

West Penwith Habitat Surveys: Carn Galver (part) (survey area 32 (part) – 2021)

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Project details

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Natural England Project manager

Mark Beard

Keywords

Penwith, SSSI, survey, NVC, habitat

Further information

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Carn Galver (part) (Survey Area 32 (part) – 2021)

Vegetation survey:	Mark Beard & Alex Gilroy	Date surveyed:	26/11/2021
Report compiled by:	Mark Beard		

1. General Information

1.1 Location

Site name / No.	Carn Galver (part) / Site 32 (part)
County	Cornwall
Parish	Zennor
Central OS Grid Ref	SW 4337 3559
Natural England Area Team	Devon, Cornwall & Isles of Scilly
National Character Area	West Penwith (No. 156)

1.2 Summary description

Area	0.51 ha
Altitude	225m – 230m A.O.D.
Aspect	Gentle slope to SW
Drainage	Predominantly dry

Survey area 32 Carn Galver was originally surveyed in 2012 by Cornwall Environmental Consultants (commissioned by Natural England). That survey covered an extent of some 131 ha but excluded a small parcel of separately enclosed land near to Brook Cottage for reasons unknown. This parcel of land is delineated by stone hedges. The parcel forms a small management unit in its own right and is connected to enclosed pasture fields to the immediate east, part of the land associated with Brook Cottage. This omission in the survey data came to light in 2021 and field survey was undertaken 26 November 2021 to complement the 2012 survey of Carn Galver. The survey site is also connected to Nine Maidens Common (survey area 36) to the immediate south through an open gateway.

However, as it is adjacent on 2 of its 4 sides to survey area 32 Carn Galver it is treated as part of that survey area for the purposes of this (supplementary) report. The survey site also borders survey area 34 (Bosporthenis) to the east.

1.3 Access

Access is possible via a defunct field gate from the adjacent pasture land, via Brook Cottage entrance. The land is mapped as Open Country for public access, though no public rights of way cross this parcel of land.

1.4 Tenure

The survey site is privately owned and forms part of the holding associated with Brook Cottage. The survey was carried out with the permission of the landowner.

1.5 Survey methodology and season

The site was surveyed by a 'walk-over' survey during which observations of the habitat present were made. For each distinct stand of vegetation observed a species list was compiled with an associated estimate of frequency based upon the DAFOR-scale and the most likely vegetation community type of the National Vegetation Classification (NVC) (Rodwell, et. al., Volume 2, 1992) was assigned. This community assignment was implied, based upon a working knowledge of the NVC by the surveyors, and is not based upon an analysis of quadrat data. As such the full NVC methodology has not been applied. Nevertheless, the experience of the surveyor in the field is considered sufficient for the implied NVC communities to be reliable for the purposes of this survey. Vegetation within the survey site could be compared to that in adjacent parts of survey areas 32, 34 and 36 (Carn Galver, Bosporthennis and Nine Maidens Common respectively). This allowed the surveyors to compare their implied community assignment to previous assignment of comparable vegetation using full NVC methodology in order to add further confidence to the assignment of the NVC communities implied.

The season (late November) is not an ideal time of year for botanical assessment. It is likely that vernal species which might be present would generally not be identified at this time of year. Nevertheless, the survey was undertaken by experienced field ecologists from Natural England's Area Team and enough plant species were evident to allow a reliable assessment of the habitat and likely NVC communities.

This site is not managed. The prevailing autumn weather had been mild with an absence of frost or storms. Consequently, much vegetative diagnostic features remained in the field to allow species identification.

2. Biological description

2.1 Habitats

The survey site supports an area of lowland heath vegetation with marginal areas of purple moor-grass / bracken vegetation. Each habitat is discussed in turn below.

2.1.1 Lowland heathland

H4 *Ulex gallii* – *Agrostis curtisii* heath

The stand of lowland heath occupied the majority of the survey site and was characterised by the dwarf-shrubs western gorse *Ulex gallii*, heather *Calluna vulgaris* and bell heather *Erica cinerea* with frequent purple moor-grass *Molinia caerulea*

throughout. The stand was dense and even-aged in structure. The stand has affinities with both H4 *Ulex gallii* – *Agrostis curtisii* heath and H8 *Calluna vulgaris* – *Ulex gallii* heath. Due to the relatively high abundance of the graminoid *M. caerulea* this stand is attributed to H4 rather than H8; graminoid cover in the latter may be sparse or even absent in mature stands. The absence of bristle bent *Agrostis curtisii* is atypical of H4 heath compared with the published NVC but observations elsewhere in west Cornwall suggest that this species is often absent from mature stands of H4 heath, though it may become prevalent again following burning or other management which produces an open structure to the vegetation. The stand was relatively species-poor and no (H4) sub-community could be attributed.



Figure 1 Plate 1 – stand of H4 lowland heath (looking south towards Nine Maidens Common and Ding Dong mine)

H4 heath vegetation is characteristic of much of Penwith Moors and has been recorded in previous surveys on adjacent survey areas, lending confidence to the assignment of the heath vegetation to that NVC community.

2.1.2 Molinia – Pteridium vegetation

Marginal areas supported small stands of vegetation characterised by purple moor-

grass *M. caerulea* and bracken *P. aquilinum*. Whilst these stands had some affinities to both M25 and W25, neither were strong enough to attribute these stands to either NVC community. This vegetation type (Mol-Pta) has been recorded in other vegetation surveys elsewhere in Penwith Moors. Similar vegetation has been recorded in previous surveys on adjacent survey areas, lending confidence to the assignment of this vegetation to this (non-NVC) vegetation category.



Figure 2 Plate 2 – stand of Molinia-Pteridium vegetation (no NVC equivalent)

2.2 Species

No rare, scarce or threatened species were noted during the survey.

3. Condition assessment

Note: This assessment is based on generic targets and the condition may be assessed differently once site-specific targets are developed.

3.1 Lowland heath

The heathland on the site is part of the priority Biodiversity Action Plan (BAP) habitat of lowland dry heath and was assessed against the condition assessment for this habitat (JNCC 2009) based upon a visual assessment of the whole-stand, rather than using a number of randomly selected stops.

This assessment failed on 6 mandatory targets:

- Undisturbed bare ground (too low)
- Dwarf shrub cover (too high)
- Cover of *Ulex* spp. (too high)
- Dwarf-shrub structure (lack of pioneer growth)
- Graminoid diversity (too low)
- Desirable forb diversity (too low)

The lowland heathland is therefore considered to be in **unfavourable** condition, with the likely trend to be **no change** given the structural stability of heathland vegetation observed elsewhere on Penwith Moors. The targets failed are typical of heathland stands in Penwith Moors which receive no or little management. It was noted that there was evidence (hoof-prints, dung) of cattle entering this parcel of land through an open gateway from Nine Maidens Common to the immediate south, though it is unknown to whom those cattle might belong nor if this access by cattle is intentional or incidental from a land management perspective.

This condition assessment applies to the relatively small (0.41ha) area of lowland heath within the survey site and it should be noted that the condition assessment for this site should be viewed in the context of the much larger adjacent survey areas, such as survey area 32 Carn Galver from 2012 which also assessed the lowland heath habitat as unfavourable no change (Davies, 2012). It is likely that future condition reporting would include the survey site in this report as part of larger area of moor, possibly as part of survey area 32 Carn Galver or a more extensive monitoring unit to incorporate several adjacent survey areas.

As no other priority habitats were recorded at the survey site, no other habitat condition assessments are necessary.

Table 1 Summary of habitats and vegetation communities

Site 32 (part) – Carn Galver (part) (2021)				
Habitat	NVC communities	Area (ha)	Priority Habitat area (ha)	CA category
Lowland heath	H4	0.41	Lowland heathland	UFNC
Molinia - Pteridium	n/a	0.10	n/a	n/a
Condition assessment reporting categories: Favourable (F), Unfavourable Recovering (UFR), Unfavourable No Change (UFNC), Unfavourable Declining (UFD)				

References

Davies, M. (2012) West Penwith Habitat Surveys: Carn Galver (Survey Areas 32 & 33 - 2012). Cornwall Environmental Consultants Ltd.

Hewins, E. (2013) West Penwith Habitat Surveys: Nine Maidens Common (Survey Areas 36 - 2012). Hewins Ecology.

JNCC (2009) Common Standards Monitoring Guidance for Lowland Heathland. Version February 2009 (Updated from February 2004). JNCC, Peterborough.

Rodwell J.S. (ed). (1992) British Plant Communities Volume 2. Mires and Heaths. Cambridge University Press, Cambridge.

Sproull, J. (2012) West Penwith Habitat Surveys: Bosporthenis (Survey Areas 34 - 2012). Cornwall Environmental Consultants Ltd.

Annexes

Annex 1

Species lists for H4 and Molinia-Pteridium (Mol-Pta) vegetation communities

DAFOR ratings:

D = dominant;

A = Abundant;

F = Frequent;

O = Occasional;

R = Rare

L = Locally (frequent, abundant, dominant)

E = Edge (i.e. a species recorded from the margins of the mapped habitat/community)

		Community / sub-community	
Scientific name	Common name	H4	Mol-Pta
<i>Agrostis capillaris</i>	common bent		R
<i>Agrostis curtisii</i>	bristle bent		R
<i>Calluna vulgaris</i>	heather	F	
<i>Digitalis purpurea</i>	foxglove		O
<i>Erica cinerea</i>	bell heather	F	
<i>Molinia caerulea</i>	purple moor-grass	F	A
<i>Oxalis acetosella</i>	wood-sorrel		R
<i>Polytrichum commune</i>	common haircap		R
<i>Potentilla erecta</i>	tormentil	R	R
<i>Pseudoscleropodium purum</i>	neat feather-moss	O	F
<i>Pteridium aquilinum</i>	bracken	F	A
<i>Rubus fruticosus</i> agg.	bramble	F	F
<i>Rumex acetosa</i>	common sorrel		F
<i>Ulex gallii</i>	western gorse	A	
<i>Viola riviniana</i>	common dog-violet		R

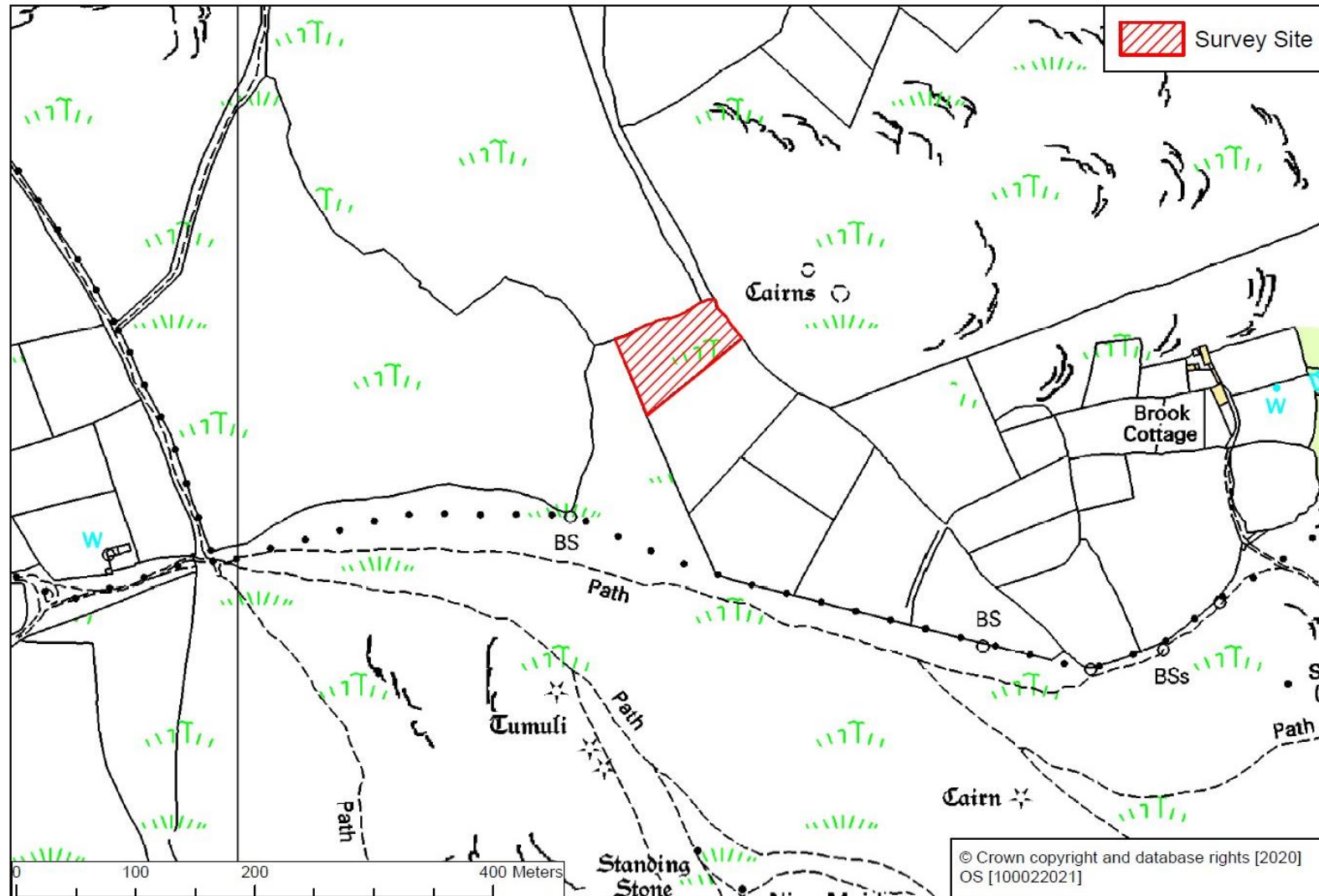
Annex 2

Attribute (Mandatory only)	Target	Field observation	Assessment
Bare ground			
% cover	1% - 10%	<1%	Fail
Vegetation structure			
% dwarf-shrub cover	40% - 90%	>90%	Fail
% cover <i>Ulex</i> (all species)	<50%	60% - 75% (approx.)	Fail
% cover <i>Ulex europaeus</i>	<25%	0%	Pass
Dwarf-shrub growth phase composition	Pioneer 10% - 40%	0%	Fail
	Building / mature 20% - 80%	100%	Fail
	Degenerate <30%	0%	Pass
	Dead < 10%	0%	Pass
Vegetation composition			
Diversity of dwarf-shrub species	At least 2x frequent (excludes <i>Ulex gallii</i>)	<i>Erica cinerea</i> A <i>Calluna vulgaris</i> F	Pass
Frequency of desirable graminoids	At least 1x frequent + 2x occasional	<i>Molinia caerulea</i> F	Fail
% cover <i>Molinia caerulea</i>	No more than 60%	5% (approx.)	Pass
Frequency of desirable forbs	At least 2x occasional	<i>Potentilla erecta</i> R	Fail
Negative indicators			
disturbance	<1% heavily eroded	No signs of heavy erosion / disturbance (very limited cattle poaching)	Pass

Invasive non-native species	<1% cover (ideally absent)	None	Pass
weeds (thistles, docks, ragwort, etc.)	<1% cover	none	Pass
trees and scrub	<15% cover	No trees or scrub present	Pass
bracken	<10% cover	<5%	Pass

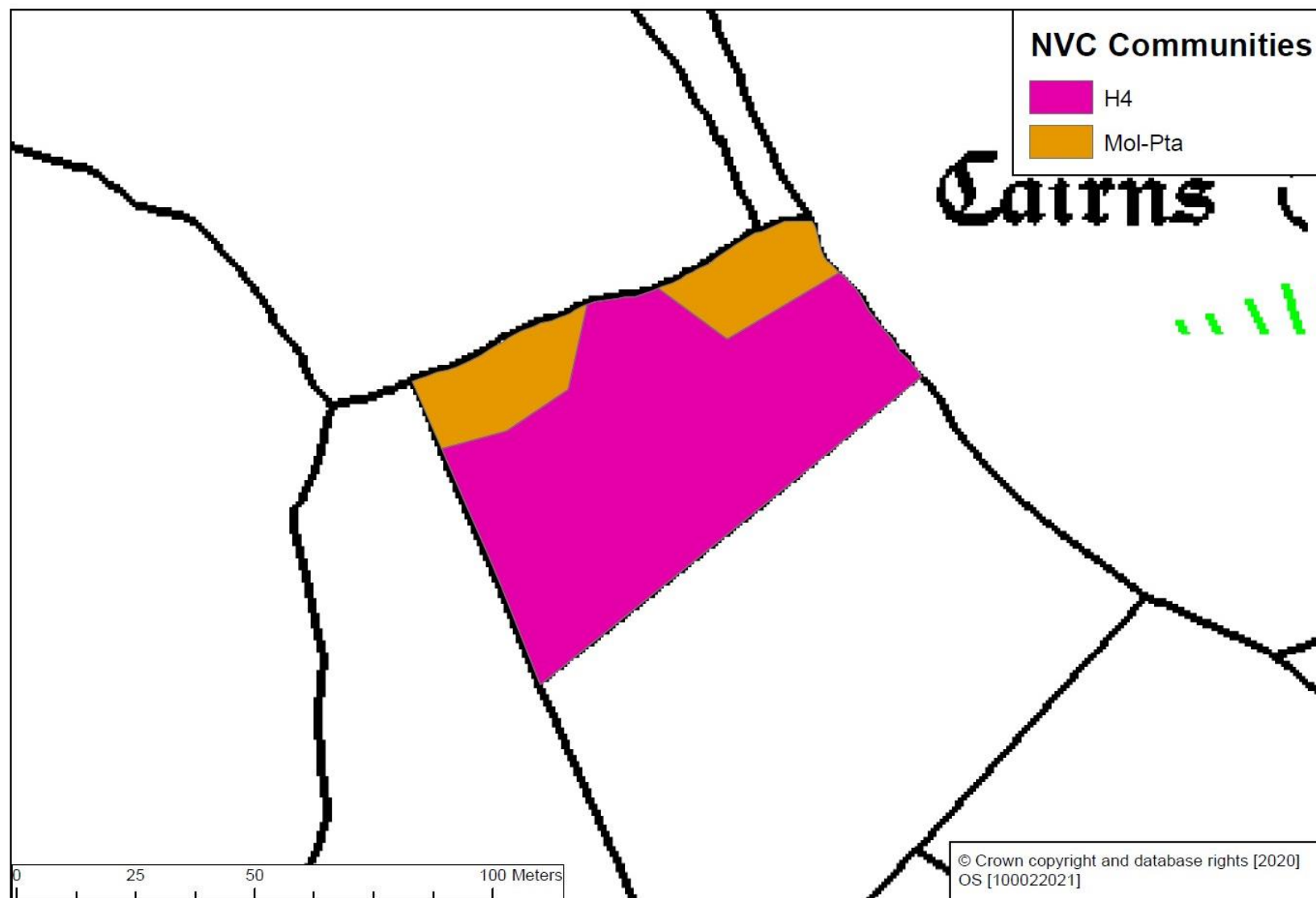
Annex 3

Map 1 Location of survey site



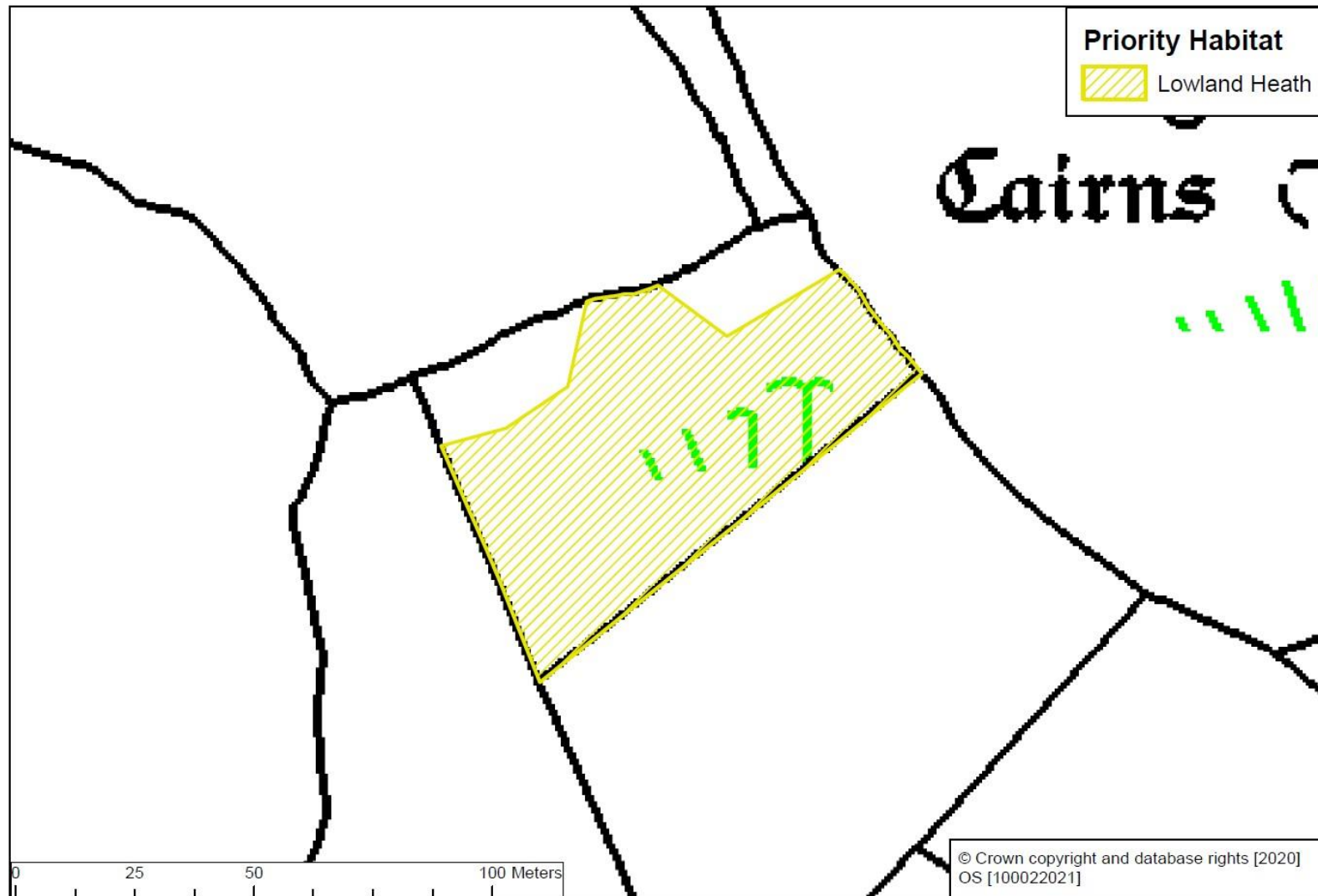
Annex 4

Map 2 NVC/vegetation communities



Annex 5

Map 3 Priority habitats



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