

Introduction

This broad habitat type covers any flowing water, including rivers, streams and flowing ditches. In their natural unmodified condition rivers are dynamic systems that are continually creating, maintaining and eroding a complex of habitats, including both aquatic and bank side ones.

Our objective for Rivers and Streams is:

To ensure an integrated and sustainable approach to river management with the key aims being environmental improvements and increased biodiversity.

They support a rich diversity of wildlife including birds, mammals, fishes and invertebrates as well as plants. Where the water is faster, the aquatic species are adapted to cope with the current and indeed are dependent on it. Species like Brown Trout, Bullhead, Brook Lamprey and Stream Water Crowfoot are found in waters such as these and can be found in the upper reaches of the Derwent and some tributaries. On certain rivers, Salmon and Sea Trout also occur. Others species such as Unbranched Bur-reed and a variety of coarse fish including Chub, Roach and Dace are typically found in moderate-slower flowing water and can be found in the Derwent and some tributaries in the Vale of Pickering. In addition to the river itself, the margins provide good habitat for a variety of invertebrate and plant species such as Water Cress, which is common throughout the Vale of Pickering.

Many of these species are now threatened because historically, rivers have been greatly changed through engineering works to control water flow and river catchments have been affected by changing land use. Rivers, such as the Hertford were canalised by act of parliament to allow the Vale of Pickering to be drained. This naturally had a dramatic effect on the wildlife present.

Such actions also have an effect on the pattern of water flow with the speed at which surface water drains into watercourses increasing,

leading to more extensive and frequent flash flooding in flood plains. It is predicted that this will continue and probably increase with global warming.

Three UK BAP priority species are recorded from the Scarborough area, Water Vole, White-clawed Crayfish and Otter. These have dedicated species action plans.

Rivers and streams are a complex mosaic of habitats providing the habitat necessary for many priority species. They will all benefit from the following actions, and which will be promoted through this action plan:

- Good water quality;
- Adequate supply of water;
- A sustainable approach to water abstraction;
- An integrated approach to flood defence provision taking environmental considerations and opportunities for enhancement into consideration;
- Maintaining a range of river features;
- Good quality surrounding habitat benefits those species that do not spend all their time in water, such as dragonflies, and acts as a buffer between the watercourse and surrounding land use;
- Minimal disturbance - especially needed by breeding birds;
- Protection from pollution and excessive nutrient input;
- Ongoing management, especially to control non-native invasive species;
- Improvements in fish passage facilities at key points; and
- Promotion of a return to self-sustaining fish populations.

The Resource

There are two main river catchments in the region, the Derwent and the Esk. The Esk takes water from the northern part of North York Moors, although only a very small fraction of its length is in the Scarborough BAP area. It does though have some important habitats and features because of its tidal nature. Notably it has estuarine and brackish habitats that are not found on the river Derwent. It is also an important river for migratory fish such as Salmon and Sea Trout. The River Derwent on the other hand drains the southern side of the North York Moors and flows westward into the Ouse. Its habitats are entirely freshwater.

Rivers and Streams



Riverside habitat:
(Photograph by Brian Morland)

Links to Habitat and Species Action Plans and Guidance Notes.

Priority habitats and species associated with this HAP:

Water Vole, Otter, Brown trout, Sea trout, Sea lamprey, Grayling, Atlantic Salmon, Brook lamprey, River lamprey, White-clawed Crayfish

Action Plans have been prepared for those in bold.



Above: River in Brompton;
(Photograph by Steve Wilson)
Below: River Lamprey -
Photograph by Brian Morland



What you can do to help:

Avoid disposal of chemicals, such as paint or car engine oil, down the drain.

Dispose of discarded fishing tackle safely.

Besides these two main rivers there are a number of smaller rivers and streams. Some of these, such as the Hertford and the Brompton Beck, feed into the Derwent, others drain directly into the sea through small valleys or wykes. Notable amongst these is the Scalby Beck, a small river that is fed primarily by the Burniston and Cowwath Beck but also takes water from the Derwent in times of flood via the Sea Cut, a channel cut in the 19th century as a flood relief channel. It contains at least two of the Priority BAP species and is the only river between the Esk and the Ouse that regularly have Sea Trout. The Brompton Beck is of interest because it is a calcareous stream flowing from the limestones on the edge of the Moors, which has a good native Brown Trout population. Other becks include, Primrose Valley Beck, Butcher Haven, Reighton Gill, Reighton Sands Beck and Speeton Gill. Little is known of their biodiversity interest.

The key river in the district is undoubtedly the Derwent which is designated as an SSSI and a Special Area of Conservation in recognition of its high wildlife value. Although the quality of some of these watercourses is variable, they nearly all have an intrinsic value as part of the waterside mosaic and all have great potential to enhance the overall biodiversity of the area.

Besides these rivers and streams though, there are a number of small streams/ditches that flow from springs on the edge of the Vale of Pickering and feed into the Hertford. These are a particularly difficult group to consider and overlap with the slow flowing or stagnant ditches considered under the Open Water HAP. They do though hold a significant wildlife interest with a wide diversity of species. Some are small calcareous streams that flow directly from the chalk of the Wolds, as at Folkton. Others are fed from springs and drains in the clay and peat. Little is known of their true status.

Threats

Rivers and other water courses play an important role in the environment, however, the health and vitality of the country's water courses are under a daily threat from many of the following:

- Wildlife interest is often secondary to flood defence measures and erosion control, and these can seriously affect riverine ecology by altering flow patterns or preventing movement of fish and other species;

- Pollution, which may be from agricultural, industrial or domestic sources;
- Water abstraction direct from rivers reduces flow rates;
- Efficient drainage in the upper catchments of river basins, reduces their ability to retain water. The increased speed at which rainfall passes through the system leads to flash floods and extensive flooding at some downstream locations. Such flash flooding can also have a serious effect on coarse fisheries where coarse fish cannot withstand the fast flowing conditions. Equally game fisheries can be damaged through washing out of breeding gravel areas during the winter months;
- Damage or disturbance to, for example, Otter and breeding birds, caused by recreational use, such as bank damage from the wash from boats; trampling of vegetation;
- Upstream activities and the land use alongside can affect rivers, such as high silt levels caused by soil erosion following forestry operations, crops growing right up to the edge of the river;
- River Water Crowfoot beds are at risk from changes in river chemistry;
- Introduced species of plant and animal can create havoc to natural systems. Problems include American Mink, Signal Crayfish, Canadian Pondweed, Giant Hogweed, Japanese Knotweed and Himalayan Balsam;
- Stocking of coarse fish into fisheries can affect the natural predator - prey balance;
- There is some conflict between anglers and fish eating animals, such as Otter, Cormorant, Goosander and Grey Heron; and
- Conflict between the different interests involved in managing waterways.

Potential for Enhancement

There are considerable opportunities for river enhancement and they can respond very quickly to improvement. However the key to success is for all the different bodies involved in river management to work together on a holistic basis to achieve improved water quality and management. This would involve:

- Partnership working with landowners and angling clubs to manage waterways, remove barriers to fish migration, manage banks, manage invasive plants and American Mink;

- Partnership working with EA and IDBs over water course management;
- Partnership working with landowners, FWAG and NFU to buffer watercourses from agricultural run off and diffuse pollution; and
- Partnership working with Yorkshire Water to help improve water quality.

The kind of physical works that can be introduced include diversifying the bankside and riverbed structure, setting back flood banks, the construction of fish passes, the retention/re-creation of natural river features such as meanders and ox-bows, stabilisation of some banks to reduce erosion, whilst leaving others for wildlife purposes, managing land to diffuse pollution, leaving some bankside and marginal vegetation as cover and, in extreme examples, re-aligning river channels on more natural lines.

Current Action

Considerable action is already being taken with reference to rivers and streams and the following gives examples of current action by different organisations in the area:

- Research and monitoring is undertaken by the Environment Agency (EA);
- River Derwent has SSSI status both upstream and downstream of the Scarborough BAP area;
- The EA is responsible for the delivery of some Defra Water Level Management Plans (mostly for SSSIs);
- Operations such as water abstraction are licensed by the Environment Agency;
- Many rivers are actively managed by angling clubs;
- Farmers can buffer agricultural run-off from flowing water, through Single Farm Payment cross compliance, set-a-side and Environmental Stewardship Scheme options;
- Environment Agency implementing CAMS to ensure sustainable water extraction and water flow appropriate to wildlife requirements;
- Environment Agency managing water resources to meet set water quality targets;
- English Nature gives advice on flood defence schemes that affect designated sites or protected species such as otters; and
- The River Esk Action Committee and the EA are presently funding several schemes to improve the salmon stocks of the River Esk.



Above: Kingfisher - Photograph by Whitfield Benson