3 0	Harecleugh Forest	85 6 0	<i>Kelloe Bridge</i>
64 15 0	Hareford Burn	85 8 1	Kelloe, Blackadder Mount, Allanbank
64 25 4	Hareheugh Craigs (part NT63)	55 3 1	Kelphope Burn
63 21 4	Hareheugh Craigs (see NT64)	75 2 0	Kettleshiel Burn
64 26 2	Hareheugh Craigs, craig near (part NT63)	96 16 3	Killiedraught Bay
63 22 2	Hareheugh Craigs, craig near (see NT64)	66 2 3	Killmade Burn, Rough Cleugh (VC 81 part, also VC 82)
75 14 0	Harelaw Craigs	85 1 0	Kimmerghame
86 13 2	Harly Darlies	75 6 1	Kyles Hill, north section
45 4 0	Hartside	74 7 2	Kyles Hill, south section
45 2 0	Hartside Forestry	84 18 1	Ladykirk House, near
74 13 0	Hassington Wood	84 19 3	Ladykirk, Blount Bank
45 10 0	Headshaw Burn	74 9 0	Lambden Burn
45 8 3	Headshaw Haugh	95 18 3	Lamberton Moor
75 10 3	Hells Cleugh	95 19 0	Lamberton Shiels
75 12 0	Hen Toe Bog (part NT76)	95 21 5	Lamberton Shiels, shore below, Hilton Bay, Catcairn Bushes
76 10 0	Hen Toe Bog (see NT75)	95 22 0	Lamberton Toll
76 14 0	Hen Toe Bridge	95 20 3	Lamberton Undercliff
76 30 0	Heriot Water	95 14 1	Lambsmill Burn, Edrington House
64 20 0	Hexpathdean, lower section	56 1 2	Lammerlaw Burn, Crib Law, north section
64 21 0	Hexpathdean, upper section	76 29 0	<i>Landsend Wood</i>
95 21 5	Hilton Bay	86 7 0	<i>Langstruther Bog</i>
66 3 0	Hinds Cleugh	75 11 0	Langton Edge
84 7 2	Hirsel Lake	75 8 4	Langtonlees
84 9 0	Hirsel Law, crossroads near	87 5 3	Lansy Bank, Midden Craig
84 8 2	Hirsel Woods	54 3 0	Lauder
84 6 1	Hirsel, The	54 2 2	Lauder Burn
		54 1 1	Lauder Common, east section, Muircleugh
		44 1 1	Lauder Common, west section
		76 16 1	Laughing Law

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85	20	1	Lazybeds Plantation	76	13	0	Mountjoy Wood
53	2	1	Leaderfoot to above Redpath, Leader Water	45	9	0	Mountmill Burn
83	6	0	Lees Haugh	85	6	0	Mouth Bridge, Kelloe Bridge
83	5	0	<i>Lees, The</i>	63	15	2	Muckle Thairn, Little Thairn
54	14	0	Legerwood Pond	54	1	1	Muircleugh
74	22	0	Leitholm	63	20	0	Nenthorn Bridge, Stichill Bridge
86	22	0	<i>Lemington Dean</i>	63	16	0	Nenthorn House
84	14	0	Lennel, Charley's Brae	73	1	2	Newton Don
64	12	1	Lightfield Moor, south of Lightfield	84	15	0	Newton Quarry
96	17	3	Linkim Kip	85	11	1	Ninewells
96	18	3	Linkim Shore, Yellow Craig	75	23	0	Nisbet Hill
96	13	1	Linthill, Ale Water near, Little Dean	96	7	1	Northfield
74	11	1	Lintmill Bridge	65	7	1	Nuns' Bank
84	1	1	Lithtillum Loch	87	1	1	Old Cambus Quarry
84	2	0	Lithtillum Wood	86	4	1	Old Cambus Townhead
96	13	1	Little Dean	86	9	0	<i>Old Cambus Wood</i>
76	5	2	Little Dod, Eye Water below	96	14	1	Old Linthill, Ale Water, Eye Water
56	3	0	<i>Little Says Law</i>	85	14	0	Old Pistol Plantation
84	10	0	Little Swinton	45	11	0	Oxton
63	15	2	Little Thairn	95	11	0	Paxton
73	2	0	Lochton, River Tweed	95	9	2	Paxton House
86	19	4	Long Moss, Coldingham Common	74	25	0	<i>Paxton Wood</i>
65	13	0	Longformacus	77	8	2	Pease Bay, Ewelairs
65	16	0	Longformacus Strip	77	7	0	Pease Dean, escarpment and burn foot grassland
45	6	5	Longmuir Moss (VC 81 part, also VC 83)	77	6	3	Pease Dean, lower section, Tower Dean, lower section
96	5	0	<i>Longueville</i>	76	33	4	Pease Dean, upper section, Penmanshiel Wood
86	21	2	Lowries Knowes	86	7	0	Penmanshiel Moor, Langstruther Bog, Broad Bog
86	27	0	Lumsdaine	86	9	0	Penmanshiel Moss, Old Cambus Wood
86	20	4	Lumsdaine Dean	96	10	5	Petticowick
86	24	0	Lumsdaine Moor	54	15	2	Pickie Moss
63	19	0	Lurgie Craigs	86	23	1	Press Castle, Grange Plantation
63	18	3	Lurgie Loch	75	25	0	Preston
63	3	0	Magalenehall, Tweedside near	75	20	1	Preston Bridge
85	2	0	Manderston	54	13	1	Pyatshaw Meadow, by Brunta Burn, Blythe Water
74	12	1	Marchmont, Howe Burn, upper section	76	29	0	Quixwood Moor, Landsend Wood, Eye Water
85	3	0	Marden	63	11	0	Racecourse Plantation
64	19	0	Meikle Harelaw	87	6	3	Rammel Cove
56	3	0	Meikle Says Law, Little Says Law	77	4	3	Ramsheugh Bay, Reed Point
63	14	1	Mellerstain Policies, Eden Water	65	10	1	Rathburne, Dye Water
63	1	1	Mertoun Bridge, Tweedside west of	65	12	2	Rathburne, Watch Water
63	2	0	Mertoun House, Tweedside near	45	5	2	Raughty Burn
87	5	3	Midden Craig	86	3	1	Redclues Cleugh
64	27	0	<i>Middlemoor</i>	87	4	3	Redheugh
85	5	0	Middlestots Pond	53	7	0	Redpath Dean
96	5	0	<i>Mileknowe Plantation</i>	53	12	3	Redpath Moss (part NT63)
96	4	1	Millar's Moss	63	10	3	Redpath Moss (see NT53)
84	17	1	Milne Graden	53	2	1	Redpath, Leader Water
63	13	1	Mincie Moss	77	4	3	Reed Point
95	17	0	Mordington House	86	25	0	Reston
84	12	0	Morningbank				

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86	34	0	Reston Sand Quarry	45	3	3	Threeburnford, nameless burn near
76	22	3	Retreat Wood	95	12	2	Tibbie Fowler's Glen, Witches Cleugh
56	2	0	Rotten Cleugh	76	34	3	Tower Dean, upper section
66	2	3	Rough Cleugh	65	7	1	Trottingshaw, Nuns' Bank
84	4	2	Rough Haugh, Wylie Cleugh	84	16	1	Tweedmill
86	28	3	Rough Heugh	95	8	2	Union Bridge
76	7	0	Roughside Wood	96	1	0	Victoria Bridge, Eye Water
74	10	0	Rowchester House	65	9	1	Watch Water Reservoir
64	30	2	Rumbleton Burn (part NT74)	65	12	2	Watch Water, Rathburne to Watch Water Reservoir
74	4	1	Rumbleton Burn (see NT64)	65	6	1	Watch Water, upper section
53	10	1	Scott's View	96	11	2	West in Thirle, Broadhaven Bay
76	9	0	Scrogie Wood	86	38	0	West Loch
55	10	0	Seenes Law	56	4	2	Wester Black Burn
76	19	3	Shannabank Wood	86	32	1	Westerside
64	6	1	Sheriffmoor Plantation	86	33	2	Westerside Dean
87	3	3	Siccar Point	55	7	3	Whalplaw Burn, lower section
86	26	0	Silverwells	55	8	2	Whalplaw Burn, upper section
86	30	0	Silverwells Dean	55	11	3	Wheel Burn, Blythe Water
74	16	1	Sisterpath	95	1	0	Whinfield Airfield, east section
66	7	0	Smiddyhill, Howbog	85	21	0	Whinfield Airfield, west section
55	5	1	Soonhope Burn, lower section	76	25	0	<i>White Gate Wood</i>
55	6	2	Soonhope Burn, upper section	85	16	1	Whitehall
64	3	0	Spottiswoode Loch	96	2	0	Whitfield Wood, Ale Water
73	3	0	Springhill, River Tweed	44	2	0	Whitlaw, above
96	10	5	St Abbs Head NNR, Petticowick	63	6	1	Whitrig Bog
96	9	5	St Abbs Head NNR, St Abbs Head	54	9	1	Whitslaid
96	8	5	St Abbs Head NNR, Starney Bay	85	13	0	Whitsome
96	7	1	St Abbs Village, Northfield	76	23	4	Wild Wood
66	5	0	St Agnes, Whiteadder near	86	6	1	Winding Burn, Howpark Burn
87	2	3	St Helen's Church, below	95	12	2	Witches Cleugh
94	3	3	St Thomas's Island	74	8	0	Woodheads Strip, Blaeberry Plantation
63	20	0	<i>Stichill Bridge</i>	65	10	1	Wrunklaw
84	11	0	Swinton	84	4	2	Wylie Cleugh
84	5	0	Swinton House	96	18	3	Yellow Craig
87	7	3	Telegraph Hill				
84	6	1	The Hirsell				
83	5	0	The Lees				
54	4	0	Thirlestane Castle				

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