Natural England Commissioned Report NECR141

New Forest SSSI Ecohydrological Survey Overview

Annex V: Ma 5 Wet Part 3 (including Acres Down and Warwick Slade Bog)

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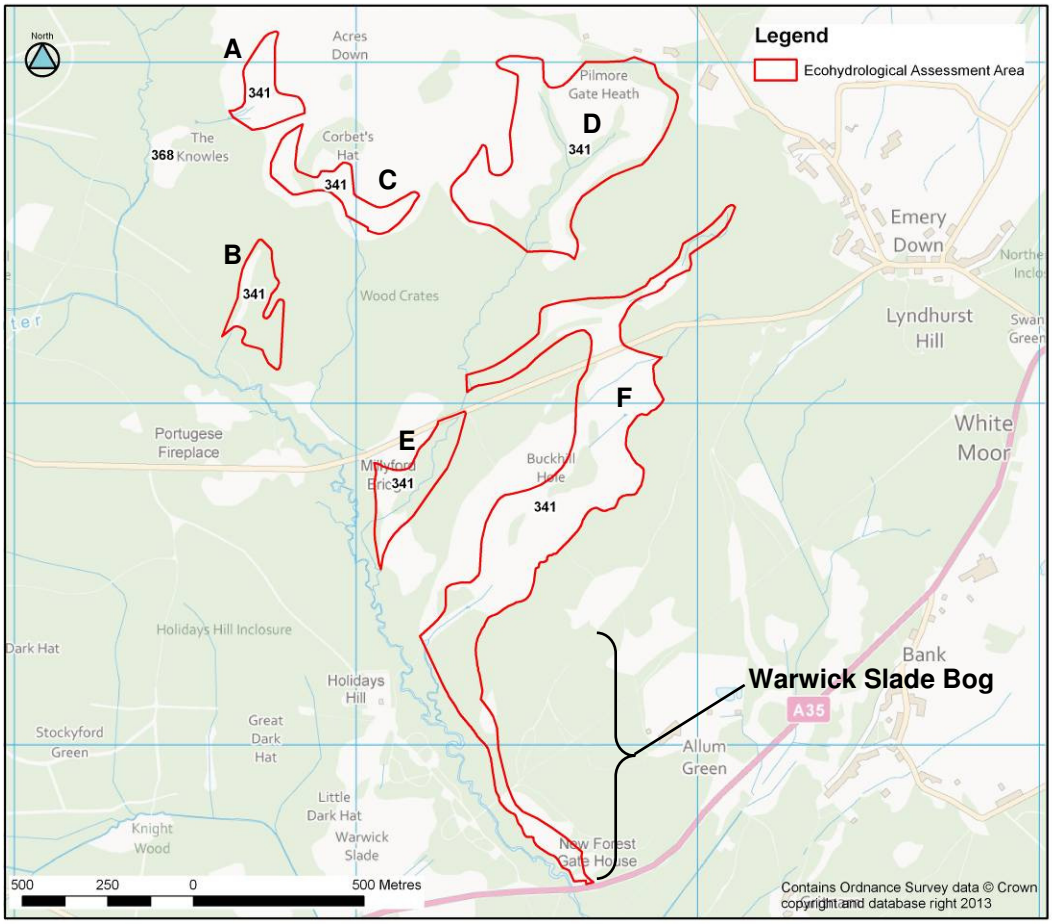
Contents

1 Ma 5 Wet Part 3 (including Acres Down and Warwick Slade Bog)

1.1 Introduction

This Ecohydrological Assessment Area (EcoHAA) covers 65.6 ha and is contained within SSSI Unit 341 with its centre at National Grid Reference (NGR) 427350 108091 (see Figure 1-1). The EcoHAA includes a number of separate sub-areas which, for the purposes of this report, are identified using letters (Figure 1-1).

Figure 1-1: Location Map (sub-areas labelled using letters for the purposes of discussion)



The site includes a range of wetland types. In the north are flush-dominated valley-side mires fed by groundwater seepage from the contact between the Becton Sand Formation and underlying Chama Sand Formation. In the central part of the area are valley bottom wetlands, including mires and marsh or marshy grassland; these are fed by surface runoff and by diffuse seepage from the underlying Chama Sand Formation. Warwick Slade Bog, in the southern part of the area, is a valley bottom mire developed below a seepage step at the edge of the floodplain of Highland Water.

The northern valley-side mires, and Warwick Slade Bog, have little or no artificial drainage. In contrast, the central valley bottom wetlands are dissected by a network of drainage ditches. Here, drainage and grazing have converted former mire areas into "lawns". The W-shaped wetland south of Corbet's Hat (Area C) is drained by an unmapped watercourse, and a footpath crossing over this watercourse on the southern edge of the wetland shows significant

poaching and erosion. Minor headward erosion has occurred on watercourses draining two of the wetlands (Areas B and C).

Table 1-1: Ecohydrological Assessment Area Summary Table

Eco-hydrological Assessment Area		**W**
Name		Acre Down and Warwick Slade Bog
Relative Geomorphology Assessment		
Size (ha)		65.6
SSSI Units		341
Valley Side Wetland	Present	Y
	Wetland Type	Flush Dominated Wetland / Seepage Dominated Wetland
	Main Source of water	Seepage from the contact between the Becton Sand Formation and the underlying Chama Sand Formation. Also seepage from within the Chama Sand Formation.
	Indicative NVC communities	M29, M16a, M21a, W4b, M24
	Wetland Types	Mire, Wet Grassland, Wet Heath, Wet Woodland
	Drainage Damage	Y - local incision / bank erosion in unmapped watercourse draining the W-shaped mire (Area C) in the north-central part of the site (minor); this is associated with a track crossing.
	Scrub/Tree Encroachment Damage	N
	Poaching and Grazing Pressures Damage	Y - poaching, especially at water crossings (minor)
Valley Basin Wetland	Present	Y
	Wetland Type	Seepage Dominated
	Main Source of water	Surface runoff and also diffuse seepage from the Chama Sand Formation. Warwick Slade Bog (southern part of area F): seepage from the contact between the Chama Sand Formation and adjacent/overlying alluvial deposits.
	Indicative NVC communities	M25a, M29, M24, M16a, W4b, W10a, W14, W7, W25
	Wetland Types	Mire, Wet Grassland, Wet Heath, Wet Woodland
	Drainage	Y - south-eastern portion of site contains a network of drainage ditches that flow into Highland Water (moderate)
	Scrub/Tree Encroachment Damage	N
	Poaching and Grazing Pressures	Y - poaching and grazing pressures (moderate)
Additional Comments		Minor headwater erosion was noted on the tributary stream of Highland Water in the small unit immediately north of Millyford Car Park (Area B) and also at Corbet's Hat (Area C).

It should be noted that although this is a standalone report, it is strongly reliant upon the background information provided in section 3 of the JBA (2013) Ecohydrology Survey Overview report, which provides general geology, hydrogeology, ecology, wetland mechanisms and restoration information for the New Forest wetlands surveyed. At the end of the report is a series of maps which support the assessment and indicate the spatial distribution of the features described.

1.2 Topography and Wetland Distribution

The site includes a range of wetlands, including valley side mires, valley bottom mires and areas of valley bottom marsh or marshy grassland. The valley side mires occur mainly in the northern part of the area, around Acres Down and Corbet's Hat (Areas A, C and D). In the central part of the area are valley bottom mires and marshy areas (Areas B, E and F). Marshy grassland in these valley bottoms is associated with artificial drainage and the local development of "lawns". Warwick Slade Bog, in the southern part of the area (southern part of Area F), is a valley bottom wetland developed on the floodplain of Highland Water. Figure 1-2 to Figure 1-9 illustrate the main features of the site.

Figure 1-2: General view of valley mire in the north-western part of the area (Area A, NGR 426802 108833)

Figure 1-3: Mire vegetation developed below seepage step southwest of Corbet's Hat (Area C) - interpreted as the edge of a river terrace (NGR 426822 108650)

Figure 1-4: Groundwater Flushed Flow Track (Soakway) south of Corbet's Hat (Area C, NGR 426908 108646)

Figure 1-5: Poaching and erosion of footpath near Corbet's Hat (Area C, NGR 426876 108598)

Figure 1-6: View of valley mire in the north-eastern part of the area (Pilmore Gate Heath) (Area D, NGR 427469 109007, looking southeast)

Figure 1-7: Wooden debris dam (probably natural) and "spreads" in valley bottom wetland (Area F, NGR 427806 108303, looking southwest)

Figure 1-8: "Lawn" development along drainage ditch in the south-eastern part of the area (Area F, NGR 427816 108109, looking southwest)

Figure 1-9: General view of Warwick Slade Bog showing the seepage step along the left-hand side (southern part of Area F, NGR 427449 106861, looking southeast)

1.3 Ecology

This Eco-hydrological Assessment area consists of a number of discrete sites, which are all discussed separately below, given their distinct ecological features and issues.

The first area visited was the small area immediately north of the car park at Millyford Green (Area B). This area is broadleaved woodland dominated, with birch *Betula sp.*, Holly *Ilex aquifolium* and Oak *Quercus robur.* frequent, and some Grey Willow *Salix cinerea* towards the valley bottom, where a valley mire is present. Bracken *Pteridium aquilinum* is also extensive within this area. Within the valley bottom mire, water soaks towards the lowest poin, and, in the south of the area, a distinct single-thread channel forms. Headwater erosion appears to be occurring in this stream, with a number of small steps at the southern end of the unit, seemingly migrating upwards towards the valley mire, potentially compromising its extent. The valley bottom mire habitat itself is dominated by a canopy of relatively dense Bog Myrtle *Myrica gale*. This is surrounded by more open, lush green areas dominated by *Sphagnum* and is heavily grazed. Purple Moor-grass *Molinia caerulea* tussocks, with Carnation Sedge *Carex panicea* and Common Yellow-sedge *Carex viridula ssp. oedocarpa* are also abundant. Within this area there were very wet soakway areas with Bog Pondweed *Potamogeton polygonifolius*, Marsh St John's-wort *Hypericum elodes*, Water Mint *Mentha aquatica* and New Zealand Willowherb *Epilobium brunnescens*. This valley bottom mire area is, therefore, considered to consist of the predominantly Bog Myrtle dominated M25a valley mire habitat, with the more heavily grazed areas being M24 wet lawn; throughout both of these communities there were very wet and boggy M29 soakway habitats.

The W-shaped area at Corbet's Hat (Area C) has particularly severe footpath erosion issues within the central area, which have provided a conduit for water flow downslope, further exacerbating the erosion issues (see Figure 1-5). This area contains three small separate valley mires which drain towards a Bog Pondweed dominated soakway habitat, which then forms a stream (not shown on OS maps); this then discharges from the unit to the south. This stream is very narrow, but quite incised, with some headwater erosion occurring, again exacerbated by the footpath erosion issues. The valley mire habitat contains Deergrass *Trichosporum germanicum*, Carnation Sedge, *Sphagnum* tussocks, White Beak-sedge *Rhynchospora alba*, Bog Asphodel *Narthecium ossifragum*, Bog Pondweed and some Cross-leaved Heath *Erica tetralix*, Heather *Calluna vulgaris* and Bog Myrtle. Poaching was also significant in places in this unit and some areas were heavily grazed.

The third site visited was the northernmost of the three very small areas, Acres Down (Area A). This unit was a good example of a seepage step mire, with seepage occurring at the base of a low scarp slope, which was covered with Bracken and Gorse *Ulex europaeus*. The seepage then travelled downslope, where it collects and begins to form a stream, which is a tributary of Bagshot Gutter. The valley mire habitat was dominated by Deergrass, White Beak-sedge, Purple Moor-grass, *Sphagnum* tussocks, Bog Asphodel, Sharp-flowered Rush *Juncus acutiflorus* and Cross-leaved Heath. Within this valley mire habitat there were a number of M29 soakway habitats, with increased amounts of Bog Pondweed, Marsh St. John's-wort and New Zealand Willowherb; these channelled water to the stream outlet of the unit.

Pilmore Gate Heath (Area D) consists of a wooded valley bottom, with Willow Carr following the line of two tributaries that merge and then flow in a south-westerly direction out of the unit boundary. Willow Carr is dominated by Grey Willow and Downy Birch *Betula pubescens*. At the head of both valleys, valley mire is present with extensive *Sphagnum* tussocks, Cross-leaved Heath, White Beak-Sedge, Deergrass and Purple Moor-grass, with White Beak-sedge and Deergrass being the dominant species, giving rise to a M21a community. A side valley connects to the main valley (named Deadman's Moor on OS maps) at the southern end of the site and this is similar in character to the valley mire described above, with slight doming evident indicating peat accumulation. However, there is also a seepage area at the base of small scarp slope, where water has pooled and the vegetation is lusher. There are a number of these seepage lines within the site. At the southern end of the unit the woodland is more mature and taller, with Beech *Fagus sylvatica*, Alder *Alnus glutinosa* and Oak abundant, with Alder particularly prevalent along the watercourse margins itself. The stream is also relatively incised and deep, meandering around the trees, with a number of debris jams along it. A number of shallow channels carry water through this woodland, which in places is very boggy. These were evident at the time of survey due to preceding heavy rain.

The largest site in this complex (Area F) includes Short's Parlour, White Shoot and Warwick Slade Bog, which are located to the east of Highland Water. North of the road that divides the site, there are areas of Grey Willow-dominated carr woodland and wet heath with Bracken, Cross-leaved Heath, Heather and Purple Moor-grass. Heavily grazed wet grassland/lawn areas are also present. These wet lawn areas have patches of Purple Moor-grass, Carnation Sedge, Common Yellow-sedge and *Sphagnum* tussocks. There are also a number of pools with Marsh St. John's-wort, Bog Pondweed, Floating Sweet-grass *Glyceria fluitans*, Round-leaved Water-crowfoot *Ranunculus omiophyllus* and a Water-starwort *Callitriche sp.* These pools are interconnected with a series of shallow drains/seepage lines. There is also a small bed of Common Sedge *Carex nigra* where it becomes particularly boggy in this area.

Immediately south of the road, the site has been heavily modified by drainage, with straight, relatively deep channels cut across the heathland, which connect into a main central channel which is a tributary of Highland Water. These are surrounded by a narrow border (3-5m in width) of heavily grazed wet lawn vegetation, and occasionally a linear strip of Bracken. There are also patches of woodland along these drains with Grey Willow, Alder, Oak, Holly and Downy Birch being the most frequent species. Interspersed between the woodland and wet lawns are significant areas of Cross-leaved Heath and Purple Moor-grass dominated wet heathland (M16a), with some areas more dominated by Purple Moor-grass (M25a). Some of the wet heath areas had been burnt. Where the track crosses the site two culverts are present, around which water has ponded and a range of aquatic plant species were present, with Bog Pondweed and Marsh St.John's-wort the most abundant. Poaching was severe in places within this unit. At the southern end of the unit (Warwick Slade Bog) valley mire habitat is present in good condition, with Deergrass, White Beak-sedge, Bog Myrtle, Purple Moor-grass, *Sphagnum* tussocks, Sharp-flowered Rush, Cross-leaved Heath and Bog Asphodel all recorded during the site visit. The ground here was very spongy and boggy.

The small site near Millyford Bridge (Unit E) was dominated by woodland, with Alder, Oak, Grey Willow and Holly present. Little ground flora was evident, but some Remote Sedge *Carex remota*, Wood Spurge *Euphorbia amygdaloides, Polytrichum commune* and other mosses were present. The ground around the stream was very boggy, with the high water conditions showing a number of other palaeo-channels on the floodplain and flooded shallow depressions on the woodland floor. To the south-east of this woodland, Oak-Birch woodland dominated. To the west of the unit the woodland opened up and a Bog Myrtle and Purple Moor-grass habitat became dominant, although the Purple Moor-grass had been heavily grazed, leaving only grazed tussocks. Within this mire area a number of small patches of Grey Willow scrub were present and an area of Branched Bur-reed *Sparganium erectum* dominated swamp, which also contained Marsh St. John's-wort, Floating Sweet-grass, Water Mint, Bog Pondweed, *Sphagnum cuspidatum* and *S. inundatum* Sharp-flowered Rush and Floating Club-rush *Isolepsis lacustris*.

1.4 Geology and Hydrogeology

Table 1-2 shows the geology of the area.

Table 1-2: Geology and Hydrogeology

Age	Group	Formation - member	Description	Thickness	Hydro-geological Role	Water Resources
Quaternary		Alluvium		Up to 10 m	Aquifer / Aquitard	Yields from alluvium and terrace gravels are often obtained from the adjacent rivers.
		River terrace deposits	CLAY, SILT, SAND and GRAVEL.		Aquifer / Aquitard - Spring lines may be present at the base of high level river terraces.	
Tertiary (Eocene)	Solent Group	Headon Formation and Headon Hill Formation	Greenish grey shelly CLAY with laminated SAND, SILT and CLAY.	Up to 49 m	Aquifer / Aquitard	Sandy strata may provide yields sufficient for domestic or small agricultural use.
	Barton Group	Becton Sand Formation	Yellow/buff fine- to very fine-grained well sorted SAND.	6 – 70 m	Aquifer - The most permeable and reliable aquifer within the Barton Group.	Yields up to 600 m^3/d in the south; in the north they rarely exceed 200 m^3/d.
		Becton Sand Formation - Becton Bunny Member	Grey/brown shelly CLAY.	0 – 8 m	Aquitard	Little useable groundwater
		Chama Sand Formation	Greenish grey fine- to very fine-grained and rather clayey/silty SAND; slightly glauconitic. Also sandy CLAY.	6 – 15 m	Aquifer	May yield small supplies

1.5 Water Supply Mechanisms

The wetlands on site include both flush-dominated and seepage-dominated types (see Figure 1-10). The valley side mires in the northern part of the EcoHAA (Areas A, C and D) are flush-dominated and fed mainly by groundwater seepage from the contact between the Becton Sand Formation and underlying Chama Sand Formation. Groundwater seepage from within the Chama Sand Formation may also play a role, with both diffuse seepage and more concentrated seepage from particular stratigraphic horizons (as near Broom Hill in the south-eastern corner of Area D) where there appears to be a discrete seepage.

The valley bottom mire/marsh areas in the central part of the EcoHAA (Areas B, E and F) are fed by surface runoff (locally forming "spreads") and also by diffuse groundwater seepage from the underlying Chama Sand Formation. Warwick Slade Bog, in the southern part of the area (southern part of Area F - see Figure 1-1), is a flush-dominated valley mire fed by groundwater seepage from a seepage step along its north-eastern edge. This step appears to represent the boundary between the Chama Sand Formation and the alluvial deposits that occur beneath the floodplain.

Figure 1-10: Conceptual Model Diagram: Valley Side Mires in Northern Part of Site (Areas A, C and D)

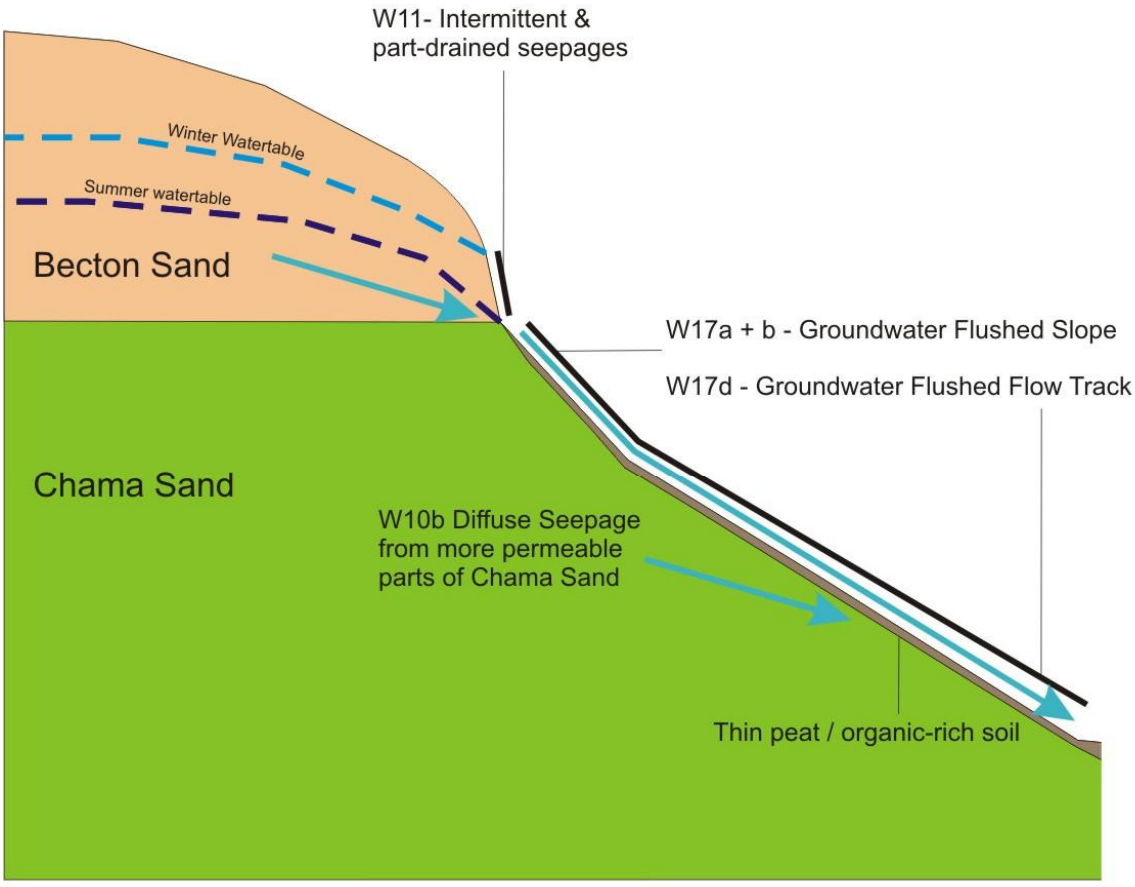


Figure 1-11: Conceptual Model Diagram: Valley Bottom Mires in Central Part of Site (Areas B, E and F)

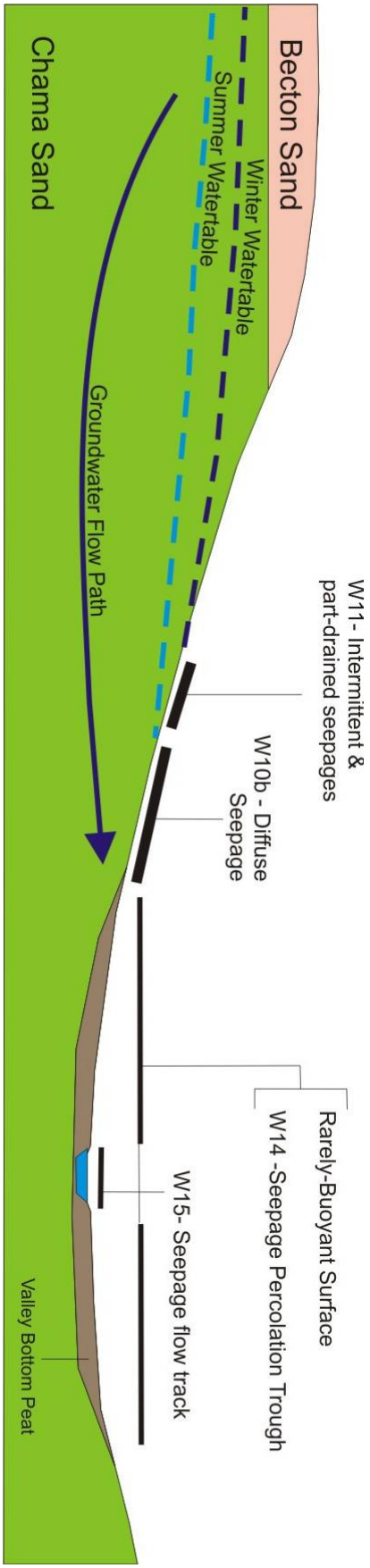
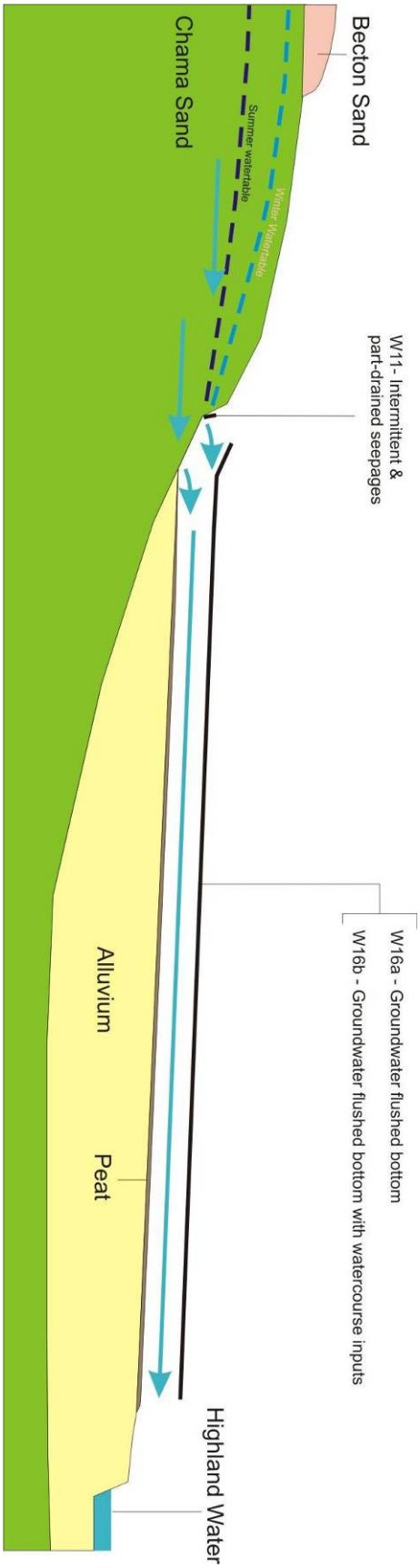


Figure 1-12: Conceptual Model Diagram: Warwick Slade Bog (Southern Part of Area F)



1.5.1 WETMECS identified

WETMECs are ecohydrological classifications of how water can be supplied to a wetland to create distinguishable habitats WETMECS were developed in partnership between the Wetland Research Group at the University of Sheffield, the Environment Agency, English Nature (now Natural England) and Countryside Council for Wales. For each Ecohydrological Assessment Area WETMECS have been identified.

The WETMECS identified include:

Valley side wetlands - W17a, W17b, W17d and W10b with narrow zone of W11 above.

Valley bottom wetlands - W10b, W11, W14, W15, W16a and W16b.

1.6 Damage and Restoration

1.6.1 Damage

There is one area of significant damage (see Figure 1-13), where drainage and grazing have led to the destruction of valley mire and its replacement by "lawn". Footpath erosion and poaching by animals are an issue locally (Figure 1-14). Headward erosion of watercourses draining mire areas has occurred in areas B and C. It is recommended that these areas be monitored to detect any further significant headward erosion. If a problem is identified then it may be necessary to take preventative measures by installing some kind of slope control. This could involve the use of staked heather bales (where flows are not too energetic), the installation of wooden weirs and/or the infilling or re-profiling of the channel. The engineering design of suitable measures would need to be based on a detailed study beyond the scope of this report.

Figure 1-13: Restoration Areas Map 1: Central Part of Site (Areas E and F)

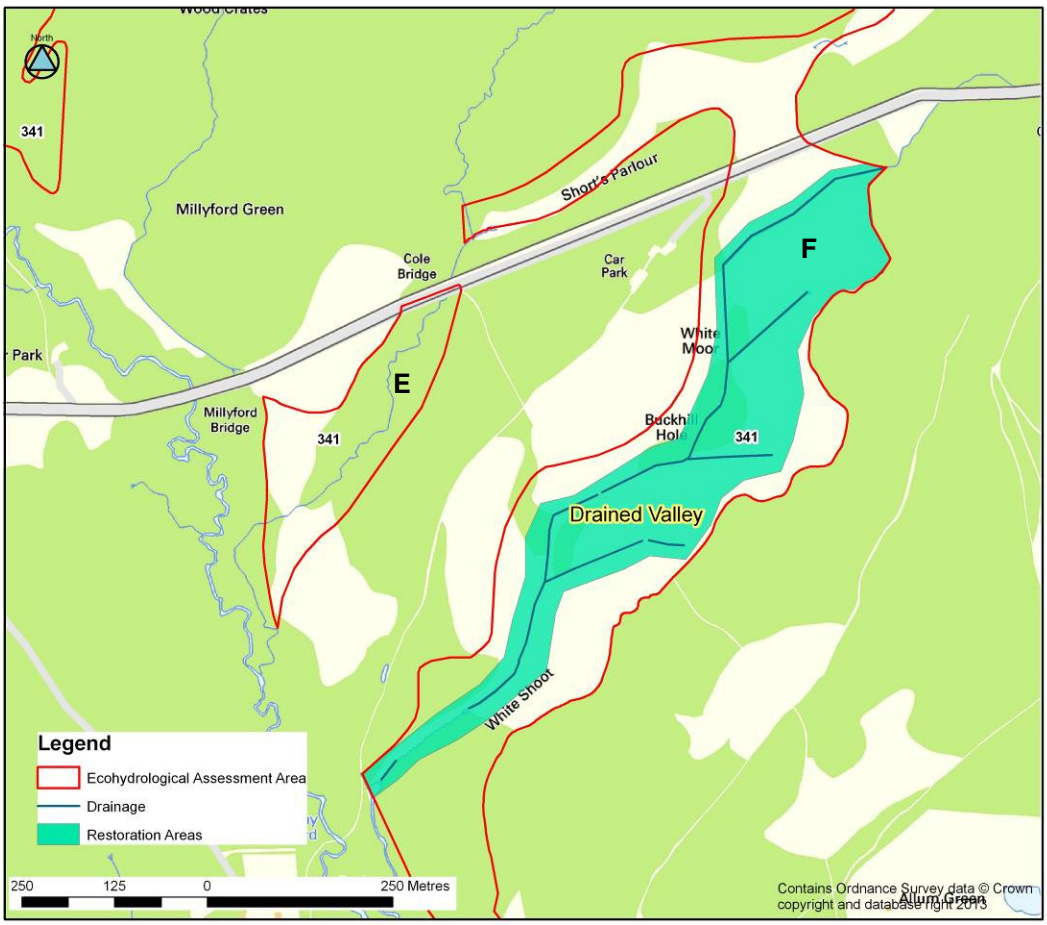


Figure 1-14: Restoration Areas Map 2: Northern Part of Site (Areas A and C)

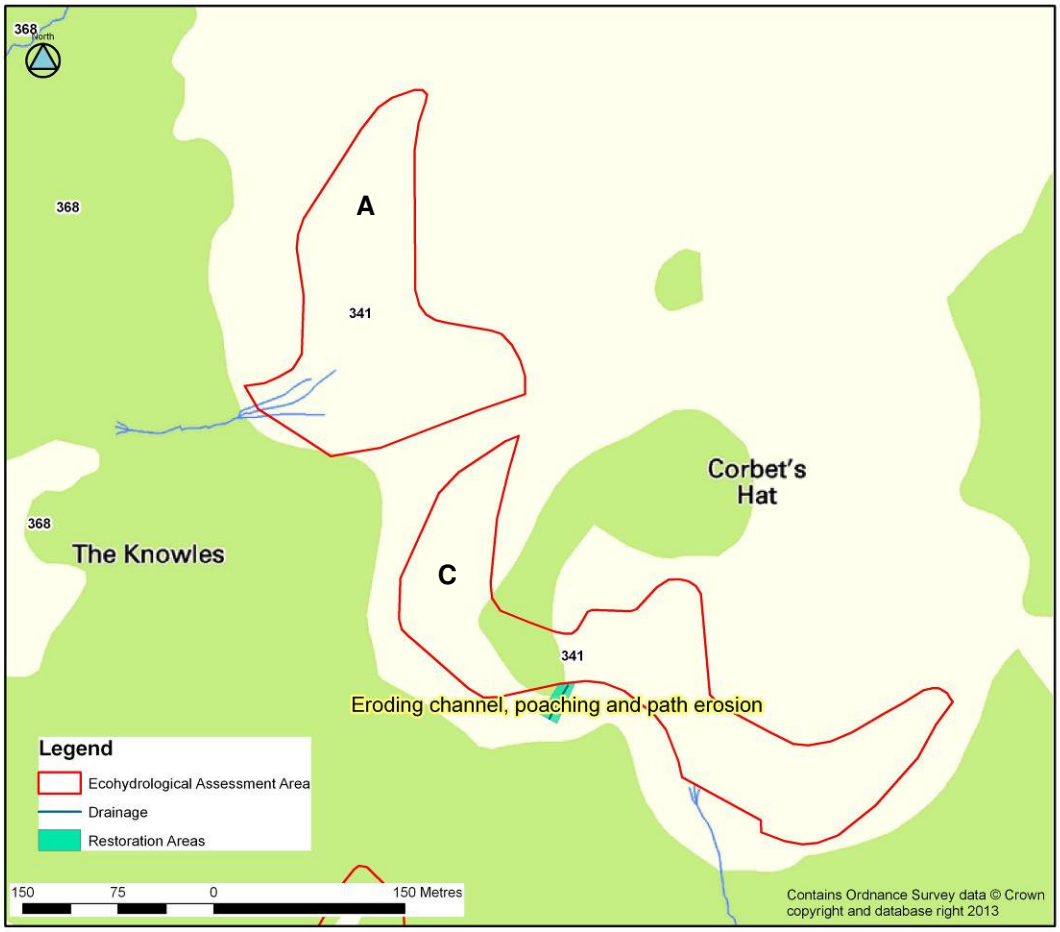
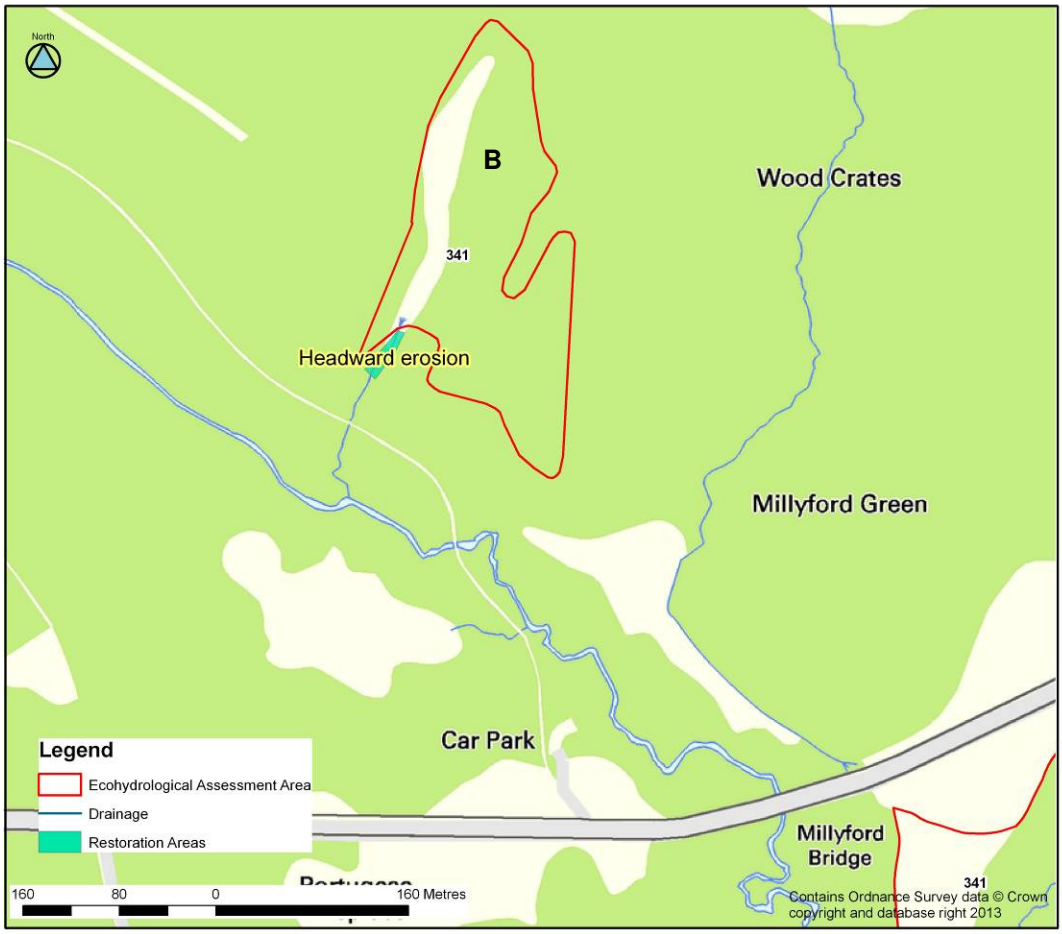


Figure 1-15: Restoration Areas Map 3: Site north of car park near Millyford Bridge (Area B)



1.6.2 Restoration

Table 1-3: Restoration Area Summary Table

Restoration Area	Damage Type	Restoration Proposals	Improvement	Constraints and Issues
Drained valley (Area F)	Drainage and grazing turning mire into "lawn"	Blocking of ditches	Retention of more water in valley bottoms. Encourage the re-establishment of mire communities alongside streams.	Lawn areas may themselves be considered of ecological interest/ importance locally and would qualify as Interest Features under the SAC designation as habitat 6410; implementation of restoration will be dependent on selected objectives and target habitats for the unit.
W-shaped wetland (Area C)	Eroding channel, poaching and footpath erosion	Grazing management plan and possible bridge construction. Monitor headward erosion and potentially take measures to prevent further erosion.	Safeguard the southern edge of the valley mire habitats from erosion, degradation of habitats and excess grazing pressure.	Grazing rights may limit any restrictions on grazing regime. The engineering design of suitable erosion control measures would require a more detailed study beyond the scope of this report. Heather bales may be washed away by high energy flows, and weirs may be bypassed.

Site north of car park near Millyford Bridge (Area B)	Headward erosion of channel	Monitor headward erosion and potentially take measures to prevent further erosion.	Safeguard the southern edge of the valley mire habitats from erosion and degradation of this habitat.	The engineering design of suitable erosion control measures would require a more detailed study beyond the scope of this report. Heather bales may be washed away by high energy flows, and weirs may be bypassed.

1.7 Monitoring requirements

1.7.1 Water Monitoring

Monitoring of groundwater levels (in shallow boreholes) and surface water levels (in stilling wells installed in ditches and streams) would be useful on this site, especially within the valley bottom wetlands affected by drainage. It would help inform the details of any restoration plan and would also help to determine whether the plan, if implemented, was working in the longer term. Monitoring could be undertaken using automatic water level dataloggers, limiting the need for visits by Natural England staff or contractors. Specification of actual monitoring locations is beyond the scope of this report.

1.7.2 Vegetation

Vegetation monitoring within this Ecohydrological Assessment Area should focus on the extensively drained areas of Short's Parlour, White Shoot and Warwick Slade Bog. Following restoration, fixed point quadrats should be undertaken to assess the restoration of the valley mire and wet heath habitats alongside the streams.

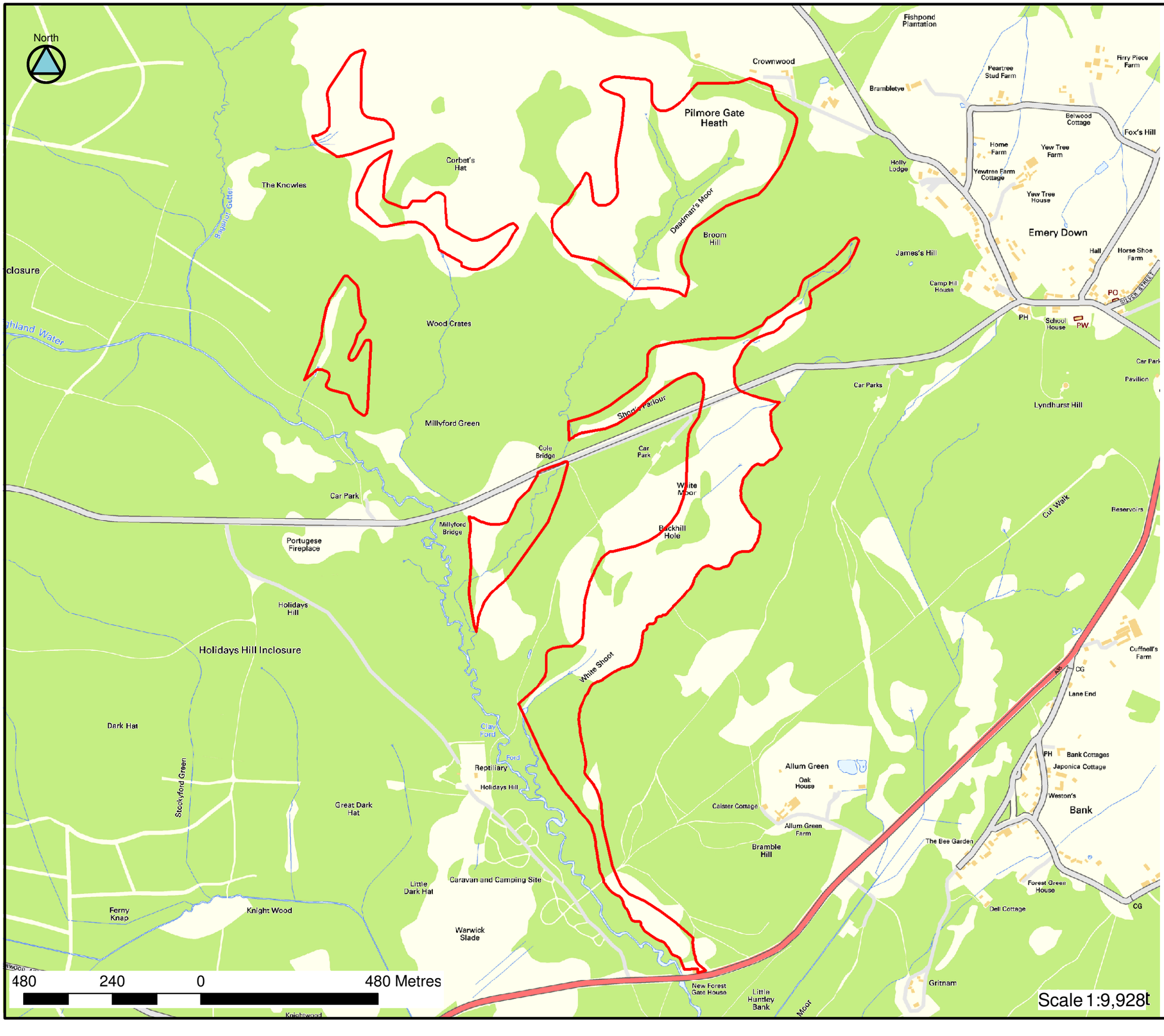
Fixed point camera monitoring would also be useful to assess the areas where headwater erosion and footpath erosion are identified as an issue.

Table 1-4: Monitoring Requirements

Eco-hydrological Assessment Area	SSSI Units	Site Names	Requirements for monitoring: ecology	Requirements for monitoring: hydrology (number of installations estimated)
W	341	Ma 5 Wet (Pilmore Gate Heath, Millyford and Warwick Slade Bog)	Fixed point camera survey (specifically focussing on areas of footpath erosion/poaching and headwater erosion) Fixed point quadrat survey (specifically focussing on the restoration areas on the largest part of this complex of sites)	5 boreholes and 5 stilling wells (10 installations in total) Plus associated monitoring and processing

2 Maps

Map 1: Location
Map 2: Aerial Photography
Map 3: Topography, Hydrology and Wetland Distribution
Map 4: Phase One Habitat
Map 5: Drift Geology
Map 6: Bedrock Geology
Map 7: Eco-Hydrology Map
Map 8: Restoration Plan



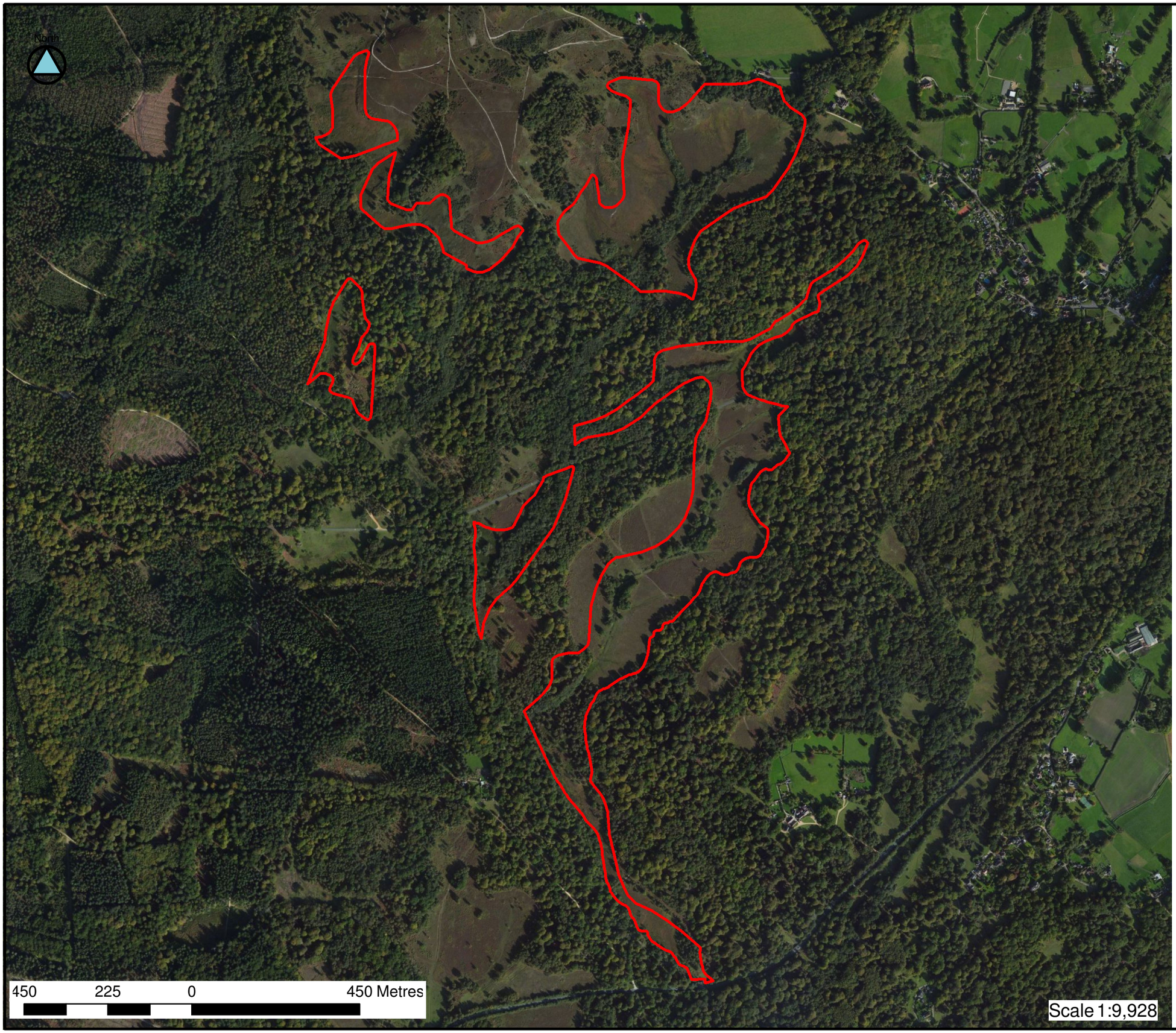
LEGEND

Ecohydrological Assessment Area

JBA consulting

MAP 1

Site Location



LEGEND

Ecohydrological Assessment Area

JBA consulting

MAP 2

Aerial Photography

North

LEGEND

- Ecohydrological Assessment Area
- Seepage face
- Drainage
- Valley Bottom Wetland
- Valley Side Wetland

LIDAR

mAOD

High : 60

Low : 30

560 280 0 560 Metres

Scale 1:9,908

JBA consulting

MAP 3

Topography, Hydrology and Wetland Distribution

North

M21a with M29 soakaways

W25

W23

W25

M21a with M29 soakaways within

M16a

M21a with M29 soakaways within

M25a

M16a

M21a with M29 soakaways within

M16a

W4b bog woodland

W14 woodland with W7 along the stream margins

M25a mire and M24 grazed wet lawn, interspersed with very wet M29 soakaway habitats

W25

W10a

The Knowles

Corbet's Hat

Crownwood

Broom Hill

Wood Crates

Millyford Green

Cole Bridge

Car Park

s Parlour

200 100 0 200 Metres

Scale 1:5,000

LEGEND

- Ecohydrological Assessment Area
- G2.2
- G2.3
- A1.1.1
- A2.1
- A2.2
- A4.3
- B5
- C1.1
- C1.2
- D2
- E3.1
- F1
- J4

JBA consulting

MAP 4

Phase One Habitat

North

M24

M16a

W10a

M16a

W4b

M16a

M16a

M24

M21a

Wood Crates

Millyford Green

Cole Bridge

Car Park

Car Park

Millyford Bridge

Portugese Fireplace

Holidays Hill

Inclosure

Clay Ford

Ford

Reptiliary

Holidays Hill

Great Dark Hat

Little Dark Hat

Caravan and Camping Site

Warwick Slade

James's Hill

Camp Hill House

PH

School House

PW

Hall

Car Parks

Lyndhurst Hill

Cut Walk

Allum Green

Oak House

Caister Cottage

Allum Green Farm

Bramble Hill

The Bee Garden

CG

Lane End

PH

Bank Cottage

Japonica Cottage

Weston's Bank

Forest Green House

Dell Cottage

400 200 0 400 Metres

Scale 1:7,250

LEGEND

- Ecohydrological Assessment Area
- A1.1.1
- A2.1
- A2.2
- B5
- C1.1
- C1.2
- D2
- E3.1
- F1
- J4
- G2.3

JBA consulting

MAP 4

Phase One Habitat

North

LEGEND

- Ecohydrological Assessment Area
- No Drift
- Other Deposits
- Alluvium - Clay, Silt, Sand and Grave
- Head - Clay, Silt, Sand and Gravel
- Head - Gravel, Sand, Silt and Clay
- Head - Silty Clay
- Head - Gravelly Sand
- Peat
- River Terrace Deposits - Clay and Silt
- River Terrace Deposits - Sand and Gravel
- River Terrace Deposits - Sand, Silt and Clay

425 212.5 0 425 Metres

Scale 1:9,928

JBA consulting

MAP 5

Drift Geology

North

BECTON SAND FORMATION - SAND

HEADON FORMATION - CLAY, SILT AND SAND

BECTON BUNNY MEMBER - CLAY

BECTON SAND FORMATION - SAND

BARTON CLAY FORMATION - CLAY

HEADON FORMATION - CLAY, SILT AND SAND

LYNDHURST MEMBER - SAND, SILT AND CLAY

BECTON SAND FORMATION - SAND

HEADON FORMATION - CLAY, SILT AND SAND

LYNDHURST MEMBER - SAND, SILT AND CLAY

HEADON FORMATION - CLAY, SILT AND SAND

HEADON FORMATION - CLAY, SILT AND SAND

CHAMA SAND FORMATION - SAND, SILT AND CLAY

BECTON SAND FORMATION - SAND

BECTON SAND FORMATION - SAND

HEADON FORMATION - CLAY, SILT AND SAND

425 212.5 0 425 Metres

Scale 1:9,928

LEGEND

- Ecohydrological Assessment Area
- Other Rock Types
- Headon and Osbourne Beds - Clay, Silt and Sand
- Headon Formation - Clay, Silt and Sand
- Lyndhurst Member - Sand, Silt and Clay
- Becton Sand Formation - Sand
- Becton and Chama Sand Formation - Sand, Silt and Clay
- Becton Bunny Member - Clay
- Chama Sand Formation - Sand
- Chama Sand Formation - Sand, Silt and Clay
- Chama Sand Formation - Silty Clay
- Barton Clay Formation - Clay
- Barton Clay Formation - Sand
- Selsey Sand Formation - Sand, Silt and Clay
- Marsh Farm Formation - Clay, Silt and Sand
- Poole Formation - Sand, Silt and Clay
- London Clay Formation - Clay, Silt and Sand

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MAP 6

Bedrock Geology

North

LEGEND

- Ecohydrological Assessment Area
- Seepage face
- Drainage
- Valley Bottom Wetland
- Valley Side Wetland

Drift Hydrogeology

- Aquifer
- Aquifer/Aquitard
- Aquitard

Bedrock Hydrogeology

- Aquifer
- Aquifer/Aquitard
- Aquitard

425 212.5 0 425 Metres

Scale 1:9,928

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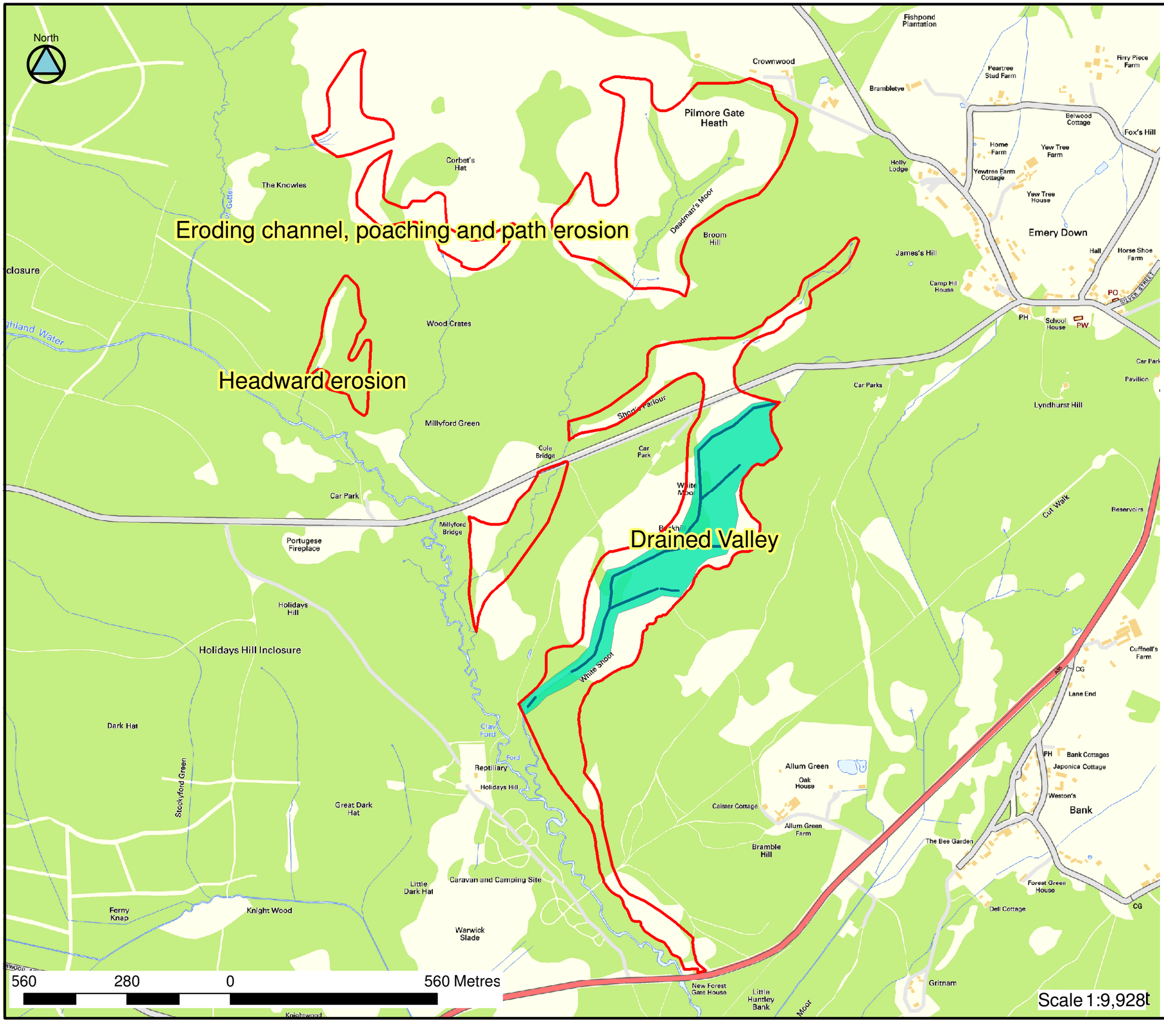
MAP 7

Eco-hydrology



LEGEND

- Ecohydrological Assessment Area
- Drainage
- Restoration Areas

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MAP 8

Restoration Plan