What Grassland Communities Are Naturally Found on Magnesian Limestone?

There are four plant communities found on the Magnesian Limestone in Durham and Tyne & Wear as defined by the National Vegetation Classification (NVC). These communities are:

- **CG8**, **Blue Moor-grass – Small Scabious** (*Sesleria caerulea – Scabiosa columbaria*)
- **CG2**, **Sheep's-fescue – Meadow Oat-grass** (*Festuca ovina – Helictorichon pratense*)
- **CG3**, **Upright Brome** (*Bromopsis erecta*)
- **CG6**, **Downy Oat-grass** (*Helictorichon pubescens*)

Left: Blue Moor-grass. (Photo Keith Cunningham)

Below: Small Scabious. (Photo Dave Mitchell, English Nature)

CG8, Blue Moor-grass – Small Scabious (*Sesleria caerulea – Scabiosa columbaria*)

The NVC type CG8 is only found in Durham and Tyne & Wear within the British Isles, it is completely unique to this area[1]. This grassland is characteristic of the steep drift-free slopes along the Magnesian Limestone escarpment in the west and the east Durham Plateau[1]. "It is typically found on shallow immature rendzina soils that are rich in calcium and magnesium carbonates with a pH generally above 7"[2]. "CG8 will extend onto deeper more mesotrophic brown calcareous earths if they remain base-rich (alkaline)"[2]. "This grassland occurs in scattered localities as unimproved pasture or as secondary grassland that has developed in abandoned limestone quarries"[1]. "English Nature surveys suggested that less than 65 hectares of CG8 grassland remain"[1].

CG2, Sheep's-fescue – Meadow Oat-grass (*Festuca ovina – Helictorichon pratense*)

"CG2 grassland is associated with free-draining calcareous brown earths or rendzina soils and it has a typically southern distribution in Britain"[1]. It generally occurs on steeper natural slopes but also in artificial habitats such as abandoned quarries[2]. In Durham and Tyne & Wear many of the southern species are absent from this grassland and it typically does not fit well into the NVC scheme of sub-communities[1].1

"CG2 forms a major component of vegetation of the Durham Coast; it is largely restricted to steeply-sloping cliffs with a southerly aspect though it does not conform to NVC species lists for

Sea Plantain on the Durham Coast. (Photo South Tyneside Council)

CG2 because of the representation of maritime species, such as Sea Plantain (*Plantago maritima*)"[1].

"At inland localities CG2 occurs in similar situations to CG8 grassland but more sparsely"[1]. Soils under CG2 are characteristically free-draining, "rich in calcium carbonate, have a pH between 7-8 and are deficient in the major nutrients nitrogen and phosphorus"[2].

CG3, Upright Brome (*Bromopsis erecta*)

"The CG3 community is typical of southern limestones and reaches its northern limit in Tyne & Wear"[1]. CG3 is found at number of sites in Durham and Tyne & Wear and is not typically representative of the NVC type[1]. "CG3 never forms stands more than a few tenths of a hectare; these swards are often species-poor"[1].

"CG3 is often found on warmer, south facing slopes in northern areas of the UK, on calcareous, base-rich (alkaline) soils. It dominates lightly-grazed or un-grazed grasslands and if heavy grazing is relaxed it shows rapid and vigorous expansion"[2]. In Durham and Tyne & Wear Upright Brome (*Bromopsis erecta*) has demonstrated the ability to expand into other magnesian limestone grassland communities and dominate the sward, resulting in it being viewed as a problem at some sites.

Magnesian limestone grassland with Goatsbeard. (Photo John Hope)

CG6, Downy Oat-grass (*Helictorichon pubescens*)

CG6 is found sparsely within Durham and Tyne & Wear and is more typical of this vegetation nationally[1]. This community is characteristic of damp, more mesotrophic calcareous soils, usually rendzinas or calcareous brown earths on flat or gently-sloping sites[2]. CG6 is typically found towards the bottom of north-facing slopes[2].

The coastal grassland of Durham and Tyne & Wear are closely-related to this type of grassland[1].

References

[1]Hedley, S., Clifton, S. & Mullinger, S. 1997. Natural Area Profile. The Durham Magnesian Limestone. English Nature, Northumbria Team

[2]Rodwell, J. S. (ed.). 1998. British Plant Communities Volume 3. Grasslands and Montane Communities. Cambridge University Press, Cambridge. Pp 106 – 273.

Version 16/05/2005

The MAGical Meadows Project has received support from English Nature, through Defra's Aggregates Levy Sustainability Fund grants scheme.