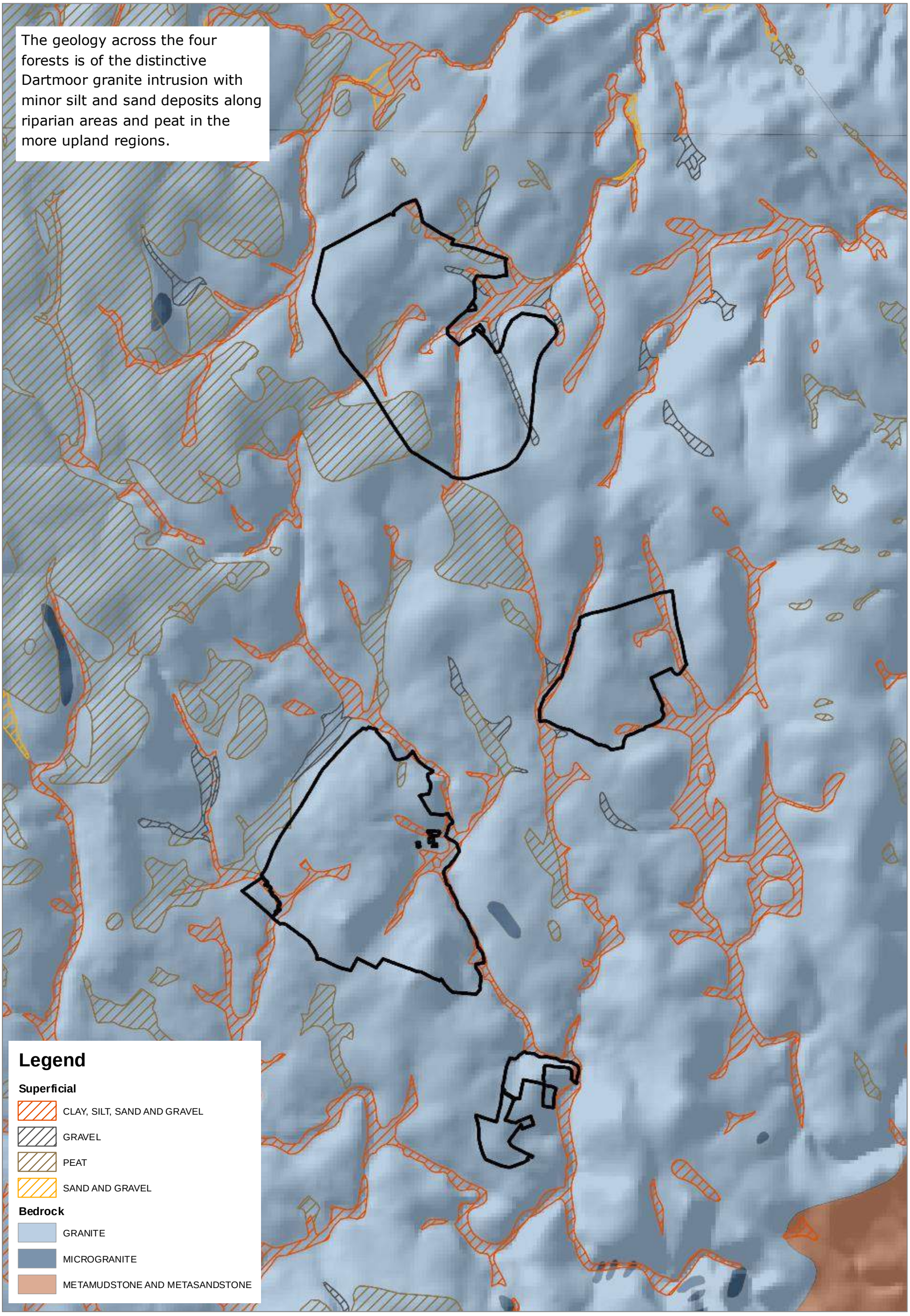
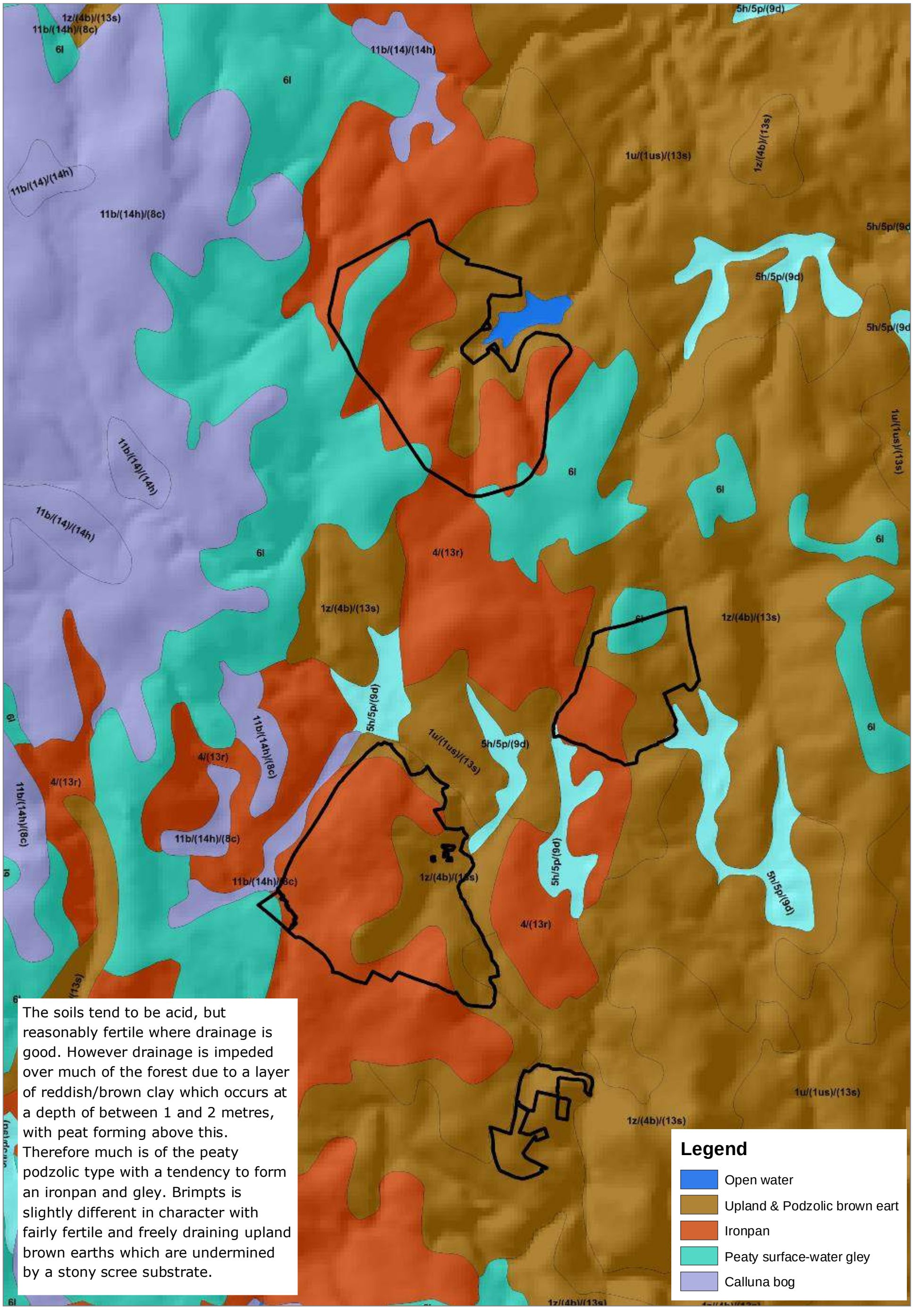
APPENDIX 1 - Geology

The geology across the four forests is of the distinctive Dartmoor granite intrusion with minor silt and sand deposits along riparian areas and peat in the more upland regions.



Soils



The soils tend to be acid, but reasonably fertile where drainage is good. However drainage is impeded over much of the forest due to a layer of reddish/brown clay which occurs at a depth of between 1 and 2 metres, with peat forming above this. Therefore much is of the peaty podzolic type with a tendency to form an ironpan and gley. Brimpts is slightly different in character with fairly fertile and freely draining upland brown earths which are undermined by a stony scree substrate.

Landform

Lines of upward force

(valleys and hollows)

Lines of downward force

(ridges and plateaus)

0 0.3 0.6 1.2 1.8 2.4 Miles

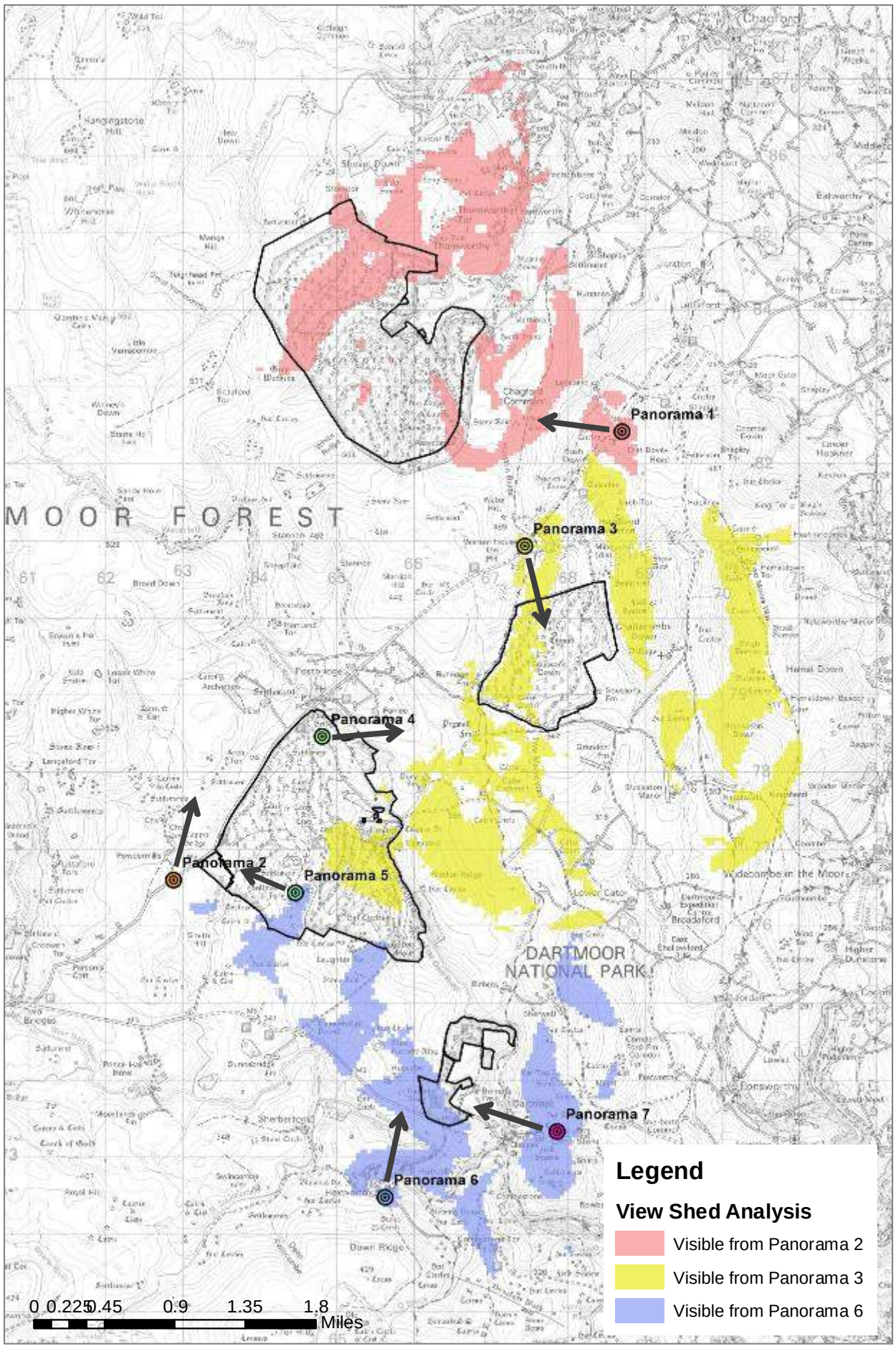
The Dartmoor Plan area sits in an upland moorland landscape at between 250 - 500 metres above sea level

The landscape analysis is used to assess the landform patterns and demonstrates how it is in keeping with the surrounding landscape character.

One's eye is naturally drawn up the valleys and down the ridges. These principles will be used to design the shape of future coupes. Ensuring that the shape and size of felling and restocking areas do not detract from the natural appearance of the forest and its contribution to the landscape character.

Landscape Analysis

The proposed felling and restocking of coupes has been analysed from a number of significant viewpoints. These viewpoints have been identified because of the amount of foot and vehicle traffic they experience and the influence the forest has at these locations. Given the nature of the landscape on Dartmoor, there are minimal settlements from which the Forest Plan area can be seen. The B3212 and B3357 are popular tourist routes and two of the main arterial roads across the moor. Therefore the majority landscape analyses have been done along highpoints of these roads. The views from the popular walking destination of Bellever Tor has also been analysed given its comprehensive views of the surrounding landscape.



Panorama 1
Fernworthy South East

Coupe 82661 is in an elevated position and is clearly visible from a distance. The felling will see the removal of a large proportion of the cover, with fringes retained and the diffuse edge creation (10ha) the landscape impact will be addressed.

Coupes 82337 & 82406 are visible from a distance and interlock well with the landscape. Diffuse edge creation would be unsuitable here given the distance.

Panorama 1 - 2026 Impression
(showing planned coupe clearfells)

Landscape Analysis 2

Panorama 2
Fernworthy South West

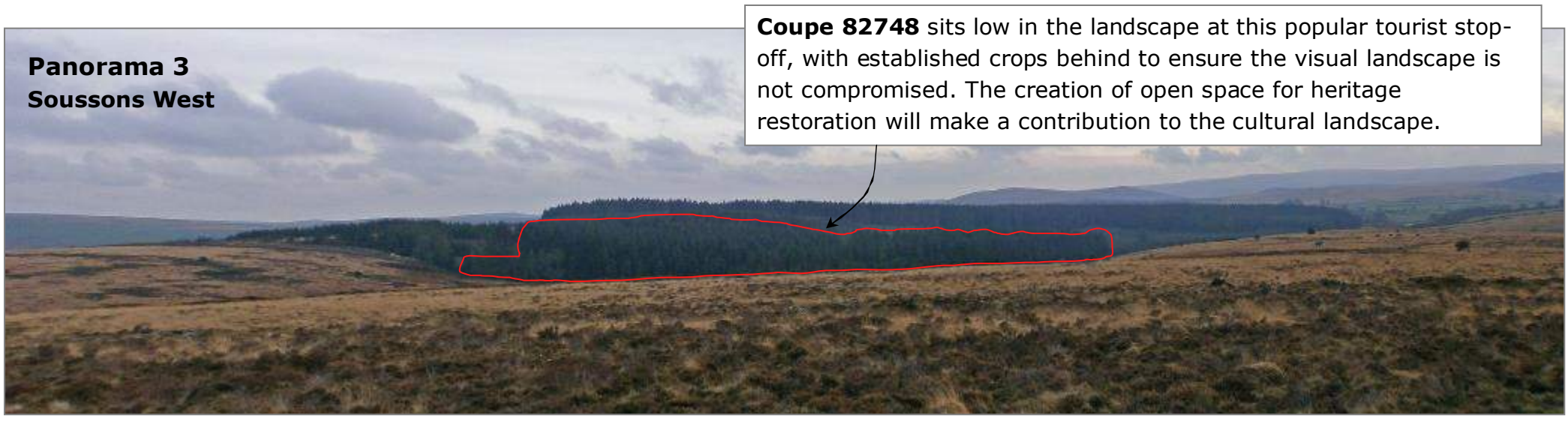
Coupe 82796 sits exposed in the landscape due to delay in felling. The Creation of the diffuse edge (6.5ha) will address future landscape impact.

Coupe 82661 is in an elevated position and is clearly visible from a distance. The felling will see the removal of a large proportion of the cover, with fringes retained and the diffuse edge creation (10ha) the landscape impact will be addressed.

Panorama 2 - 2026 Impression
(showing planned coupe clearfells)

Panorama 3
Soussons West

Coupe 82748 sits low in the landscape at this popular tourist stop-off, with established crops behind to ensure the visual landscape is not compromised. The creation of open space for heritage restoration will make a contribution to the cultural landscape.

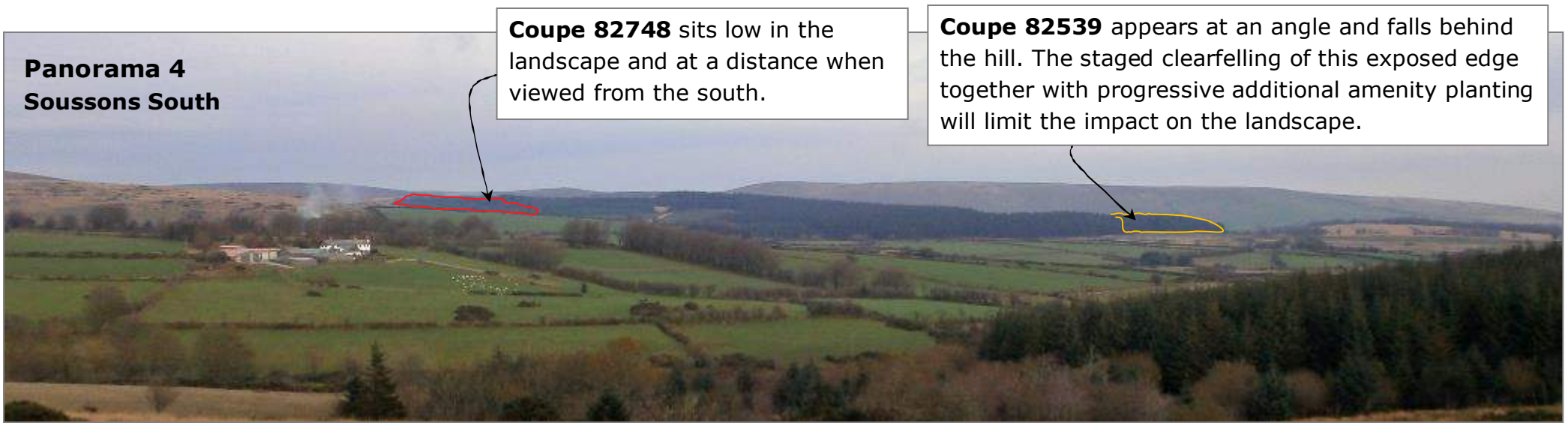


Panorama 3 - 2026 Impression
(showing planned coupe clearfells)

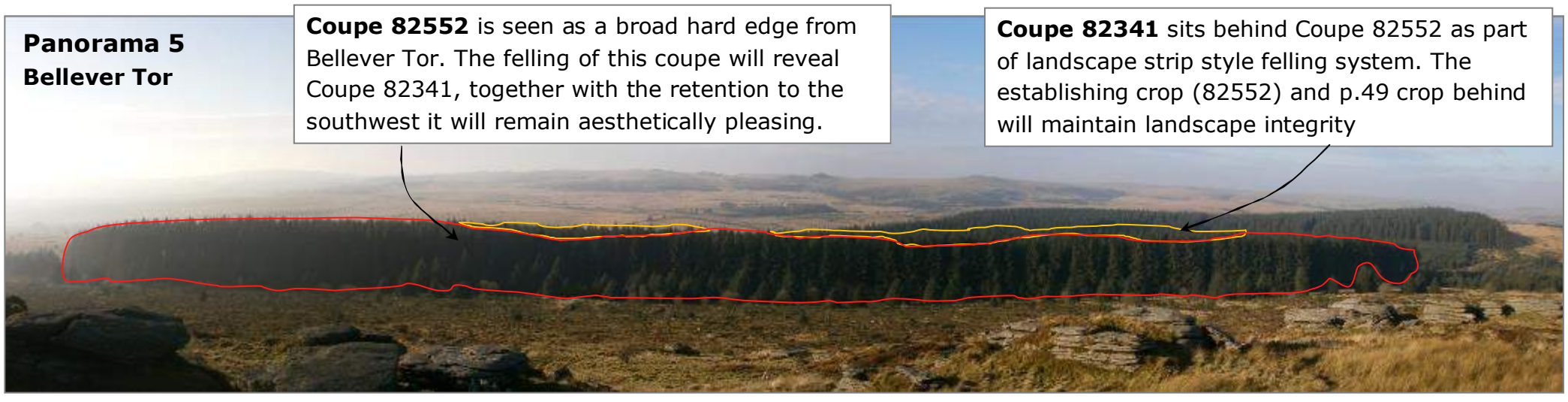
Panorama 4
Soussons South

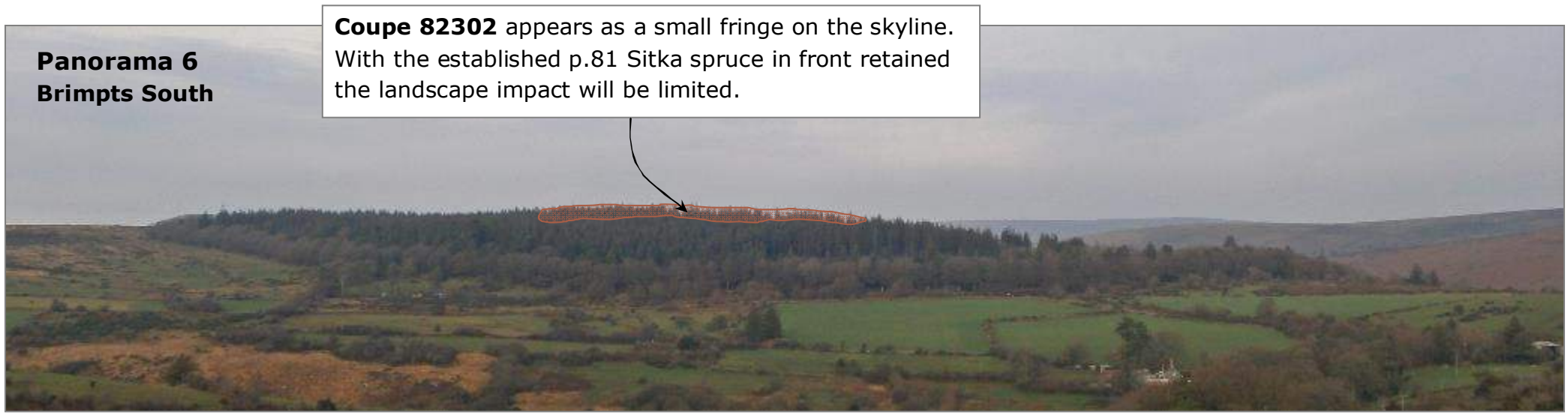
Coupe 82748 sits low in the landscape and at a distance when viewed from the south.

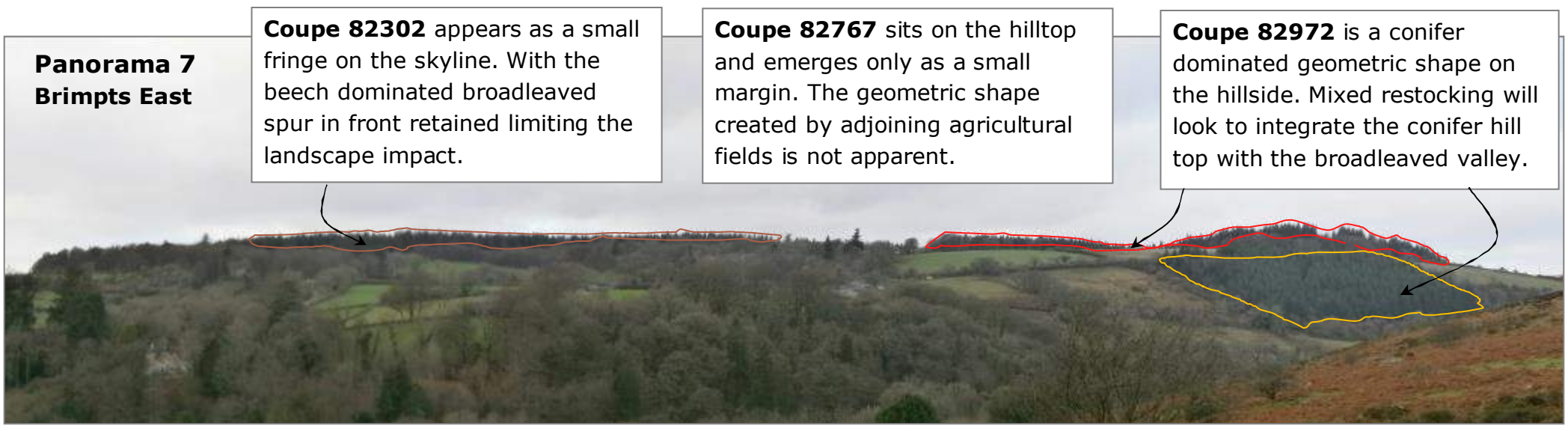
Coupe 82539 appears at an angle and falls behind the hill. The staged clearfelling of this exposed edge together with progressive additional amenity planting will limit the impact on the landscape.



Landscape Analysis 3







Water Management

South Devon Basin

The South Devon Basin covers the catchments of the Rivers Teign, Dart, Erme and Avon, which flow east and south from Dartmoor into the estuaries and sea. The area is environmentally rich, containing several important environmental sites and a very high quality river system.

The South Devon Basin covers an areas of some 1,500 square kilometres (580 square miles). The main physical characteristics of the catchments are steeply sloping watercourses rising in the Dartmoor National Park, that then flow into wider, more permeable valleys in the lower reaches. Annual rainfall ranges from more than 2,300mm (90in) in upland areas to less than 1,000mm (39in) on the coast. The England and Wales average is 920mm (36in).

There are 113 river water bodies in the catchment, with a combined length of almost 700 km, and 10 lakes. Currently, 43 per cent of surface waters (199 km or 29 per cent of river length and 5 of the lakes) achieve good or better ecological status/ potential. 49 per cent of surface waters assessed for biology are at good or high biological status now.

Fernworthy Forest is an integral component in the supply of the Fernworthy Reservoir. The Reservoir is a key drinking water supplier for South Devon and the colour of the water is currently an issue, caused by dissolved peat.

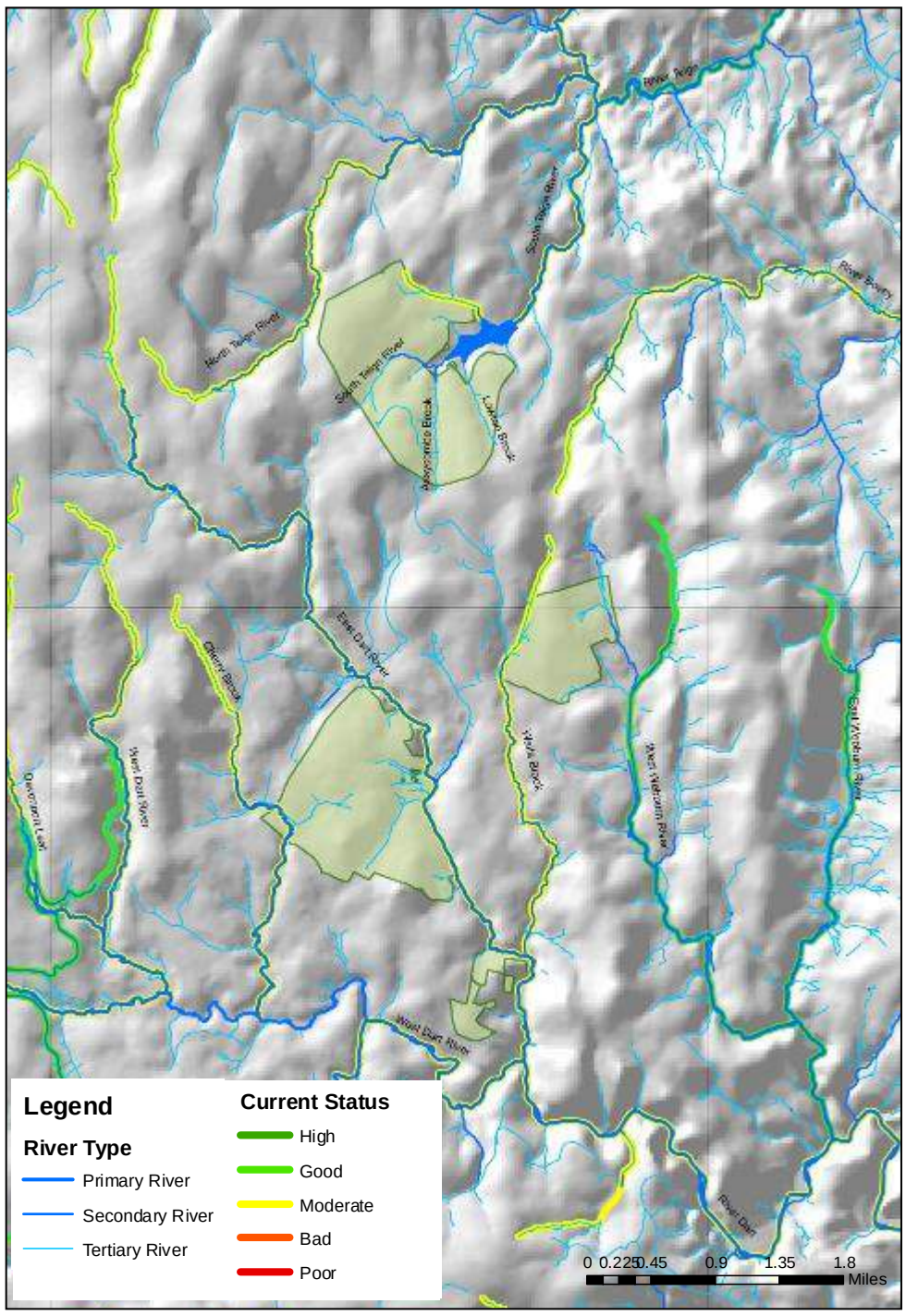
FLOW

South West Catchment District

Just over 3 million people live in the South West River Basin District. The economy is dominated by the service sector, and each year millions of visitors to the district make a vital contribution to the economy. However, the resulting seasonal fluctuations in population bring challenges for protecting the water environment, especially in coastal areas.

The district has a huge network of internationally, nationally and locally recognised wildlife sites, from the uplands of Dartmoor and Exmoor and outstanding rivers such as the Camel and Hampshire Avon, to the fantastic estuaries and coastline. There are two national parks, and the Jurassic Coast in Devon and Dorset is the only natural world heritage site in England.

The farming and land management sector has a big role in looking after and improving the quality of the rural environment. Agriculture accounts for approximately three quarters of the land area in the South West River Basin District.



Critical Load Area

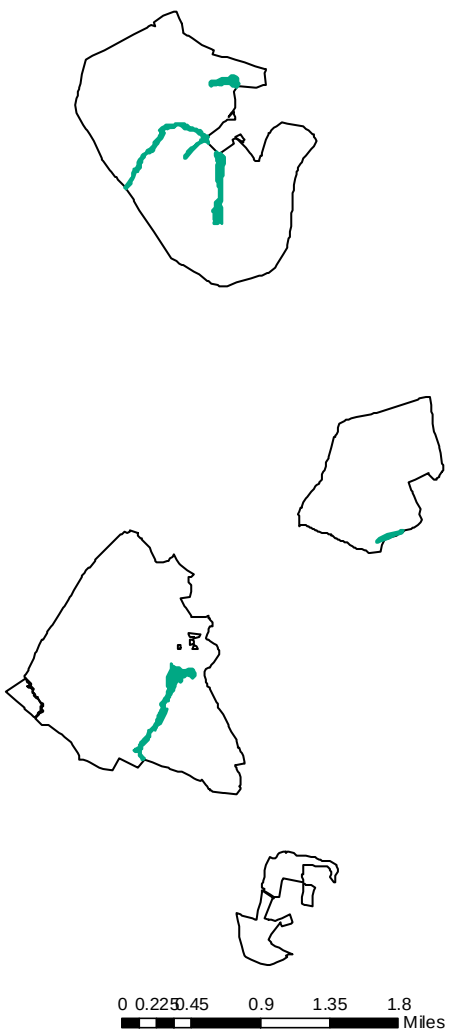
The Dartmoor forests sit entirely within a high impact critical load area. As a result felling will be phased and co-ordinated with consideration given to minimising residues, whole tree harvesting, stump removal and short rotation forestry.

Riparian Management

All watercourses and riverine areas will be management sensitivity to protect and enhance water and soil quality in line with best practice. The 'riparian zones' (14ha) identified will be developed to create and maintain areas of upto 50% continuous forest cover through gradual regeneration or enrichment with site appropriate tree species, such as *Alnus, Salix* and *Ulmus* spp. A gradual change to this type of wet woodland habitat will create a environment of dappled shade with good light penetration and aeration as well as buffer the riverine systems from forestry operations.

Clearfells within the area have been designed and phased to minimise surface water runoff and soil erosion ensuring the riverine systems and SSSI are protected and improved into the future. All felling and restocking operations will work within the guidelines set out in UKFS, Forests and Water with the aim of developing further riparian areas at the time of intervention through heavier thinning of conifer and stimulating native species regeneration.

The Dartmoor forests is a component of flood alleviation for the Dart and Teign and the wider South Devon Catchment through soil stabilisation and surface runoff, retaining forest cover and a move towards continuous cover systems together with maintained drains and water storage will ensure this continues to slow down peak flows into the future.



Wildfire Resilience

Fire Risk

Wildfires are relatively rare however their impacts can be disproportionately large and costly to society and their frequency are predicted to increase due to increased land pressure and climate change. Young coniferous woodland of pine, spruce or fir are at particularly high-risk from wildfire as are dwarf shrub heath, gorse, bracken and grasses. This makes the Dartmoor Plan area at specific risk due to both the nature of the tree crops, the planned management in future decades and the significant amount of heath grassland which surrounds it.

The vast majority of wildfires are caused by people, accidentally or deliberately. The risk of this is increased by periods of dry hot weather. The nature of the site, its topography, land use and vegetation type as well as tree health and wind all determine the ferocity and extent of a fire.

The Dartmoor Plan area does experience periods of high visitor numbers, particularly in Bellever. The National Park as a 'wild' visitor destination does mean that whilst prohibited camping and camp fires do occur within the Plan area. Therefore sites close to car parks and popular trails are at greatest risk of experiencing the initiation of a fire event.

Legend

- Recreation Trail
- Recreation Area
- Thicket Stage Crops
- Internal Heathland/Felled Areas
- Surrounding Heathland

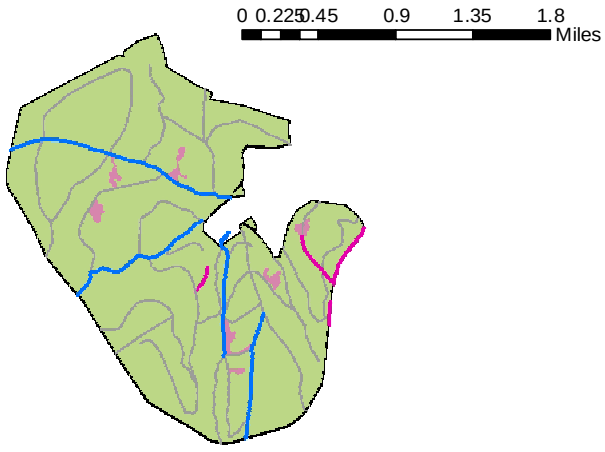
Crop Stage Risk

Stage	Likelihood of surface fire	Likelkihood of crown fire	Likelihood of ladder fire
New Planting	M	N/A	N/A
Pre-thin	H	H	H
Post-thin	L	L	L
Fell & Restock	M	N/A	N/A

Mitigation and Management

Mitigation of wildfire risk can be achieved by managing vegetation and fuels, creating fire breaks and belts, improving forest design and silvicultural diversity and the management and education of people. The key principles outlined here follow the FC Practice Guide (2014).

Vegetation will be managed as part of standard forest operations and maintenance. Fire breaks have been identified and located at critical locations such as at the bottom of slopes and in conjunction with other fire resistance liner features, such as roads, rides and rivers. Fire belts already exist in places and predominantly consist of fire retardant broadleaves. The criteria for location and extent of these is much the same for fire breaks and they offer an alternative to these forms of wildfire mitigation



Management Regimes

Management Practice	Zone A - Asset Zone Protect human life &	Zone B - Buffer Zone A buffer areas around	Zone C - Low-risk Low to medium risk area	Zone D -Fire excl. Zone Protect habitats and
Vegetation management	Vegetation and other combustible materials should be minimised	Fuel loading and deadwood should be reduced	Conventional vegetation management practices	
Fire Belt	30-40 metres	20 metres	20 metres	20 metres
Fire Break	3 x vegetation height	1 x vegetation height	1 x vegetation height	3 x vegetation height

Clearance of windthrow and deadwood in high risk areas as well as remaining wood residues and products will contribute to lowering the fuel load factor and minimising the risk of ladder fires.

Education as well as provision of practical information are the key factor to wildfire mitigation, this will be focused around areas of highest recreational footfall. Vegetation management around key recreation sites, notably Bellever car park and along well used trails will lower the fuel load factor and thus the risk of fire ignition. Provision of robust retardant facilities are also key to limiting fire ignition and spread.