CATCHMENT MANAGEMENT PLAN

YORKSHIRE DERWENT CATCHMENT

Revised January 2021

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Our vision for the Yorkshire Derwent Catchment

“The Yorkshire Derwent will be a thriving river within a catchment abundant in wildlife, providing a better quality environment for people to visit, live and work in.”

1.0 Introduction to the Yorkshire Derwent

The Yorkshire Derwent Catchment Partnership (YDCP) brings together organisations from across the catchment who have a common interest in improving the water environment of one of Britain’s best examples of a classic river profile.

Spanning the uplands to the lowland flood plain, the Yorkshire Derwent is the largest catchment in Yorkshire covering 2,057 square kilometres. The catchment includes several designated sites of international importance including the North York Moors National Park and the River Derwent itself in its middle and lower reaches. Consequently, the Derwent catchment has some of the UK’s most beautiful and iconic landscapes teeming with rich and diverse wildlife. The catchment is largely rural with a few urban areas and small market towns, with the seaside town of Scarborough being the largest urban area within the catchment.

The catchment has one of the highest number of designated areas in England and Wales, including areas of National, European and International conservation status (Figure 1). Its lowland river characteristics include assemblage of floating and submerged plants, river lamprey, sea lamprey, bullhead and otters. Towards the bottom of the catchment, the Lower Derwent Valley forms one of the most important examples of agriculturally unimproved, species-rich alluvial flood meadow habitat remaining in the UK. It is also one of the few places where traditional methods of haymaking are still practised over a large area.

Aside from ecological importance, the Derwent catchment is of strategic importance as a major source of drinking water for the people of Yorkshire, particularly in Leeds, Hull, Scarborough, Sheffield and York. Abstractions from the River Derwent supply an average of 200 million litres of water per day to domestic and business customers across Yorkshire.

Together, the range of habitats, species, and its strategic importance as a source of drinking water, all contribute to the unique character of the Derwent catchment.
Figure 1. The Yorkshire Derwent catchment, its statutory UK designations and sites owned/managed by YDCP partner organisations.
2.0 The Catchment Based Approach

The Catchment Based Approach (CaBA) is a partnership-led approach that engages people and groups from across society to help improve our precious water environment. The Yorkshire Derwent Catchment Partnership (YDCP) was established to drive cost-effective practical delivery on the ground that results in improvements to water quality, biodiversity, water level management, resilience to climate change and greater community engagement with the local water environment. Addressing and delivering Water Framework Directive improvements is at the heart of the CaBA approach and this is reflected in the fact that CaBA embeds collaborative working at river catchment scale. YDCP helps to secure and manage funding for projects, enabling a more co-ordinated approach to delivery on the ground.

More about the Catchment Based Approach and our work can be found on our CaBA page on the CaBA website.

3.0 Our aims

Through consultations with partners and wider stakeholders, we have developed five key aims in order to deliver our vision;

1. Ensure a resilient catchment through community engagement and promoting integrated, sustainable land management which benefits the rural economy

2. Improve water level management, reducing flood risk and preserving water resources

3. Secure better soil conservation and water quality

4. Create extensive habitat connectivity and species resilience

5. Ensure good partnership governance and develop a robust evidence base

We have identified a wide range of potential projects to deliver our vision both as a partnership, and in addition to projects individual partners also deliver in the catchment. A full list of Partnership projects is included in our Project Delivery Plan (Annex 3) and some case studies are included in section 4 below. We aim to take an integrated, whole catchment approach to resolving the environmental issues in the Derwent Catchment and, where possible, scale up local initiatives to apply to the whole catchment.
4.0 Project delivery

4.1 Slowing the flow of water/working with natural processes

Water in the Derwent Catchment has been historically managed to ensure it drains off the land quickly to enable more productive farming practices. Unfortunately, these practices have had a detrimental impact on wetland wildlife, habitats and floodplains. The phrase ‘slowing the flow’ encompasses the idea that by retaining more water on the land, especially after heavy rainfall, our watercourses are not inundated all at once with rainwater which in turn can cause flooding of land and properties. It also enables areas of wetland to establish, providing an important but increasing rare habitat for a multitude of wildlife.

Case Study: Derwent Villages Natural Flood Management Demonstration Project

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<thead>
<tr>
<th>Aim 1</th>
<th>Aim 2</th>
<th>Aim 3</th>
<th>Aim 4</th>
<th>Aim 5</th>
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</table>

In July 2017, YDCP secured £50k of funding from the Environment Agency to deliver a three-year multi-objective natural flood management project aimed at reducing the risk of flooding in Hovingham, Gilling East, Sinnington and Thornton le Dale. The project has delivered a range of natural flood risk management techniques such as leaky debris dams, willow spilling and buffer strips with tree planting. These measures will also deliver benefits for water quality and wildlife. Following on from this project, we plan to explore the potential to scale up these measures to deliver at a larger sub-catchment scale in the future.

4.2 Restoring and creating habitat

While the Derwent Catchment contains areas rich in wildlife and has several parts protected under law, large parts still suffer from a range of pressures such as the loss and degradation of wetland habitats due to land drainage, removal of hedgerows and trees and artificial modifications to the river itself.

Case study- Barmby on the Marsh Wetland

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Barmby on the Marsh SSSI is located at the confluence with the River Ouse at the very southern tip of the Lower Derwent Valley (LDV) National Nature Reserve. It is designated for its importance for wildfowl and lowland waders. However, due to lack of management, large
areas of the wetland have dried out partly due to willow growing vigorously on the reserve, leading to a decline in bird numbers. In early 2019, through the Environment Agency’s ‘Doing more for the Derwent’ project, Yorkshire Wildlife Trust (as part of the Yorkshire Derwent Catchment Partnership) began to restore the site by removing willow and scrub to open up the site and de-vegetating the scrapes to allow for more standing water.

4.3 Tackling Invasive Non-Native Species (INNS):

Invasive Non-Native Species can displace or directly harm native species in the catchment that have no natural defence against them. This can also lead to more general ecological problems such as soil erosion, leading to increased sedimentation in watercourses, a key issue in the Derwent Catchment. Some INNS can pose a public health threat and others be economically detrimental by degrading property or affecting recreation and tourism.

Case study- Invasive Non-Native Species Control Strategy for Riparian plants

YDCP have developed a catchment scale control strategy, which employs a ‘top down’ approach, to tackle INNS throughout the Derwent Catchment. We are currently focusing on giant hogweed and Japanese knotweed, two invasive plants that can have a detrimental effect on the water environment. The strategy helps the Partnership to prioritise future surveying and treatment work and we work together with all partners and stakeholders who undertake INNS control in the catchment, to enable a joined-up response to the treat of INNS. Funding from the Environment Agency’s ‘Doing more for the Derwent’ project, has enabled the strategy to be implemented and updated annually since 2017.

4.4 Improving water quality

As of 2020, 63 waterbodies are failing to achieve ‘Good’ ecological status, and all are failing to achieve a ‘Good’ chemical status under the Water Framework Directive (Annex 1). It is the responsibility of everyone who lives and works in the catchment to work together to improve
our water environment and our Partnership is well placed to begin to address some of these failures.

**Case study- Sediment walkovers**

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<th>Aim 4</th>
<th>Aim 5</th>
</tr>
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We have undertaken sediment walkover surveys in 2017, 2019 and 2020. These surveys have focused on watercourses which are suffering from excess fine sediment and have proved a good way to identify the key pathways of sediment into the river system. Following the surveys, key issues/locations have been prioritised and we have liaised with key landowners to discuss recommendations for remedial action to reduce the amount of sediment, and associated pollutants, entering the watercourse. Funded by the Environment Agency’s ‘Doing more for the Derwent’ project has enabled funding for land managers to install measures such as riparian fencing, sediment traps and stock drinking points.

**4.5 Engagement and Connection**

Our aspiration is to re-establish a real sense of connection between people and the River Derwent. A significant number of people already volunteer their time to improve their local environment, often via the well-established volunteering programmes that many of our partners already have in place, such as the Yorkshire Wildlife Trust, Forestry Commission, Howardian Hills AONB, North York Moors National Park Authority and North Yorkshire County Council. YDCP now have a small group of keen volunteers who have taken part in INNS surveys and practical conservation tasks, such as scrub clearance at Barmby on the Marsh.

We also have an active social media presence, using Twitter, Instagram and Facebook. The Partnership produces a bi-annual newsletter which is circulated to our partners, volunteers and wider stakeholders. The newsletter is available on our CaBA page and is promoted through our social media accounts.
5.0 Monitoring and reporting

We regularly monitor and evaluate the success of both the Partnership and project interventions. As a Catchment Partnership, we are required to report to the CaBA team on our progress each year. The reporting process captures information such as number of people engaged in our work, kilometres of watercourse improved, and hectares of habitat created or protected as well as a comprehensive breakdown of our budget. Likewise, there are reporting and monitoring requirements for all our project delivery, all of which is funded from external sources.

We produce an Annual Report for our partners and wider stakeholders, which presents this information in a more user-friendly format. The Report is published on our CaBA page, our host’s website and through our social media pages.

6.0 Data and Evidence

To develop projects and prioritise limited resources, it is important to examine a range of data and evidence to help to identify locations where we can maximise opportunities for delivering the Partnership’s aims. The key sources of evidence which we consult are outlined in Annex 2 and include a combination of national data that is available as well as more local evidence and/or local strategies and plans that relate solely to the Yorkshire Derwent.

Local evidence (including modelling) is important to identify and prioritise issues, solutions and actions as well as helping to monitor outcomes in the catchment. This evidence helps to develop the best project proposals for delivering multiple benefits in the catchment and will help develop robust business cases for future funding bids.
Annex 1 – Current status of Waterbodies in the Derwent Catchment

One of the foundation blocks for identifying issues are the water body classifications, which are based on Environment Agency investigations under the Water Framework Directive. There are over 70 river water bodies within the Derwent Catchment, along with five groundwater waterbodies, one lake (Wykeham Lake), one canal (Pocklington Canal) and a section of one coastal water body, where the coast fronts on to the area of the Derwent catchment. The overall status of these water bodies is shown below, along with a table outlining the reasons by sector, for not achieving good status by number of measured failing elements. These include invertebrates, macrophytes, phytobenthos, fish and certain chemicals.

Ecological and chemical classification for surface waters | 2019 Cycle 2

<table>
<thead>
<tr>
<th>Number of surface water bodies</th>
<th>Ecological status or potential</th>
<th>Chemical status</th>
</tr>
</thead>
<tbody>
<tr>
<td>71</td>
<td>3  15  45  8  0  71  0</td>
<td>27  7</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Sector</th>
<th>Reasons for Not Achieving Good Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and rural land management</td>
<td>119</td>
</tr>
<tr>
<td>Domestic General Public</td>
<td>10</td>
</tr>
<tr>
<td>Industry</td>
<td>13</td>
</tr>
<tr>
<td>Local and Central Government</td>
<td>22</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>2</td>
</tr>
<tr>
<td>Navigation</td>
<td>0</td>
</tr>
<tr>
<td>No sector responsible</td>
<td>23</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td>Recreation</td>
<td>8</td>
</tr>
<tr>
<td>Sector under investigation</td>
<td>20</td>
</tr>
<tr>
<td>Urban and transport</td>
<td>14</td>
</tr>
<tr>
<td>Waste treatment and disposal</td>
<td>0</td>
</tr>
<tr>
<td>Water Industry</td>
<td>40</td>
</tr>
<tr>
<td>Grand Total</td>
<td>277</td>
</tr>
</tbody>
</table>
Annex 2 - Data and Evidence

1) National evidence

National CaBA website: The CaBA website includes access to a wide range of Geographical Information Systems (GIS) data and layers that can be used to help map out where specific issues are located within the catchment. These data layers are available to all catchment partnerships and offer a wealth of information.

Catchment Data Explorer: Delivering Water Framework Directive (WFD) improvements is at the heart of the CaBA approach and WFD data and evidence underpins much of the work of the Partnership. This data source uses WFD / RBMP data to help identify where the issues are and the likely causes. A summary of the status of individual water bodies can be found in Annex 1.

Countryside Stewardship: Statements of Priorities: These statements identify the priority features and issues being targeted in the Derwent catchment, particularly in relation to water quality and flooding, and are used to determine the allocation of countryside stewardship grants.

2) Local Evidence

River Derwent Restoration Plan, 2010: This plan sets out a vision for the restoration of the River Derwent SSSI, currently suffering from a range of pressures resulting from both past and current management. It provides a high-level overview of the issues affecting the SSSI, which is split into 21 units. It focuses on potential solutions to these key issues and considers reach-based solutions for each unit. This Plan is consulted when working on the SSSI and surrounding land and underpins our work which is funded by the Environment Agency’s ‘Doing More for the Derwent’ project.

Natural England Pollution Risk Assessment of the River Derwent, 2015: This report provides an analysis of pollution sources within the Derwent catchment, and identification of a targeted intervention strategy for improving water quality in the catchment.

Humber River Basin Management Plan: This plan identifies the local issues and priorities for the Derwent Catchment, particularly in relation to meeting the requirements of the Water Framework Directive. The Plan is currently in the process of being updated; YDCP responded to the Environment Agency’s Challenges and Choices consultation in 2020 with our views on a variety of water related topics, which will be considered and hopefully included in the updated Plan.

Flood Risk Management Plans (FRMPs): These plans detail the risk of flooding from rivers, sea, surface water, groundwater and reservoirs. The Humber river basin district FRMP sets...
out how risk management authorities will work with communities to manage flood and coastal risk over the period 2015-2021. Part C of the plan also sets out the specific planned actions for the Derwent catchment which, subject to funding, have been agreed as necessary to help manage flood risk. These actions are linked to the earlier Derwent Catchment Flood Management Plan, published in 2010 which sets policies for managing flood risk within the catchment.

AONB Management Plan 2019 - 2024: This plan for the Howardian Hills Area of Outstanding Natural Beauty (AONB) covers the topical issues affecting the AONB. It sets out recommendations and makes a number of proposals for action, as well as identifying priority sites where actions are needed.

North York Moors National Park Management Plan: The vast majority of the upper catchment of both the Derwent and its main tributary, the Rye, lies within the National Park. The Management Plan’s main focus is on conservation much of which is linked to land use and its impact on landscape including the water environment and biodiversity.

3) What the evidence tells us

We have identified a number of key issues from this evidence, of which many are closely linked. This makes it even more important to develop projects that deliver multiple benefits, wherever possible. At present the main issues are:

i) Poor water quality – diffuse pollution from agriculture and point source pollution from wastewater discharges and septic tanks both affect water quality and account for 32% and 12% respectively for the reasons for failure of individual waterbodies. Phosphate and ammonia affect the levels of oxygen in the water and its ability to support healthy fish and invertebrate populations. There is also a particular issue with Metaldehyde, a chemical used in slug pellets, which is very difficult to remove from water and affects the quality of groundwater and surface water used for drinking water supplies. High levels of nitrate from agriculture and sewage treatment works also locally affect the groundwater quality in the Corallian Limestone, one of the major groundwater sources of drinking water in the catchment.

Many land management practices contribute to diffuse pollution via the input of fine sediment into watercourses. Sediment can smother gravel beds which are home to freshwater invertebrates and are used by fish for spawning, reduces the amount of light that enters the watercourse and is also costly to remove from water abstracted for drinking water.

ii) Barriers to fish migration and modifications to river channel – there are multiple in-river structures which prevent the movement of migratory fish and other wildlife up
and down the rivers, together with modified stretches of river channel, which account for 43% of the reasons why individual water bodies are failing to achieve good status. Engineering of the channel and the creation of artificial structures has also contributed to problems with flow dynamics and siltation.

iii) **Habitat Restoration** – although there are many designated sites in the catchment and other important habitats, we know that many of these need to be improved and new habitats created to protect vulnerable species and better connect these sites.

iv) **Flood Risk and Flood Risk Management** – Whilst the Partnership does not take a lead role in delivering major, hard engineered schemes, the evidence that we have can be used to highlight areas for delivering natural flood management measures. A key area of work is to help to reduce flood peaks whilst delivering benefits for water quality and ecology. The Derwent Catchment is also a significantly engineered catchment which does have an impact on water quality, ecology and geomorphology of the river and its catchment. We know that in some locations we need to mitigate against historical changes and ensure that land drainage and ongoing maintenance activities are undertaken in a way that is sympathetic or beneficial to wildlife.