

A River Remit

Environment Agency CEO JAMES BEVAN gives an overview of the organisation's work to safeguard the Thames and its environs for future generations



NAVIGATION SERVICES ON THE NON-TIDAL THAMES

We employ a dedicated team of 90 highly trained, experienced and passionate full-time navigation specialists whose role is to maintain the public right of navigation and to enable safe boating on the navigable non-tidal Thames from Cricklade to Teddington. This includes 60 full-time lock- and weir-keepers, supported by temporary lock-keepers during the summer and around 250 volunteers, who carry out duties across 45 lock and weir sites.

Keeping all locks, weirs and other facilities in working order and compliant with health and safety legislation requires significant investment and is an extensive, year-round programme of work. Adjoining weir complexes also contribute to safe navigation by managing water levels, enabling the locks to function and providing a safe depth for navigation within the middle third, or fairway, of the river in each stretch between locks.

Much work also focuses on providing the best possible levels of 'assisted passage' - helping boaters through locks. Every year our staff work with the Thames Navigation Users Forum to develop our assisted passage targets and communicate with boaters.

We additionally ensure boats using the river are correctly registered. This important income stream is reinvested in all aspects of the service we provide.

WATER QUALITY MONITORING AND REGULATION

We also have an important role to play in regulating, protecting and improving the water environment. Part of this remit includes monitoring water quality. We collect and record data on specific parameters that affect water quality, such as dissolved oxygen, phosphate, temperature and other chemicals and metals harmful to people and wildlife. We also carry out various fish and invertebrate surveys.

To help us understand current and long-term trends, we carry out a variety of monitoring programmes, including eutrophication (the process by which chemicals in water generate explosive growth of plants and algae, causing oxygen deficiency and killing off other wildlife), the impact of drought, and water quality.

Water quality improvements through the Thames Tideway Tunnel

The Thames Tideway Tunnel is one of the largest construction projects of its type in Europe. It will join the Lee Tunnel and run approximately 15.5 miles (25km) from west to east London. The two tunnels will work together to capture roughly 39m tonnes of untreated sewage and rainwater, which will then be carried to Beckton sewage treatment works.

When completed in 2023, the tunnel will significantly improve water quality in the Thames, reducing the health risks to river users and meeting the requirements of the Urban Waste Water Treatment Directive with respect to storm overflows.

The Environment Agency has worked closely with partners throughout the tunnel's development, from initial discussions over ten years ago on how to tackle combined sewer overflows, to the approval of the Thames Tideway Tunnel Development Consent Order. Our contribution has always focused on ensuring the best possible environmental outcomes are achieved, through approvals and planning applications related to the project, coordinating Environmental Permitting Regulation permits, working closely with contractors to influence design, and issues related to flood management and habitat creation.

Water sampling at Molesey Lock.



Cofferdam at Blackfriars.



FISHERIES

Nationwide, 3m people enjoy freshwater fishing in the UK every year. Our focus is to work on creating an improved environment with more freshwater fish, salmon and eel, as well as to increase the contribution freshwater fisheries make to the economy.

We do this by regulating freshwater and migratory fisheries. We ensure compliance with fisheries by-laws, provide licences to fish, respond to poaching and illegal fishing and work with partners to increase angling participation.

An angler on the Jubilee River.



RESTORING RIVER CONNECTIVITY

Historically most of the rivers in the Thames area have been managed and modified with the aim of improving land drainage and navigation, and reducing flood risk. In many cases this work has unintentionally resulted in fragmenting important habitats and a subsequent decline in biodiversity. The importance of reconnecting rivers along their length, from source to sea, and with floodplain habitats, is now widely recognised. This not only gets our rivers and wetlands back into good health to benefit wildlife, but also creates and improves nature-based recreation, carbon sequestration to tackle climate change, and flood storage.

By working alongside local authorities, water companies and environmental organisations, we have multiple floodplain improvement projects on the River Thames and its tributaries, which vary in nature and scale, but which will all contribute to getting rivers to good ecological status.

We are also developing and delivering a project to reconnect rivers fragmented by historic industrial practices, such as inland navigation and milling. Weirs and sluices are damaging for a number of reasons, and fish and invertebrate species struggle to thrive in these conditions because they are reliant on shallow, faster-flowing rivers to feed and breed. This creates genetically isolated populations, makes entire reaches vulnerable to pollution incidents and prevents species such as salmon and eels (which migrate between rivers and the sea) from thriving. Poor fish and invertebrate communities also impact on the rest of the ecosystem.

Where possible we seek to remove redundant weirs and sluices. Where structures still have a use, we install fish passes. These can range from fixed structures on weirs to the creation of new river channels around the barrier.

PROLONGED DRY WEATHER

The Thames water flow is affected by prolonged periods of dry weather and we rely on effective rainfall to replenish our aquifers. During the winter of 2018/19, we received only 60% of the long-term average of effective rainfall. Our groundwater levels are lower than we would expect them to be for the time of year, which reduces flow in our rivers.

We work closely with water companies along the River Thames to balance the pressures on our water resources, which are often felt most acutely in the lower Thames where there is a concentration of water company abstractions.

Due to the population density in the South East, we cannot rely on winter rainfall alone for our water supply. Reservoirs need to be topped up throughout the year to ensure there is continuity in supply. The summer months see the greatest pressure on our water resources and we work closely with water companies to ensure they are able to maintain their stores. We have an operating agreement with Thames Water setting out the terms for how abstractions are managed. Under normal conditions this aims to reach an equitable balance that allows for abstraction while not adversely affecting other river users. If reservoir storage begins to drop, it sets out how abstraction for public water supply should be increasingly prioritised.

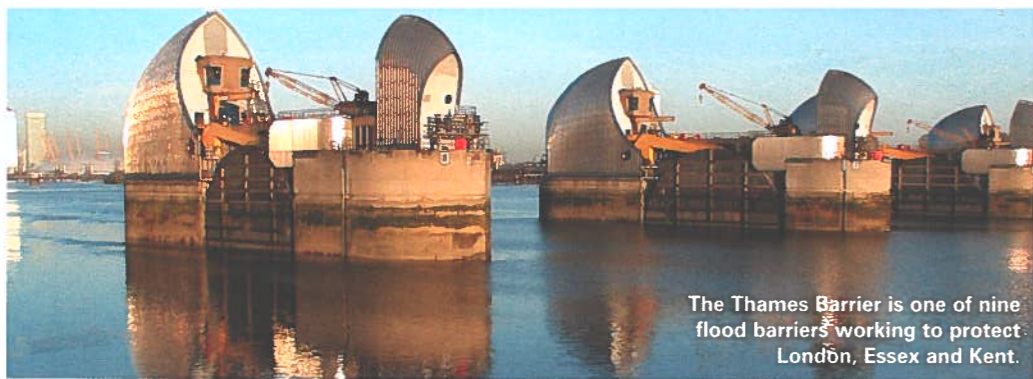
ENVIRONMENTAL INCIDENT RESPONSE AND FLOOD WARNING

We help communities and partners prepare for, respond to and recover from incidents that damage or endanger the natural environment. This can include:

- pollution of water and land
- dead fish or fish gasping for air and illegal fishing
- risks to flooding from vehicles and fallen trees blocking main rivers
- flooding from any river, stream, canal, natural spring and the sea
- waste site incidents such as fires and chemical spills
- unusual changes in river flow.

Wherever possible we aim to prevent incidents. Where that is not possible we seek to minimise the impact on people and the environment.

We provide the most complete picture of flood risk in the Thames catchment, from developing weather through to the actual flood event itself. We work closely with local partners providing targeted information and issuing the public with flood alerts and warnings that advise on risk to infrastructure, properties and life.



The Thames Barrier is one of nine flood barriers working to protect London, Essex and Kent.



Helping boats through Goring Lock.

SUPPORTING SUSTAINABLE GROWTH AND FLOOD RISK MANAGEMENT PROJECTS

Due to the enormous economic importance of the River Thames and its estuary, and the scale of the flood risk, we, along with local authorities and Local Enterprise Partnerships (LEPs) are working together to address the risks and promote growth both now and for the next 100 years. Here are just three examples of some of the projects we're undertaking:

1. The Thames Estuary 2100

The Thames Estuary's most significant flood risk is from a tidal surge. A world-class system of flood risk management assets currently reduces the risk, including the Thames Barrier and eight other flood barriers, over 350km of walls and embankments and more than 400 other structures such as flood gates, outfalls and pumps. These work together to protect London, Essex and Kent from regular flooding from the sea.

We have a lead role as regulators and statutory advisors in managing the Thames Estuary 2100 Plan – a long-term strategy for mitigating tidal flood risk in the Thames Estuary.

Climate change, ageing flood defences and population growth mean that tidal flood risk is increasing. The plan aims to protect 1.3m people and £275bn worth of property and infrastructure, as well as:

- adapting to the challenges of climate change
- ensuring sustainable and resilient development in the floodplain
- protecting the social, cultural and commercial value of the tidal Thames, its tributaries and floodplain
- enhancing and restoring ecosystems, and maximising the benefits of natural floods.

To help us deliver, we're working in partnership with riparian owners, flood risk management authorities and planning authorities. We also rely on councils, who have the power to influence future development on the riverside through spatial planning. They can ensure our future riverside can continue to manage tidal flood risk while providing wider social, environmental and economic benefits.



Thames Estuary 2100 map.

2. The River Thames Scheme

Between 2020 and 2025 we'll be building a new flood channel alongside the River Thames to reduce flood risk to properties in communities in Datchet, Wraysbury, Egham, Staines, Chertsey, Shepperton, Weybridge, Sunbury, Moseley, Thames Ditton, Kingston and Teddington.

The channel will be built in three sections and will include widening the Desborough Cut and increasing the capacity of weirs at Sunbury, Moseley and Teddington by installing additional weir gates.

Construction of the new channel will better protect homes and businesses, and give the opportunity to create habitats and pathways for wildlife and recreation activities including walking, cycling, boating and angling.

As development work continues, we are working with communities between Datchet and Teddington to increase their resilience to flooding. This includes helping emergency services, local councils and other organisations to coordinate their response during major floods.

3. Oxford Flood Alleviation Scheme

The Oxford Flood Alleviation Scheme is a major partnership project we're leading to reduce flood risk to homes, businesses and transport in Oxford and the surrounding area.

The scheme will cost around £150m. Over £88m has been committed by central government and we have secured £66.5m from partnership and third party contributions. This is a record amount of partnership funding for a flood risk management scheme anywhere in the country.

All properties in Oxford currently at risk of flooding from the Thames will see their flood risk reduced when the scheme is in place. It will also create over 20 hectares of wetland habitat and establish a wildlife corridor to the west of Oxford, linking existing wildlife sites and increasing biodiversity.

Oxford has the second fastest-growing economy of all UK cities and is home to around 5,300 businesses, providing 133,000 jobs. The scheme will safeguard Oxford's reputation as a thriving centre of commerce that is open for business.

FIND OUT MORE

For more information on the wider work of the Environment Agency see our 2019 to 2020 River Thames compliance plan: gov.uk/government/publications/river-thames-enforcement-plan.

We also publishes a River Thames Waterway Customer Charter each year. It includes lock-keeping service targets and a summary of the service standards. These documents can be viewed at gov.uk/government/publications/river-thames-customer-charter.

Our annual report sets out our performance and financial position on the non-tidal Thames. View the latest at gov.uk/government/publications/river-thames-annual-report.

Meanwhile, an overview of the flood risk across the River Thames catchment and recommended ways of managing risks over the next 50 to 100 years can be found at gov.uk/government/publications/thames-catchment-flood-management-plan.

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Oxford in 1947 (above) and in 2014.

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