

In this section:

This section provides a snapshot of different careers working with canals and rivers, and different pathways you can take.

Part 4: Canals and Careers

It takes many hands to keep the 250-year-old canals, bridges, locks, reservoirs and towpaths in working condition, and many more to help nature, wildlife and people thrive.

Apprenticeships and training post 16

Our apprenticeship programme is open to anyone over the age of 16 (not in full-time education) and include opportunities in crafts such as bricklaying and joinery, construction, ecology, and engineering.

All our apprentices will:

- Work alongside our experienced staff
- Learn job-specific skills
- Get hands-on and involved
- Earn a wage while working and studying
- Be given formal study time (equivalent to one day a week)

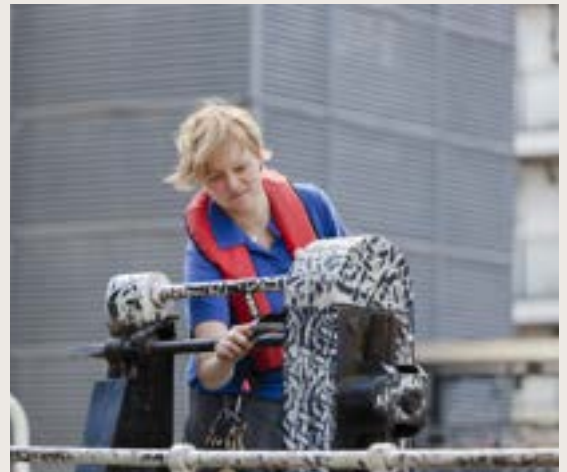


Early careers

There are other opportunities to work with the Canal & River Trust post 16+. These include volunteering, working with us and on the job training.

For example:

- Planning and Data Support Technician
- Destination Assistant
- Craft Operative (Joiner/Bricklayer/Carpenter)
- Engineering Technician
- Mechanical and Electrical Technician
- Waterway Operative



Quote from the Head of Climate action:
"Planting new orchards, moving fish to safety and spotting seals - it's all part of the job for our expert environment team. We're incredibly proud of the important natural corridors canals provide for wildlife, and we'll work tirelessly to make sure they stay special."

Environmentalist

The role: Looking after the natural environment of canals and rivers

This is a big responsibility. Despite being man-made, canals and reservoirs are some of the most bio-diverse spaces in the country. They provide much-needed habitats at a time when biodiversity in the UK is in crisis, and they are recognised for their environmental value.

The environment team makes sure nature continues to thrive around the waterways. Their work includes creating new habitats, caring for wildlife while maintenance work takes place, tackling invasive species, planting trees and hedgerows, improving water quality to keep it free of pollutants and providing education. They are involved in almost everything we do.

Typical qualifications and pathways

You can get into this job through a university course or apprenticeship

At school

- Subjects such as science and geography will be useful for a job related to the environment
- A new GCSE in natural history will be introduced from 2025

What next?

- Work with us (Post 16 entry).
- Waterway operative – Working mostly outdoors to help us maintain, conserve, and improve the waterway network. Opportunities for progression / training to become a specialist in heritage, engineering, or a team leader.

Apprenticeship

- You could start by doing an Environmental Practitioner Level 6 Degree Apprenticeship.
- It can take 5 years to complete through a mix of learning on the job and study.

University

- You can study environmental science, environmental studies or environmental sustainability, or a related subject like biology, chemistry, geoscience, ecology, and agricultural science.
- You may also need postgraduate training.

Volunteering

- Volunteering is a great way of getting experience and a taste of environmental work. It will also give you the opportunity to develop your skills and make contacts.

Other skills

- Work well as part of a team
- Data management
- Research and analytical skills
- Strong communication skills and a good listener



Salary (Environmental consultant): £25,000 - £50,000

Quote from a Principal Hydrologist:
"Looking after our canals and reservoirs is an expensive, technically demanding, and time-consuming activity. It requires a lot of skill and expertise."

Hydrologist

The role: Looking after water levels

Our canals contain enough water to fill 80,000 Olympic sized swimming pools! Hydrologists are responsible for monitoring, managing, and modelling the water in canals, and the reservoirs, rivers and streams that feed them. They make sure there is the right amount of water in the canals, in the right place, at the right time so that wildlife can thrive, the locks work properly, and boats don't run aground. Locks are open and closed 4 million times a year and use thousands of litres of water each time a boat passes through.

Hydrologists also monitor levels of water in reservoirs to plan ahead and conserve water in case of droughts. By monitoring water reserves throughout England and Wales they can plan the transferral of water along the network, from places with a surplus of water to those in need.

Typical qualifications and pathways

You can get into this job through a university course, apprenticeship or by working towards this role.

At school

- Subjects such as science, geography and design technology will be useful for a job in hydrology.

What next?

Apprenticeship

- You could apply for an Environmental Practitioner Apprenticeship before going on to study hydrology. It can take 5 years to complete through a mix of learning on the job and study.

University

- Relevant degrees include environmental science, geography, civil engineering and earth sciences.
- You also need postgraduate training.

Work

- You could start as an assistant hydrologist or technical officer if you have a degree.
- Your employer may encourage you to take a postgraduate qualification, such as a master's degree in hydrology, while you are working.

Other skills

- Strong analytical skills
- Good communication and presentation skills
- Ability to interpret data
- Office applications
- Strategic thinking
- Team player
- Being computer literate and having experience of using GIS systems and Microsoft



Salary: £28,000 - £45,000

Quote from an Ecologist: "I'm here to make sure that the wildlife and habitats on the canal are protected and, wherever possible, enhanced and improved.

As an ecologist that's the pinnacle of what you want to do. Essentially, I'm doing my dream job and I'm very fortunate."

Ecologist

The role: Looking after wildlife and habitats

Ecologists look after the wildlife and habitats along the canals, finding ways to protect and improve environments. They conduct wildlife assessments, provide advice on soil, land use, biodiversity strategies and environment protection.

Ecologists need to balance the needs of boaters, towpath users and wildlife and often need to make tough choices. For example, reducing how much we cut the grass allows more wildflowers to grow, but these plants can quickly flow over onto the towpath which causes an obstruction and stops people from walking. Ecologists use their judgement to make the best decisions.

Typical qualifications and pathways

You can become an ecologist through a university course or an apprenticeship.

At school

- Studying science and geography at GCSE is a good starting point. A new GCSE in natural history will be introduced from 2025
- You will also need GCSE or equivalent English and Maths, and basic IT skills
- You can explore an interest in ecology by volunteering with us or for a local Wildlife Trust or charity

What next?

Work with us (Post 16 entry)

- Waterway operative – Working mostly outdoors to help us maintain, conserve, and improve the waterway network. Opportunities for progression / training to become a specialist.

University course

- You will need 2-3 A-levels, or equivalent. You can study for a degree in ecology, environmental science, zoology, conservation or similar.

Apprenticeship

- If you have a degree or equivalent qualification in a different subject, you can apply for an Ecologist Level 7-degree Apprenticeship.

Other skills

- Strong communication skills
- Writing and analytical skills.
- You will need to produce well written reports
- Problem-solving and decision-making skills
- Assertive

Salary: £22,000 - £42,000



Quote from a Civil Engineer:

"The range of structures which the Trust owns is very varied and as such so are the projects. This means there is always something new to learn and apply my skills and knowledge too, which keeps the job feeling fresh and interesting."

Engineer

The role: Looking after our machinery and structures

Engineers help to plan, and design works to repair and maintain the network. Typical projects include building and replacing lock gates or re-bedding towpaths, repairs to bridges and canal walls. If needed, they organise 'stoppages' to drain the canal and allow works to take place. Senior engineers provide technical advice and guidance to teams and contractors to make sure these projects are safe, buildable, cost effective and meet the requirements of the Trust. It is important that operations are done safely, on-time and within budget.

Typical qualifications and pathways

There are lots of ways to become an engineer:

At school

- GCSEs in maths, geography, science and DT
- T-level in engineering
- Apprenticeship
- A-levels in maths and physics



What next?

College

- T-level / HND or equivalent in engineering or course in civil engineering, construction and the built environment, or a subject such as maths, physics or geography.

Work with us (post 16 entry)

- Engineering Technician – Help create plans to fix problems, offer technical help and come up with solutions with guidance to help manage the Trust's assets.
- Mechanical and Electrical Technician – Help with maintenance and repair tasks on structures, machinery and equipment to protect, improve and maintain the network.
- Study part time for a degree or apprenticeship while you work as a civil engineering technician.

Apprenticeship

- A Civil Engineer level 6 degree apprenticeship takes around 5 years to complete.

University

- Foundation degree, higher national diploma, or degree in civil engineering.
- Courses include environmental engineering and may include a work placement.

Other skills

- An ability to solve problems
- Good communication skills
- Enjoy working as part of a team
- Pro-active - prepared to take on a challenge
- Some mechanical and/or electrical experience may be beneficial



Salary: A civil engineer can earn between £20,000 - £60,000

Heritage expert

The role: Looking after our historical places

The network of canals and rivers includes some of the finest examples of Georgian, Victorian, and Edwardian engineering and architecture. It comprises 50 Scheduled Ancient Monuments, seven historic parks and gardens, 304 conservation areas, six battlefields and four World Heritage Sites. The heritage team has expert skills and knowledge to care for the upkeep of the historic network and to find ways to help it cope with modern life. They are involved in restoration projects, ranging from work on; aqueducts and a boat lift hundreds of feet tall; reservoirs holding tonnes of water; all the locks, bridges, and other historic buildings; and restoring derelict canals to bring them back to life. Heritage advisers ensure that work on the waterways conserves and maintains the integrity and authenticity of the network’s history and matches its heritage principles. They work with teams of skilled craftspeople who conduct maintenance and repair work such as masonry and carpentry on heritage structures.

Typical qualifications and pathways

At school

- GCSE Subjects such as history, geography will be useful, as well as Maths and English

What next?

Work with us (post 16 entry)

- Planning and data technician – help with requests and process planning applications effectively and on time.
- Destination Assistant – Work at a visitor attraction (e.g. shop, café or on boat trips). Engage in activities, sales, cleaning, arranging events and trips and making sure everyone has a good time.
- Craft operative, eg Joiner/Bricklayer/Carpenter – work to carry out maintenance and repairs.

Apprenticeship

- You can gain relevant skills by doing an Archivist and Records Manager or Historic Environment Advice Assistant apprenticeship.

University

- There are lots of subjects that are useful for a career in heritage, e.g. history, geography, cultural heritage studies, building conservation, architecture, archaeology, earth or natural sciences.
- Post graduate options include heritage management and historic conservation.

Work

- Work experience and volunteering are important for getting into this type of work.
- You can move into this type of work if you have relevant skills or experience from other professions. such as construction, local authority planning or building surveying.

Other skills and qualifications

- Ability to work as part of a team
- Good communication skills
- Attention to detail
- Passion for history and heritage
- A relevant qualification, such as food hygiene or customer service training, could be required
- Being computer literate, having experience of using GIS systems and Microsoft Office applications

Salary: £18,500 - £48,000

