

Nature in the Dales:

2020 vision

The second Biodiversity Action Plan for the
Yorkshire Dales National Park

Rivers Habitat Action Plan

Yorkshire Dales Biodiversity Forum, 2011
Amended Feb 2015

RIVERS HABITAT ACTION PLAN

DEFINITIONS

This habitat type includes a very wide range of types, encompassing all natural and near-natural running waters in the UK (i.e. with features and processes that resemble those in 'natural' systems). These range from torrential mountain streams to meandering lowland rivers.

Numerous factors influence the ecological characteristics of a watercourse, for example geology, topography, substrate, gradient, flow rate, altitude, channel profile, climate and catchment features (soil, land use, vegetation etc). Human activities add to this complexity. In addition, most river systems change greatly in character as they flow from source to sea or lake. Although various classifications and typologies for rivers exist, none is considered adequate for identifying a discrete but comprehensive series of specific priority types against the criteria. Consequently a broad 'rivers' priority habitat was adopted by the UK BAP, which includes the existing priority habitat, chalk rivers. The criteria to identify the priority habitat and to map relevant features were developed as follows.

The draft criteria are:

Qualifying Features

1. Headwaters (see below for more details).
2. Occurrence of the EU Habitat Directive Annex I habitat (H3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation). The definition will include (but not be confined to) all river SACs designated for the feature (see below for more details).
3. Chalk Rivers as given in the existing BAP definition (see below for more details).
4. Active shingle rivers (see below for more details).
5. A/SSSI (Areas or Sites of Special Scientific Interest):
 - a. A/SSSI designated for river species, riverine features or fluvial geomorphology.
 - b. Rivers designated for other features (e.g. surrounding wetlands), with the exception of severely degraded reaches (see below).
6. Sites identified for fluvial geomorphology through the Geological Conservation Review (GCR) and the Earth Science Conservation Review (ESCR - Northern Ireland).
7. Species:
 - a. Occurrence of Annex II Habitats Directive species.
 - b. BAP priority species.
8. Riverine water bodies of high hydromorphological/ecological status.

Disqualifying feature

9. Reaches which are heavily degraded and which have little scope for improvement, for example because they are heavily canalised, will not be considered for inclusion as BAP priority habitat.

The principal units for identifying priority river habitats will be Evaluated Corridor Sections (ECSs) as defined in SERCON (System for Evaluating Rivers for Conservation). An ECS is a stretch of river (or 'reach'), normally 10-30 km, which has reasonably homogeneous physical characteristics in terms of geology, slope, etc. In 2007, Environment Agency and Scottish Natural Heritage ran a joint project to divide the major UK rivers into ECSs. The upstream and downstream grid references for these ECSs will be available.

The following are excluded from this priority habitat:

- Canals;
- Ditches;

As a minimum the rivers priority habitat would be defined as extending to the top of the adjacent banks, recognising that (a) it may be desirable to restore a river to a previous course, and (b) a river's floodplain (present or historical) may be essential to its ecological functioning. Significant areas of adjoining priority habitats (such as fen, woodland, grassland and heathland types) may form an integral component of river systems for the purposes of conservation and management, but would be excluded from the formal definition of the Rivers priority habitat. This would also apply to areas of metalliferous river shingle supporting Calaminarian grassland (part of a separate proposed priority habitat). Adjacent ponds would be included within the River habitat if they have been formed as a result of river dynamics (e.g. oxbows), but not if they are artificial or formed by an unrelated process (e.g. pingos).

Further Detail of the criteria

Headwaters

The definition of 'headwater' is 'a watercourse within 2.5 km of its furthest source as marked with a blue line on Ordnance Survey (OS) Landranger maps with a scale of 1:50,000.' In Britain, headwaters probably represent >70% of the total length of flowing waters. This implies a total length >146,000 km.

Physical and chemical characteristics of headwaters vary greatly according to their location, altitude, geology, and surrounding land-use. By definition, headwaters form the uppermost segments of rivers, and as such play an important role in the overall functioning of river ecosystems downstream. Although some headwaters, either deliberately or incidentally, are included within protected areas such as SACs and SSSIs/ASSIs most are not, and the total length of headwaters receiving some form of special protection is a very small percentage of all headwaters in the UK.

Active Shingle Rivers

This habitat comprises those rivers which have significant reaches composed of a gravel or pebble bed material (with grain sizes in the range 2-256 mm), sometimes with discrete sandy reaches or deposits (0.064-2 mm diameter) in areas of lower slope, and having characteristic suites of features generated by the processes of erosion, sediment transport, deposition, and storage. Their headwaters are usually in upland areas which generate high-energy discharges, resulting in intermittent sediment movement. Average bed sediment size usually declines downstream (with the downstream reduction in underlying gradient and stream power) generating a commensurate change in habitat.

Typically, these rivers have extensive reaches of gravel, pebble and sand bed material in their middle reaches and in the piedmont zone, these shingle deposits being associated with a wandering, dynamic, meandering or divided channel and active erosion and sediment deposition features. The gravel-bed reaches exhibit characteristic macro-scale bed form morphology with features including point bars and eroding cliffs, side- and mid-channel bars, and pool-riffle sequences. These features are typically unvegetated, reflecting their dynamic nature. Sediment transport and the formation of the characteristic habitat features typically occur only at high flows, when bedload may comprise up to 50% of the total sediment load in transit. Many of the macro-scale features are exposed in the channel as shingle during low-flow conditions. Sand bed reaches or deposits typically exhibit micro-scale bed form morphology with features such as ripples, dunes and plane beds. The transport and deposition of sand-sized material occurs across a wide range of discharges.

STATUS IN YORKSHIRE DALES NATIONAL PARK 2011

To be quantified

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN “GOOD CONDITION”

SSSI (Favourable, Unfavourable-recovering):	Unknown
Non-SSSI (Condition A):	Unknown
Total (SSSI Favourable, Unfavourable-recovering, Non-SSSI A):	Unknown

UK & REGIONAL BIODIVERSITY TARGETS 2011

UK BAP Targets	Priority Actions for YDNP LBAP
New UK Habitat therefore no current targets identified	N/A

Regional Biodiversity Targets	Priority Actions for YDNP LBAP
No Targets	N/A

**NATURE IN THE DALES: 2020 VISION
OBJECTIVES, ACTIONS, TARGETS & MILESTONES**

Objective

R1.1 Determine the appropriate condition assessment technique by 2014.

R1.2 Implement the condition assessment monitoring starting in 2015.

Actions & Targets

Actions	Main Delivery Mechanism	Lead Organisation	Indicator
R1.1: Determine the appropriate condition assessment technique by 2014.	WFD classification	YDNPA	Area of habitat in "Good Condition"
R1.2: Implement the condition assessment monitoring starting in 2015.	WFD classification	YDNPA	Area of habitat in "Good Condition"

Milestones

Actions	Target	When?
R1.1: Determine the appropriate condition assessment technique by 2014.	Report	2014
R1.2: Implement the condition assessment monitoring starting in 2015.	Report	2020

Nature in the Dales: 2020 Vision was written and co-ordinated by Tim Thom, Ian Court, Frances Graham & Hannah Fawcett of the Yorkshire Dales National Park Authority in 2011, following consultation. The production of the plan was steered, advised and supported by the Yorkshire Dales Biodiversity Forum who will be responsible for ensuring that the actions and targets in *Nature in the Dales: 2020 Vision* are achieved. Minor revisions made Feb 2015.

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