

River Rangers

in the

Colne Valley Regional Park



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Introduction to Colne Valley Regional Park:

The Colne Valley Regional Park covers more than 40 square miles and is the first real taste of countryside in the west of London. The Valley is a mosaic of farmland, woodland and water, with around 200 miles of rivers and canals, and more than 60 lakes. It is a living, working environment, providing employment and homes for many people, as well as being a haven for wildlife. This document provides an introduction to Colne Valley Regional Park, and outlines a new project – River Rangers.



Figure 1. River system in Colne Valley Regional Park

Picture: ColneCAN

History of Colne Valley Regional Park:

Rivers, underlying geology and a host of socio-economic changes have dramatically altered the face of the Colne Valley over the years. Historically, the floodplain was occupied by small mixed farms set in a characteristic ‘ditches-with-pollards’ landscape. Things are completely different today – people have modified the land and river systems, harnessing the environment to serve their needs. During the industrial revolution, there was huge growth in the number of watermills to meet the increasing demand for textiles, gunpowder and flour. The Grand Junction Canal was built, enabling a boom in industries such as copper works and gravel extraction that shaped the landscape you see today. Mineral extraction created a string of more than 60 gravel pits; these eventually became attractive lakes, used for angling, water sports and nature conservation.

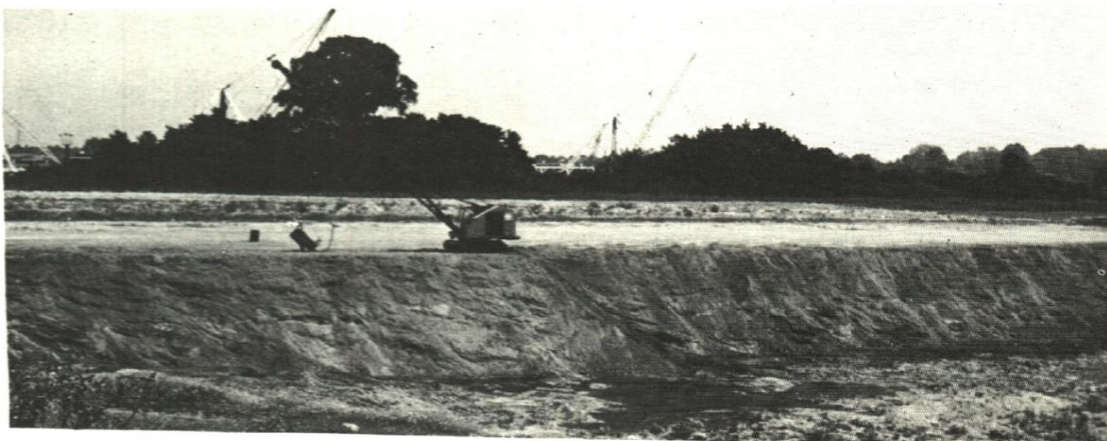


Figure 2. A gravel pit in the Colne Valley Regional Park

Founded in 1965, the Colne Valley Regional Park's boundary stretches from Rickmansworth in the north to Staines and the Thames in the south, Uxbridge and Heathrow in the east, to Slough and Gerrards Cross in the west. Since 2012, the Colne Valley Regional Park Community Interest Company (CVRP) has championed the interests of everyone who lives, works and plays in the park, to ensure its protection, management and enhancement.



Figure 3. Purple Emperor Butterfly at Harmondsworth Moor



Figure 4. Snowdrops at Denham Country Park

Ecology of Colne Valley Regional Park

The Colne Valley Regional Park is in London's Green Belt. It features a diverse range of habitats, from ancient woodlands to wildflower meadows, with threatened species and has numerous important site designations. These include part of one Special Protection Area, part of one National Nature Reserve, 12 Sites of Special Scientific Interest and 9 Local Nature Reserves, highlighting the need for active conservation to preserve these iconic sites.

The greatest connectivity in the landscape is achieved through the network of more than 200 miles of rivers and canals and over 60 lakes. The waterways are a key character for the Park drawing in visitors from far and wide, as well as wetland birds and wildfowl with some species travelling from Africa, Russia and Canada. The variety of flora and fauna includes well loved species such as rabbits, but also less obvious species such as the threatened water voles and the critically endangered European Eel.

In the 21st century water systems and the environment are under threat. Climate change predictions highlight increasing temperature and decreasing rainfall which is already being felt throughout the Park with some areas of river bed being dry for the majority of the year. Established ecosystems are damaged by pollution incidents and invasive species which threaten the natural balance. Additionally humans continue to alter the landscape with increased urbanisation and development projects destroying established ecosystems. All of these threats highlight the environment needs your help!

Figure 5. Map of Colne Valley Regional Park



We Need Your Help!

The Colne Valley Regional Park has funding from the Heritage Lottery to deliver the Landscape Partnership Scheme, a diverse and ambitious range of improvement programmes to be conducted over the next three years, 2019-2021. There are 19 projects to help conserve and enhance local wildlife, to support local conservation groups and engage with local communities. The River Ranger Project is one of them.



Figure 6. Local people on a fact-finding visit to the Colne Valley river network

Picture: ColneCAN

The project will monitor the Park's river system and provide an opportunity for residents to become volunteer River Rangers and help to survey and champion our local watercourses. Volunteers will record vital information on the health of the river system and assess various threats facing it. The overall aim is effective and sustainable management of the river network.

There are a wide range of different opportunities for anyone who would like to volunteer – including monitoring river health, litter picking, and general community engagement. Volunteers will be invited to join our river community taking part in regular social events, practical conservation activities, and river walks. Individuals interested in learning about the local river system have the opportunity to attend workshops with a focus on rivers and canals, wetland wildlife, invasive species, local threats and solutions.

Volunteering as a River Ranger not only benefits Park's environment and local communities – it also benefits your health and wellbeing. Time spent in nature has been shown to reduce stress and anxiety while improving concentration and attention. So you can help conserve our rivers and keep healthy at the same time.

Everyone involved in the project can choose where in the Park to volunteer, what to do and how often to join in, for example, two hours every month, or once a year. And you don't need any previous experience – every volunteer will be trained and fully supported by the Landscape Partnership Scheme.

River Walk

The Colne Valley Regional Park's river network extends over Hertfordshire, Buckinghamshire, Hillingdon, Surrey and Berkshire. It is an extremely wide area that includes a diverse range of landscapes, habitats and communities, which is why your help is needed to survey and conserve all of these watercourses. This project is a collaboration of passionate teams of volunteers who care deeply for their river wildlife and environment.

Many of you visit your local waterways on a regular basis, going for a stroll, meeting your friends and family for a coffee, walking your dog or watching wildlife. During your visits we would like you to keep an eye on the health of your local river, and let us know what you find.



Figure 7. A volunteer river walk in the Colne Valley Regional Park

Picture: ColneCAN

Everyone can choose which river to monitor, your survey distance, the frequency of the river walk, and who you walk with, be it individually or in groups. We recommend walking at least 1km which takes around 10-15minutes on average. To identify your preferred stretch of river see figure 8 below which highlights the rivers included in the River Rangers' monitoring scheme. Examples of key features you might spot on your walk are invasive species, litter, and interesting wildlife life, such as kingfishers.

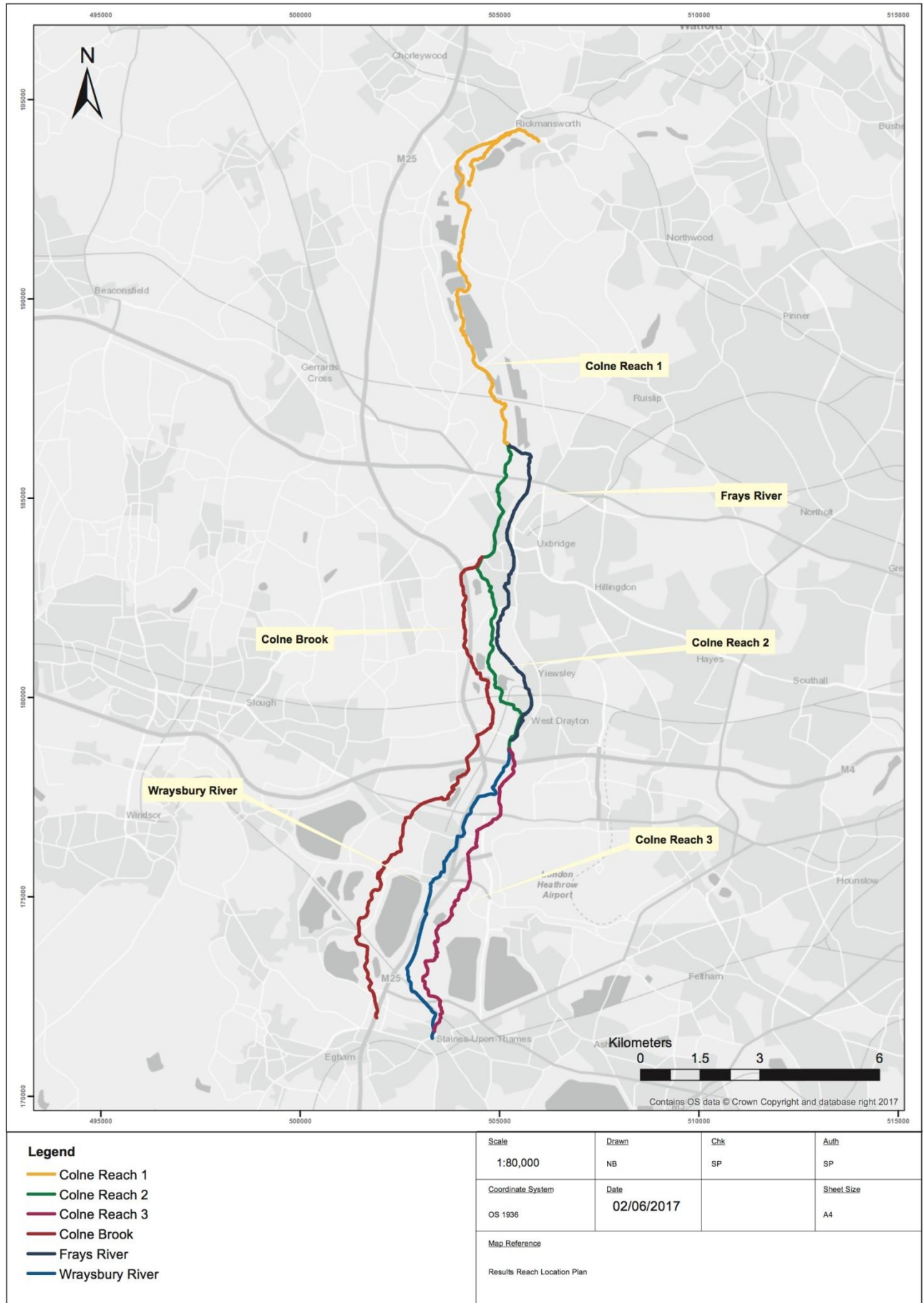
You can also help conserve your river environment by becoming a litter champion. They are essential members of the river community, helping mitigate the negative effects of litter, maintaining a clean river habitat for wildlife and people. Litter pickers will be provided.

Every volunteer will be trained and fully supported by the Landscape Partnership Scheme every step of the way. Giving your time to monitor a stretch of river provides important information that informs and improves decision-making locally, helping to preserve river health across the Colne Valley Regional Park. Your help really is invaluable.



Figure 8. Map of River System in the Colne Valley Regional Park

Image: Environment Agency



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Riverfly Monitoring

The Anglers' Riverfly Monitoring Initiative (ARMI) is a Citizen Science initiative that trains volunteers to regularly monitor river water across the UK. Since 2007, it has collected data on river quality and riverfly populations enabling conservation of these environments. The valuable data collected by volunteers feeds into local knowledge and management schemes for organisations such as the Environment Agency.

Trained volunteers regularly monitor freshwater sites for eight invertebrate groups. The information on invertebrate quantities found allows pollution to be detected and reported to local environmental bodies for a quick response.

Currently there are numerous riverfly monitoring sites found across the Colne Valley Regional Park. The aim of the River Rangers' project is to expand this monitoring throughout the lower Colne Valley, focusing on the River Colnebrook, River Colne, River Frays and River Wraysbury.

As a Riverfly monitor you would need to commit 1-2hours each month to survey your chosen site. Volunteers can choose from key Riverfly monitoring sites already identified, and will work in pairs while surveying for safety and enjoyment. Individuals will be trained to become a 'Citizen Scientist' over the three-year project, and everyone will be supported by the Landscape Partnership Scheme. Volunteers' surveys gather vital information on river quality, allowing pollution incidents to be quickly identified, reported to Thames Water and the Environment Agency, and swiftly dealt with.



Figure 10. Flat headed Mayfly a key indicator species from Riverfly monitoring



Figure 9. Individuals completing Riverfly monitoring training

Pictures: ColneCAN

Invasive Species

Invasive non-native species are animals or plant species that have spread outside of their natural range and threaten native biodiversity. The Colne catchment contains many invasive non-native species associated with the water environment, including Signal Crayfish, *Pacifastacus leniusculus* and Giant Hogweed, *Heracleum mantegazzianum*.

In partnership with the 'Invasive Species' project we are offering an opportunity for River Rangers to help survey, monitor and control the spread of key invasive species. The main focus is on two invasive plant species Floating Pennywort, *Hydrocotyle ranunculoides* and Himalayan Balsam, *Impatiens glandulifera*, abundant species which are detrimental to the local river systems.

Himalayan Balsam is a problem species as it tolerates low light levels and spreads quickly forming dense thickets which dominate riverbank and pushes out native species leaving the riverbanks bare in the winter allowing more erosion. Floating Pennywort is detrimental to river system as it is fast growing species (up to 20cm a day) which quickly establishes dense mats of vegetation dominating watercourses. This reduces light and oxygen levels in the river which thus reduces local biodiversity.



Figure 11. Example of Himalayan Balsam

Picture: ColneCAN

As a volunteer River Ranger you have the opportunity to attend training sessions that will enable you to identify invasive species and surveying techniques. This will give you the knowledge to survey stretches of river to identify current plant populations in the Colne Valley, to help prevent the further spread of the species.

If you do identify an invasive species in the Colne Valley, please report the location on the applications below to improve local knowledge and help direct action to prevent their spread.

Non-native Species Recording in the Colne Valley: cvfc.org.uk/nnis

Outfall Monitoring

We all need water in order to survive from day to day, but unfortunately our water sources are under threat. One major problem for urban rivers is that of badly connected pipes that bypass processing plants and directly pollute waterways. One method to combat this is through monitoring the outfalls or discharge points of waste flows and water into rivers, lakes and the ocean.

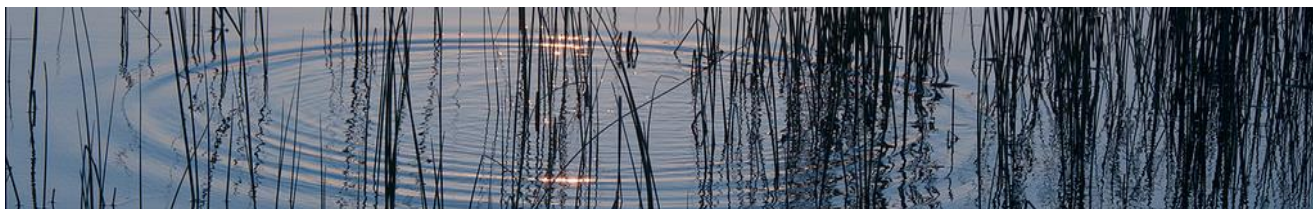


Figure 13. Water ripples across a still river in the Colne Valley **Regional** Park

Picture: ColneCAN

It is important to continue monitoring these outfalls – polluted surface water reduces dissolved oxygen, increasing ammonia and phosphate levels which can damage the natural river ecosystem. River Rangers can play an important role in monitoring and reporting on the condition of outfalls into the river network over a small stretch of river, keeping a sharp eye open for warning signs. Pollution incidents are reported to Thames Water and the Environment Agency for swift action.

Volunteers will be trained on outfall monitoring and reporting methods, including how to spot pollution incidents.



Figure 14. Example of an outfall pipe in the Colne Valley

Practical Conservation Activities

River systems are home to a diverse range of flora and fauna, such as kingfishers, water lilies, water voles and fish. These wildlife habitats are dependent on the river systems, but urban development has a direct affect on the natural ecosystem both negatively and positively. It is vitally important for all of us to conserve and preserve the environment for wildlife and people to enjoy.

The Landscape Partnership scheme offers conservation activities for River Rangers of all skill levels and anyone interested in conserving their local river system. Examples of activities include:

- Path clearance
- Litter picking
- Removal of invasive species
- Tree coppicing

Details of practical conservation activities can be found on the Colne Valley Regional Park website and via the newsletter – to sign up email colnevalley@groundwork.org.uk.



Figure 14. Groups of volunteers collecting tools



Figure 15. Volunteers remove litter from a river

Contacts:

If you are interested in learning more about the river network in the Colne Valley Regional Park, or want to become one of our growing band of volunteers, contact Chloe Crompton for further information.

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