Peak District Dales Special Area of Conservation

Evidence Pack

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Evidence Pack – Peak District Dales SAC

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Contents

Site Details.....5

1. Reasons for European Site Designation.....6

2. Nutrient Pressure and Water Quality Evidence 7

3. Additional Information.....8

Appendix.....10

List of abbreviations.....12

1. Site Details

From the Peak District Dales Special Area of Conservation citation:

The Carboniferous Limestone massif of the Peak District is one of the most important in Britain, lying in latitude and altitude between the Mendips and the Craven area of Yorkshire. The limestone is cut by valleys, the 'dales', which contain a wide range of wildlife habitats, particularly woodland, scrub and grassland. This mosaic of habitats and the transitions between them are of exceptional interest for a wide range of characteristic, rare and uncommon flora and fauna.

Peak District Dales includes one of the largest surviving areas in England of sheep's-fescue – meadow oat-grass (*Festuca ovina – Helictotrichon pratense*) grassland. Grasslands at this site range from hard-grazed short turf through to tall herb-rich vegetation, with transitions through to calcareous scrub and ash *Fraxinus excelsior*-dominated woodland. Taken together the ash woods of the ravines and slopes of the Dales comprise one of the largest areas of this habitat in Great Britain. There is also a great physical diversity due to rock outcrops, cliffs, screes and a variety of slope gradients and aspects. This is an area where northern species meet southern species such as the dwarf thistle *Cirsium acaule*. The relatively cold oceanic nature of the climate means that there is enrichment with northern floristic elements, such as limestone bedstraw *Galium sterneri* and globeflower *Trollius europaeus*.

There is a wide range of grassland, from that characterised by sheep's-fescue and meadow oat-grass through less calcareous types to, in places, an acidic heath grassland mosaic with heather *Calluna vulgaris*, bilberry *Vaccinimu myrtillus*, dwarf gorse *Ulex gallii* and many other calcifugous (lime-hating) species. This heath can grade into a taller scrub dominated by dwarf gorse. The site contains a large area of mixed woodland, dominated by ash *Fraxinus excelsior*. Locally, sycamore *Acer pseudoplatanus* is abundant. Lime *Tilia spp*. although not widely distributed can be a major component of some of the woods. The Dales provide good examples of woodland- scrub-grassland transitions, with associated rich invertebrate populations and plant communities. Among the uncommon plants present in the woods are mezereon *Daphne mezereum* and green hellebore *Helleborus viridis*, as well as whitebeams *Sorbus spp*. on the crags.

Other habitats in the dales include rock outcrops and scree. Dog's mercury *Mercurialis perennis* colonises scree along with oat-grass *Arrhenatherum elatius* and mouse-eared hawkweed *Hieracium pilosella*. Cliff ledges support a wide range of vegetation types from scrub and woodland, including species such as yew *Taxus baccata*, through to areas with only thin soils supporting tiny annual plants. Rock outcrops are typically colonised by early flowering species such as rue-leaved saxifrage *Saxifraga tridactylites* and shining cranesbill *Geranium lucidum*. Smaller species of ferns are often abundant and these include rusty-back *Ceterach officinarum* and green spleenwort *Asplenium viride*. This habitat in the Dales is one of the strongholds for the endemic moss *Brachythecium appelyardiae*. Dove Dale is one of the richest sites in the Peak District for lichens, in

particular for saxicolous (rock- loving) species, such as *Clathroporina calcarea*, which occurs on vertical limestone crags, and *Solorina spongiosa* and *Verrucaria murina*. Spoil heaps of old lead mines support assemblages of plants indicative of metal-rich soils (metallophytes), including spring sandwort *Minuartia verna*, rock hutchinsia *Hornungia petraea* and alpine pennycress *Thlaspi alpestre*.

Many dales are dry but some have streams in winter only and some, permanent or semipermanent rivers. These watercourses support important populations of brook lamprey *Lampetra planeri*, bullhead *Cottus gobio* and white-clawed crayfish *Austropotamobius pallipes*. A number of the dales also support fen vegetation associated with springs and flushes. These include alkaline fen vegetation, which supports species such as the common butterwort *Pinguicula vulgaris*.

The Special Area of Conservation (SAC) is also notified for its aquatic features - Freshwater crayfish, *Austropotamobius pallipes*; Brook lamprey, *Lampetra planeri*; and Bullhead, *Cottus gobio*. These features are associated with the Wye Valley Site of Special Scientific Interest (SSSI) component of the SAC to which this advice applies.

2. Reasons for European Site Designation

The Peak District Dales SAC is designated for the following features:

- H4030 European dry heaths
- H6130 Calaminarian grasslands of the *Violetalia calaminariae*
- H6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*), (note that this includes the priority feature "important orchid rich sites")
- H7230 Alkaline fens
- H8120 Calcareous screes of the montane to alpine levels
- H8210 Calcareous rocky slopes with chasmophytic vegetation
- H9180 Tilio-Acerion forests of slopes, screes and ravines
- S1092 Freshwater crayfish, *Austropotamobius pallipes*
- S1096 Brook lamprey, *Lampetra planeri*
- S1163 Bullhead, *Cottus gobio*

Links to Conservation Advice:

- Conservation Objectives
- Conservation Objectives Supplementary Advice

3. Nutrient Pressure and Water Quality Evidence

Nutrient pressure(s) for which the site is unfavourable:

- Phosphorus

Table 1 – Site attribute with water quality targets

Unit name	SSSI Unit	Monitoring point ID	WQ Target	WQ Monitoring Data	Compliance with target – Pass/Fail – and % reduction needed to achieve the WQ target
			Soluble Reactive Phosphorus (µg/l), annual mean	Orthophosphate, reactive as P (µg/l), mean	Orthophosphate
River	70	River Wye at Topley Pike MD – 51705100	16	36.0	FAIL 58% reduction needed
River East	71	River Wye upstream Litton Mill MD – 63437780	15	30.1	FAIL 50% reduction needed

Water Quality data is reported against the relevant riverine SSSI units for just the River Wye within the Wye valley component of the SAC. The other 3 riverine components (River Dove, Hamps & Manifold and Lathkill) within the SAC currently don't fail their phosphorus targets. The Conservation Objectives for the Peak District Dales SAC state that 'the natural nutrient regime of the river should be protected, with any anthropogenic enrichment above natural/background concentrations should be limited to levels at which adverse effects on characteristic biodiversity are unlikely'. The maximum phosphorus concentration for the River Wye is set at 15ug/l.

The occurrence of excessive nutrients in the waterbody can lead to a loss of suitable substrate condition for bullhead and lamprey as a result of benthic algal growth and associated enhanced siltation. Recent water quality measurements for the River Wye within the Peak District Dales SAC show phosphorus concentrations to be exceeding the targets.

Any nutrients entering the catchment upstream of the locations which are exceeding their nutrient targets, will make their way downstream and have the potential to further add to the current exceedance. For the River Wye, both units within the catchment are exceeding the phosphorus target, therefore the whole of the catchment upstream of unit 71 is included within the catchment map

4. Additional Information

Habitat Type impacted by nutrients – Rivers and Streams.

The Peak District Dales SAC is legally underpinned by multiple SSSIs. The Wye Valley SSSI contains the units with river habitat which are being considered here.

SSSI interest features within The Wye Valley SSSI include::

- Alkaline fen (upland, excluding alpine flushes)
- Bryophyte assemblage
- Calaminarian grassland and serpentine heath (upland)
- Calcareous grassland (upland)
- Calcareous scree (OV38-41)
- ED - Carboniferous - Permian Igneous
- EO - Dinantian
- ER - Carboniferous - Permian Igneous
- ER - Dinantian
- FB - Carboniferous - Permian Igneous
- IA - Mass Movement
- Invert. assemblage F001 scrub edge
- Invert. assemblage F111 bare sand & chalk
- Invert. assemblage F112 open short sward
- Invert. assemblage F2 grassland & scrub matrix
- Lichen assemblage
- Lowland calaminarian grasslands (OV37)
- Lowland calcareous grassland (CG1)
- Lowland calcareous grassland (CG2)
- Lowland calcareous grassland (CG6)
- Lowland calcareous grassland (CG7)
- Lowland dry acid grassland (U1a)
- Lowland dry acid grassland (U4)

- Lowland dry heath
- Lowland meadows
- Lowland neutral grassland (MG2)
- Lowland neutral grassland (MG5)
- Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and
- raised bog lagg
- Population of RDB plant - *Polemonium caeruleum*, Jacob's-ladder
- Scrub
- Spring/flush fen (lowland)
- Upland mixed ashwoods
- Vascular plant assemblage

Appendix

Component SSSIs

Map of component SSSIs of Peak District Dales SAC

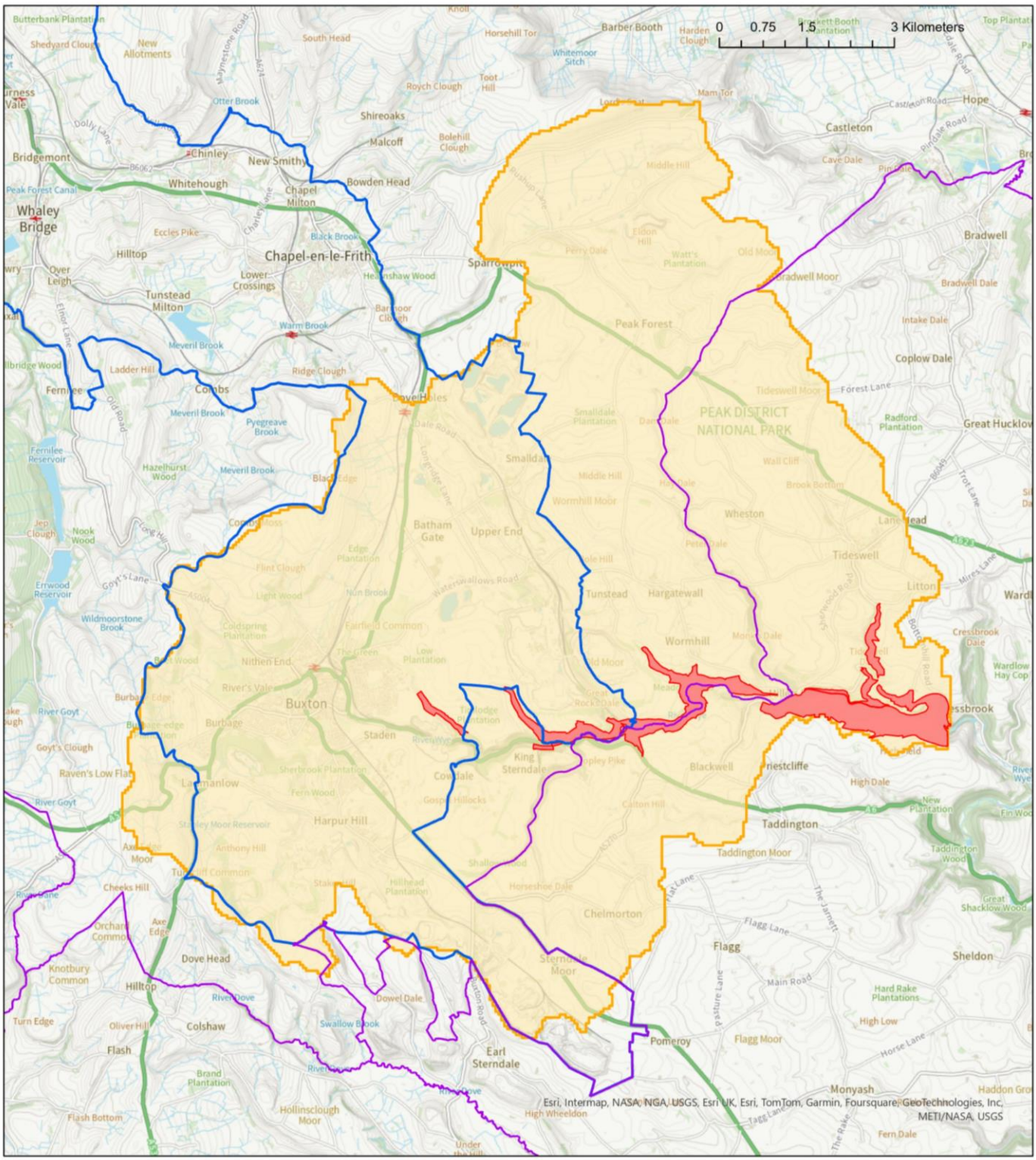
Catchment Area Update (2024)

Natural England has undertaken a review of all the Nutrient Neutrality catchment areas. This review has considered updated surface water catchment data and evidence held by both Natural England and the Environment Agency. Consideration has also been given to data and evidence provided by other parties such as Local Planning Authorities. The information below summarises changes.

This catchment remains unchanged following review.

Publishing of catchment area data

The Geographic Information Systems (GIS) data is available on Defra Data Services Platform.



Area where Natural England's Nutrient Neutrality advice applies for Peak District Dales SAC

European protected sites requiring nutrient neutrality strategic solutions

- Local Authorities
- National Parks
- Component SSSIs of impacted designated site
- Surface water catchment area of relevant designated site due to nutrient pollution

Produced by Nutrient Mitigation Scheme Team

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List of abbreviations

SAC – Special Area of Conservation

SSSI – Site of Special Scientific Interest

WQ – Water Quality

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