Natural England Research Report NERR087

West Penwith Habitat Surveys: Carn Glaze North (part) (survey area 8 – 2019)

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15/12/20

ISBN 978-1-78354-713-5

Project details

This report should be cited as:

BEARD, M.G. 2019. West Penwith Habitat Surveys: Carn Glaze North (part) (survey area 8 – 2019). Natural England.

Project manager Mark Beard

Acknowledgements Rob Large, Natural England, for field survey

Executive Summary

Land at Penwith Moors in west Cornwall is being considered for possible designation as a Site of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act. To ascertain whether land at Carn Glaze, approximately 2.5 km south-east of St Just, meets the published guidelines for the selection of SSSIs a field survey was undertaken in December 2019. A walk-over survey was undertaken from which vegetation communities were identified and a rapid assessment of condition was undertaken consistent with Common Standards Monitoring. All plant communities present were mapped. An area of lowland heath was identified and its condition assessed as unfavourable. This survey is one of many undertaken or commissioned by Natural England to provide the evidence required to identify those areas which should be included in an SSSI designation, to identify the features to be designated and to inform definition of the SSSI boundary. This report will also help to inform future site monitoring and to provide land management advice.

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West Penwith Habitat Surveys: Carn Glaze North (part) (survey area 8 – 2019)
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Carn Glaze North (part) (Survey Area 8 – 2019)

Vegetation survey & Condition Assessment:	Rob Large Mark Beard	Date surveyed:	19/12/2019
Report compiled by:	Mark Beard		

1 General Information

1.1 Location

Site name / No.	Carn Glaze North (part) / Site 8 (part)
County	Cornwall
Parish	St Just
Central OS Grid Ref	SW392298
Natural England Area Team	Devon, Cornwall & Isles of Scilly
National Character Area	West Penwith (No. 156)

1.2 Summary description

Area	1.17 ha
Altitude	165-170m AOD
Aspect	Gentle, north-westwards
Drainage	Predominantly dry.

This Survey area forms part of a larger Survey site which was subject to NVC survey in September 2019, Carn Glaze North (Survey site 8). It was not possible to survey this area at the same time due to issues related to access permission. This report should be read in conjunction with *West Penwith Habitat Surveys: Carn Glaze North (survey area 8 – 2019)*, Wheeler, B., 2019.

1.3 Access

The survey area is approximately 225m from the nearest public highway to which it is connected by access tracks which follow the route of public footpaths.

1.4 Tenure

The area is in private ownership. The survey was carried out using of legal powers of entry under S51 of the Wildlife and Countryside Act 1981 (as amended).

1.5 Survey methodology and season

The site was surveyed by a ‘walk-over’ survey during which observations of the habitats 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 (Rodwell, et. al., Volumes 1 and 2, 1991) 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 surveyors in the field is considered sufficient for the implied NVC communities to be reliable for the purposes of this survey. Vegetation within the survey area could be compared to that in the wider Survey Site 31, surveyed in September 2019 using standard NVC methodology; reported in *West Penwith Habitat Surveys: Carn Glaze North (survey area 8 – 2019)*, Wheeler, B., 2020. 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. Owing to the methodology applied it was decided against attempting to assign to sub-communities, though where possible these are suggested in the biological description below.

Such surveys are usually carried out during the summer months (May - September), but due to logistical reasons this was not possible in 2019. Notwithstanding, survey in December was considered valid as the main floristic groups likely to be present (dwarf shrubs and grasses) usually remain identifiable throughout the early winter. Other species groups may also remain identifiable, particularly so when the prevailing weather remains mild (as in autumn 2019) and on those sites which are not grazed by livestock or regularly managed in any other way (as is the case at Survey Site 8). The surveyors could also retrospectively compare their findings with those in the report from the September 2019 survey of the remainder of Survey Site 8 for comparison of similar vegetation stands to aid community assignment. Under these circumstances, survey at this time of year was endorsed by Dr Isabel Alonso, Natural England's Senior Specialist for Lowland Heathland habitat.

2 Biological description

2.1 Habitats

The survey site supports a small area of very mature, leggy, dry heath, bracken and bramble 'underscrub' and a small area of scrub. Each habitat is discussed in turn below.

2.1.1 Dry Heath

H8 (Calluna vulgaris – Ulex gallii heath)

Two small stands of H8 heath were mapped, being characterised by high-structure, very mature, 'leggy' heath that shows no signs of any recent management. *Ulex gallii* and *Erica cinerea* form a tall, open and even-aged canopy, colonised by *Pteridium aquilinum* and *Rubus fruticosus*. Grasses and forbs were occasional in patches with locally frequent tussocks of *Molinia caerulea*. The moss *Hypnum cupressiforme* was also frequent.

These stands displayed closest affinities to the H8a species-poor sub-community.

The stands are surrounded by a more extensive stand of W25 underscrub.

Plate 1. Mature, open-structured H8 heath vegetation with *U. gallii, E. cinerea*, *R. fruticosus* and *P. aquilinum*.

2.1.2 Scrub and underscrub

W22 *Prunus spinosa – Rubus fruticosus* scrub

One small stand along the south-eastern edge of the survey area. Dominated by *Prunus spinosa*, but with some *Salix cinerea* and a sparse ground-flora characterised by *Silene dioica* and *Dryopteris dilatata*.

W25 *Pteridium aquilinum - Rubus fruticosus* underscrub

The most extensive vegetation community within the survey area with *P. aquilinum* and *R. fruticosus* co-dominant. An open structure allows for some floristic diversity with *S. dioica, D. dilatata* and locally frequent tussocks of *M. caerulea*. Mosses were also present with *Pseudoscleropodium purum* and *Rhytidiadelphus squarrosus* both frequent.

Plate 2. Interface between W22 *P. spinosus* scrub and W25 *P. aquilinum and R. fruticosus* underscrub.

2.2 Species

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

3 Condition Assessments

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

3.1 Lowland Heathland

Due to the small scale of the H8 stands the condition assessment was made from attributes assessed at the whole-stand level rather than using any number of randomly selected stops.

This assessment shows that the lowland heathland vegetation at this survey site is currently in **unfavourable** condition assessed against the generic targets for dry heathland (JNCC, 2009). The lowland heathland habitat failed against several generic targets, namely:

- Extent of bare ground (insufficient);
- Cover of *Ulex* spp (too great);
- Structure of dwarf shrubs (too uniform);
- Frequency of desirable graminoids (too few);
- Frequency of desirable forbs (too few);
- Cover of trees and scrub (*R. fruticosus* >1%).

However, all other targets were met.

It is difficult to ascertain the trend of the condition of lowland heathland at this survey site in the absence of previous data. That said, there appears to be no active management at the survey area and the heathland structure is very open, leggy and very mature. This implies that the heathland community here has been in long-term decline for many years and therefore a trend category of **declining** would seem appropriate. There is a risk that without intervention management the heathland community may be lost to W25 underscrub

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 8 - Carn Glaze North (part) (2019)				
Habitat	**NVC communities**	**Area (ha)**	**Priority Habitat area (ha)**	**CA category**
Dry heath	H8	0.19	Lowland heathland	UFD
Underscrub	W25	0.89	n/a	n/a
Scrub	W22	0.06	n/a	n/a
hardstanding	n/a	0.03	n/a	n/a

Condition assessment reporting categories:
Favourable (F), Unfavourable Recovering (UFR), Unfavourable No Change (UFNC), Unfavourable Declining (UFD)

4 References

Wheeler, B. (2020) West Penwith Habitat Surveys: Carn Glaze North (survey area 8 – 2019)

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

Rodwell J.S. (ed). (1991) British Plant Communities Volume 1. Woodlands and Scrub. Cambridge University Press, Cambridge.

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

Target Note for Carn Glaze North (part) (Survey area 8 – 2019)

TN1	SW3928629868	Circular, grassy area possibly formed by former location of ring-feeder, with *Achillea millefolium, Rumex acetosa, Plantago lanceolata, Senecio jacobaea* and *Veronica chamaedrys.*

Species lists for H8, W22 and W25 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		
Scientific name	Common name	H8	W22	W25
Achillea millefolium	Yarrow			R
Agrostis curtisii	Bristle bent	R		
Agrostis stolonifera	Creeping bent			O
Angelica sylvestris	Wild angelica			R
Calluna vulgaris	Heather	R		
Carex binervis	Green-ribbed sedge			R
Dactylis glomerata	Cock's-foot			O / EF
Digitalis purpurea	Foxglove			O
Dryopteris dilatata	Broad buckler-fern		F	F
Erica cinerea	Bell heather	F		R
Galium aparine	Cleavers		R	
Galium saxatile	Heath bedstraw	R		
Holcus lanatus	Yorkshire fog			O / EF
Hypnum cupressiforme	Cypress-leaved Plait-moss	F		
Juncus effusus	Soft rush			O
Molinia caerulea	Purple moor-grass	LF		LF
Plantago lanceolata	Ribwort plantain			R
Poa trivialis	Rough meadow-grass	R		
Polytrichum commune	Common haircap moss	R		
Potentilla erecta	Tormentil	R		
Prunus spinosa	Blackthorn		D	
Pseudoscleropodium purum	Neat feather-moss			F
Pteridium aquilinum	Bracken	F		A
Rhytidiadelphus squarrosus	Springy turf-moss			F
Rubus fruticosus agg.	Bramble	F		A
Rumex acetosa	Common sorrel			O
Salix cinerea	Grey willow		O	
Senecio jacobaea	Common ragwort			R
Silene dioica	Red campion	O	F	F
Teucrium scorodonia	Wood sage	O		O
Ulex europaeus	European gorse	R		
Ulex gallii	Western gorse	A		O
Urtica dioica	Stinging nettle			R
Veronica chamaedrys	Germander speedwell			R

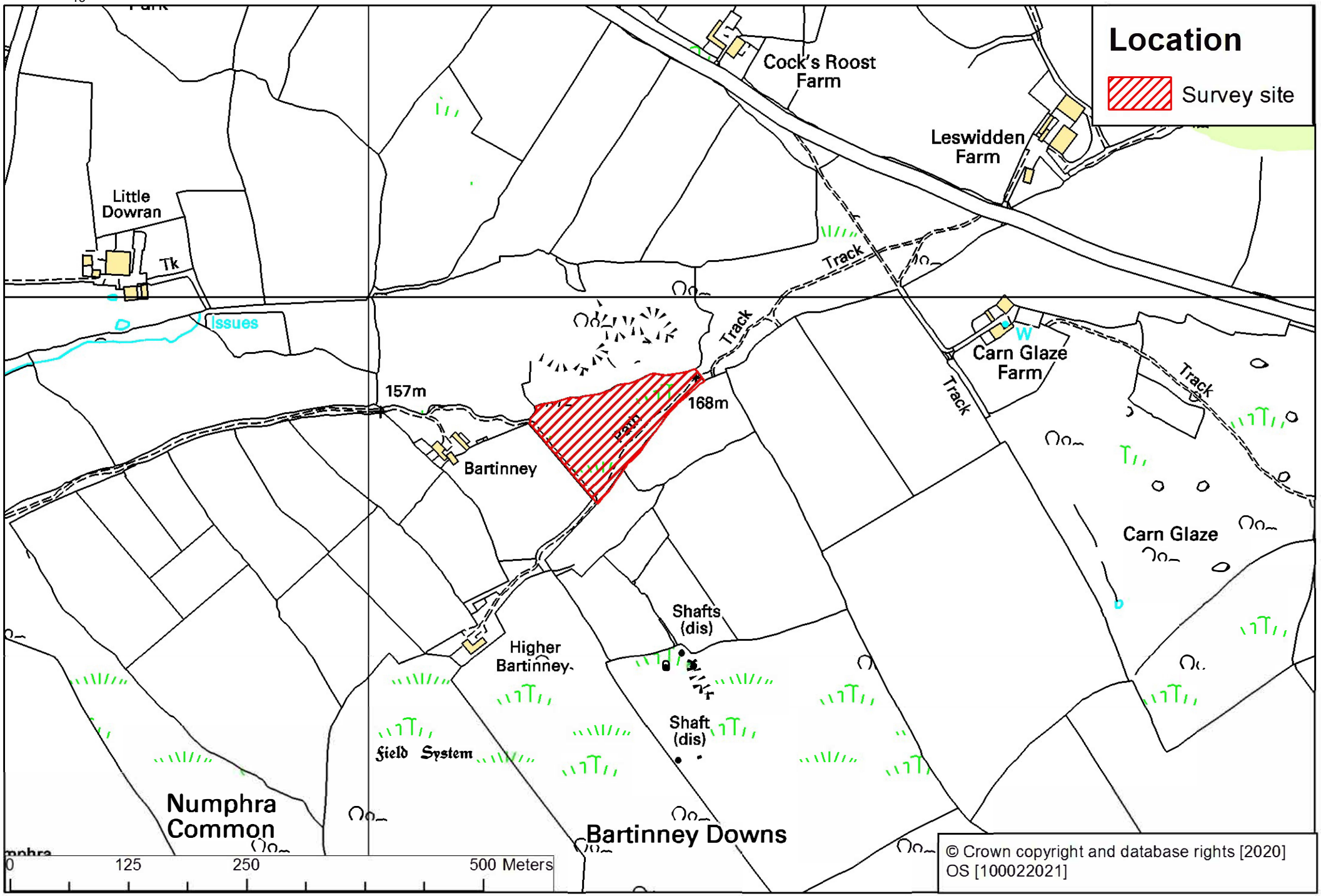
Dry heath (H8) – whole stand condition assessment

Attribute (Mandatory only)	Target	Field observation	Assessment
Structure & composition			
Bare ground (other than rock)	Undisturbed 1-10% / Heavily disturbed <1%	<1% (undisturbed)	Fail
Total % cover shrubs	Cover of dwarf shrubs 25-90%	50%	Pass
Ulex spp. cover %	<50%	80%	Fail
Structure of dwarf shrubs	(pseudo-)Pioneer 10-40% Building/mature 20-80% Degenerate <30% Dead <10%	100% mature No pioneer	Fail
Positive indicators			
Frequency of dwarf shrubs	At least 2 species at least frequent (inc. *Ulex gallii*)	*Calluna vulgaris* R *Erica cinerea* F *Ulex gallii* A	Pass
Desirable graminoids	At least one species at least frequent and two species at least occasional	*Agrostis curtisii* R *Molinia caerulea* LF	Fail*
Desirable forbs	At least 2 species at least occasional	*Galium saxatile* R *Potentilla erecta* R *Teucrium scorodonia* O	Fail*
Negative indicators			
Signs of disturbance (erosion)	<1% of habitat showing signs of erosion	Negligible erosion	Pass
Non-native invasives	*Rhododendron* and other exotic species <1%	None	Pass
Undesirable forbs	‘weeds’ <1%	None	Pass

Undesirable trees and scrub	<15% trees, tree seedlings or other species of scrub. <1% *Rubus* spp.	>1% *Rubus fruticosus*	Fail
Pteridium aquilinum	<10% *Pteridium* in a dense canopy	<5%	Pass
Ulex europaeus	<25% *Ulex europaeus*	<1%	Pass

*Common Standards Monitoring guidance for Lowland Heathland (JNCC, 2009) states that in sites considered to be “naturally species-poor” a lower target of just one desirable graminoid and one desirable ford would suffice to achieve favourable condition. At the time of writing a consultation draft Favourable Condition Table for Penwith Moors is still in development and in the interim the generic targets are applied; this also maintains consistency with other lowland heathland condition assessments made elsewhere in Penwith Moors, 2012 - 2019.

West Penwith Moors 2019 Survey Area 8 Carn Glaze N (Part)



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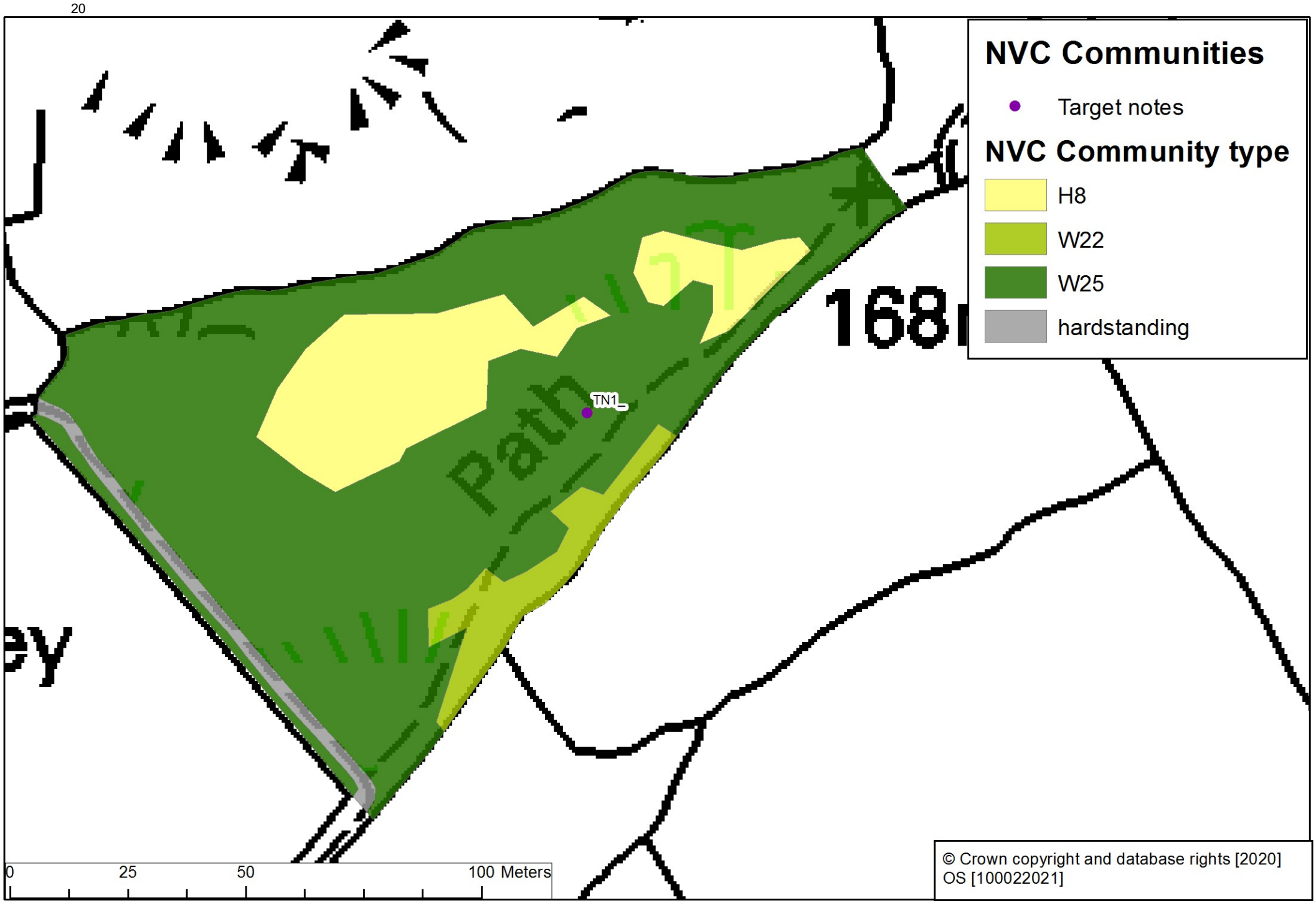

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