



Surrey
Wildlife Trust

Rivers and Water Quality
Frequently Asked Questions

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Surrey and its Rivers

What rivers run through Surrey?

Surrey has the following River Catchments:

- Thames (including parts of the Ash and Colne tributaries)
- Mole
- Wey
- Arun
- Blackwater
- Eden
- Hogsmill
- Bourne Streams (including the Chertsey Bourne, Mill Bourne, Hale Bourne and Addlestone Bourne)
- Rhythe

Surrey's River Catchments

What is a River Catchment?

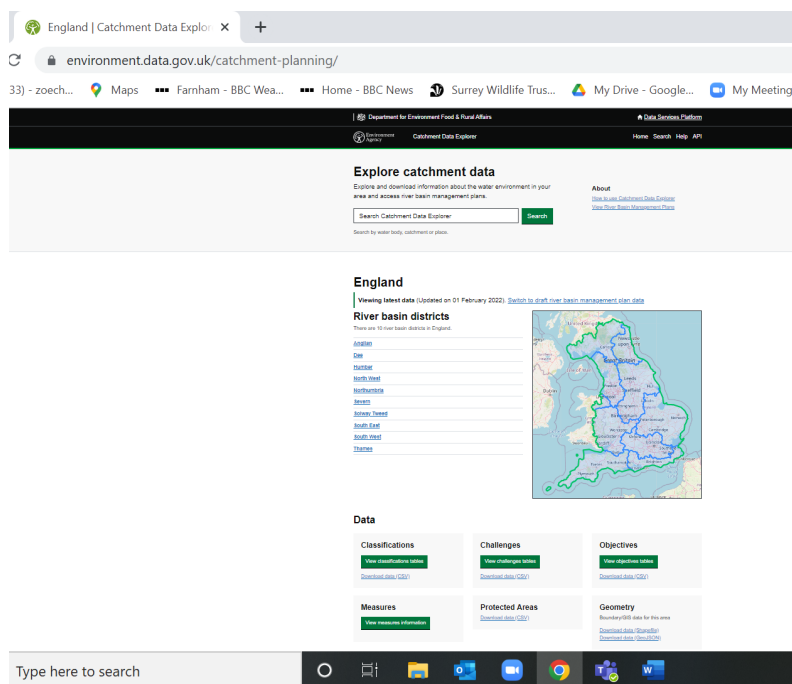
A catchment is an area of land, often bounded by hills, which drains into a river and its tributaries, eventually flowing out to the sea. The catchment boundary (often known as the water shed) is the dividing line between separate catchments.

Some of the rainfall over a catchment is absorbed underground into porous rocks (aquifers), such as the chalk of southern England. Water from aquifers and ground water keep rivers flowing year-round.

How can I find out about River Catchment areas?

You can find out more about River Catchments and their condition by visiting a website called Catchment Data Explorer, it is run and managed centrally by the Government. The link to access Catchment Data Explorer is below.

<https://environment.data.gov.uk/catchment-planning/>

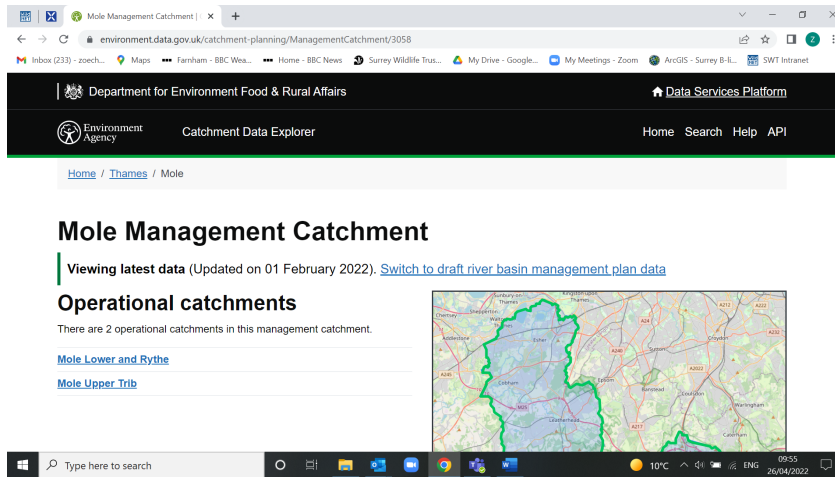


How do I find out more information about the River Mole?

Through the Catchment Data Explorer you can filter your search by River. The Mole has two operational Catchments, the Mole Lower and Rythe, and the Mole Upper Tributary. If you click on

each link below it then takes you in to detailed information about all the water bodies that sit within each area, for example 12 water bodies are logged for The Mole Lower and Rythe.

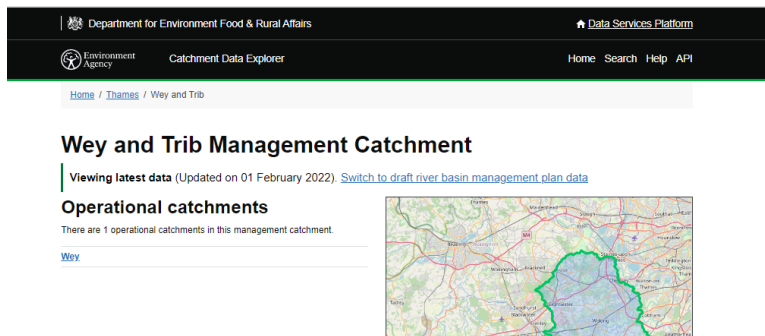
<https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3058>



How do I find out more information about the River Wey?

Through the Catchment Data Explorer you can filter your search by River. If you click on each link below it then takes you in to detailed information about all the water bodies that sit within each area.

<https://environment.data.gov.uk/catchment-planning/OperationalCatchment/3536>



What Management Plans exist for each Catchment?

River Basin Management Plans exist centrally for each Catchment and they are publicly available through Data Explorer. They set out how organisations, stakeholders and communities will work together to improve the water environment.

For Surrey the River Basin Management Plan sits under the Thames region and can be found here

<https://www.gov.uk/government/collections/river-basin-management-plans-2015#thames-river-basin-district-rbmp:-2015>

The most up to date plans are from 2015, however these will be updated following a consultation in 2022.

More Specific Catchment Plans exist on the Catchment Portals themselves

- For the Wey <https://storymaps.arcgis.com/stories/11426f78f8154708911fc8382233d861>
- For the Mole <https://southeastrivers.maps.arcgis.com/apps/MapSeries/index.html?appid=525a1f141084458aa40ec65ec3f9ac7e>

How are River Catchments run?

In September 2011, DEFRA and the Environment Agency invited submissions of interest to host a partnered approach to catchment-wide delivery of objectives required by the Water Framework Directive (WFD), in a series of 15 'pilot' catchments across England. These were to join the 10 Environment Agency-led catchments already selected as pilots of the Catchment-Based (CaBa) approach, earlier that year (2011)

Does Surrey have River Catchment Partnerships?

Yes, Surrey has two River Catchment Partnerships which are co-hosted by the Surrey Wildlife Trust and the South East Rivers Trust (SERT). They focus on two main rivers, The River Mole (River Mole Catchment Partnership) and the River Wey (River Wey Landscape Partnership).

Other Catchment Partnerships exist that cover Surrey including the Medway Catchment Partnership covers the Eden and East Surrey, hosted by Hosted by the South East Rivers Trust and the Kent Countryside Management Partnerships. The Lodden Catchment Partnership covers Blackwater, hosted by the South East Rivers Trust and the Arun and Western Streams Catchment Partnership covers and Arun and Rother, hosted by the Arun and Rother Rivers Trust (ARRT)

What do the River Catchment Partnerships do?

The River Catchment Partnerships undertake a variety of things however follow 4 main principles:

- Engaging stakeholders
- Project identification and development to the point of delivery
- Fundraising for projects
- Information sharing and knowledge/evidence building

You can find out about their work across the county by visiting their Storymap sites here.

For the Wey <https://storymaps.arcgis.com/stories/11426f78f8154708911fc8382233d861>

For the Mole

<https://southeastrivers.maps.arcgis.com/apps/MapSeries/index.html?appid=525a1f141084458aa40ec65ec3f9ac7e>

How are the River Catchment Partnerships Funded?

The Water Environment Improvement Fund (WEIF) was established in 2016. The WEIF contains a grant component directed at supporting catchment partnerships. Recipients of grants are required to host catchment partnerships, work collaboratively with key stakeholders to enable catchment stakeholders to input into the planning and delivery of environmental outcomes.

The Environment Agency administers the catchment partnership support grants through the non-competitive allocation of funding to existing catchment partnerships and the CaBA National Support Group.

Who attends the Surrey River Catchment Partnerships?

Each Catchment Partnership has a Steering Group which meets Quarterly and comprises organisations and individuals that play a key role in River Management. These include the Environment Agency, Water Companies, Surrey County Council, Local District and Borough Councils, The National Trust, Natural England, Local Biodiversity Groups, Angling Clubs, British Canoeing amongst many others. They also have a wider set of members who have an active interest in their local rivers, this can be anyone.

What Projects have the River Catchment Partnerships delivered

To name but a few, the Catchment Partnerships have delivered many projects within Surrey and continue to do so, a snapshot of what has been delivered is below, however you can find out more detailed information by clicking here

- Chertsey Meads Fish Refuge Restoration (Wey)
- Community River Restoration Projects at Alton, Farnham, Oakhanger and Blackwater (Wey)
- Diffuse Pollution Advice Workshops with key business sectors in the catchment (Golf Courses, Leisure and Equestrian).
- St Georges College, Chertsey River Restoration (Wey)
- Rye To Good (Mole)
- Pipp Brook Restoration Project (Mole)
- RiverSearch Citizen Science Project (Throughout)

Water Quality

In England, how many rivers meet standards for good ecological status?

Only 14% rivers in England meet the standards for good ecological status

How is water quality reported on in the UK?

Water quality was reported through the EU-derived Water Framework Directive (WFD). This legislation established a framework for the protection of groundwater, inland surface, estuarine (transitional), and coastal waters.

Since leaving the European Union the WFD has since been revoked and replaced in England, Wales and Northern Ireland by the Water Environment Regulations 2017

How is water quality monitored in England?

River water quality in the UK is monitored using a sampling approach. It is not feasible to sample every single stretch of river, and so a sample of rivers at specific locations is selected which is deemed to be representative of all rivers. Responsibility for this sits with the Environment Agency.

The data collected from the Environment Agency samples is used to assign a water quality rating for a particular section of the river (known as a waterbody). Ratings run from 'High' for excellent water quality, through to Bad for the most polluted streams.

Citizen Science water quality sampling using local volunteers also plays a vital role in water quality monitoring across the country.

How is water quality monitored in Surrey?

There is not currently a catchment wide monitoring programme for Surrey however for the past 9 years SWT has supported monitoring where possible. Initially this was through a citizen science project called RiverSearch which trained volunteers to map and monitor a 1km stretch of river on a regular basis.

This has been replaced with the Riverfly Programme which trains volunteers to identify specific pollution sensitive invertebrate species present or absent in the riverbed. The presence or absence of these species is a good indicator of water quality. Over the last 8 years more than 700 surveys have been carried out, helping to pinpoint key pollution events across the Wey and the Mole catchments.

More recently we introduced phosphate sampling using digital meters. High levels of phosphate indicate pollution, so volunteers collect water samples from suspected pollution hot spots and take regular phosphate readings. This is a useful way of highlighting intermittent pollution issues and keeping an eye on the general health of the river. Without this group of volunteers, many pollution events would go by unnoticed.

A new type of monitoring will be rolled out to groups of volunteers from 2022. The programme is called Outfall Safari and is coordinated by the Zoological Society London. Volunteers are trained to monitor pollution around outfalls (pipes) that drain into the river. The data collected is fed back to Thames Water and helps them to get out to pollution incidents quickly. The programme has proved very effective on the urban rivers around London.

What are Riverfly?

Riverfly are the small larvae of insects that live on the beds of rivers and still waters. Most then emerge as short-lived adult flies in Spring or Summer, often en masse. Species that fall into this category are things like Mayflies (Ephemeroptera), Caddisflies or Sedges (Trichoptera) and stoneflies (Plecoptera)

Stonefly larvae



Caddisfly larvae



Mayfly larvae



Why are Riverflies used to monitor water quality?

Riverflies are very sensitive to change and are particularly affected by water quality, habitat diversity, flow rate and water levels. As they have limited mobility, relatively long lifecycles and are present throughout the year, it makes them a powerful biological indicator of change.

What happens to the Riverfly sampling results?

The results get uploaded by each volunteer into a mapping system called Cartographer. These are reviewed and assessed on an ongoing basis. If there is a sharp decline in Riverfly populations at a particular site, this indicates that there has been a pollution incident. The volunteers monitoring the site work with the group coordinator to better understand the issue before it is reported to the Environment Agency's investigation team. Often the volunteers will take further Riverfly and phosphate samples upstream to help isolate the issue.

In 2022, we started a Project to pull together the sampling results from all records going back to 2014 into a report called the State of Surrey's Riverfly's will be published once this analysis is complete.

How can I get involved in Riverfly monitoring?

Riverfly monitoring is a great way for anyone to get involved in surveying and protecting the health of their local rivers. Not only is it great fun, but you get to meet new people and see new places.

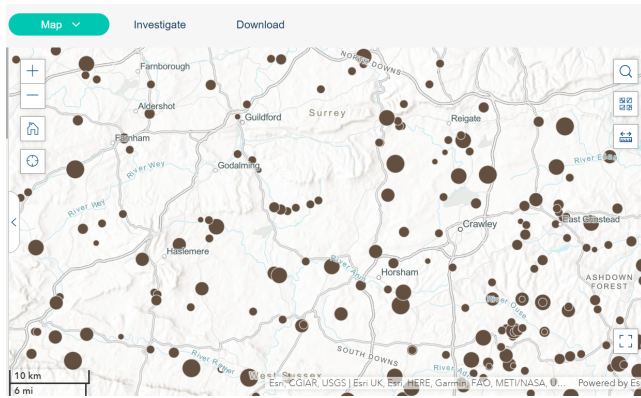
The Surrey Wildlife Trust runs a training day for new volunteers every Spring to get up to speed, if you are interested, please contact info@surreywt.org.uk

How can I find out water quality statistics for where I live?

You can access the Water Quality Data Archive <https://environment.data.gov.uk/water-quality/view/landing> which provides data on water quality measurements. Samples are taken by the Environment Agency at fixed points around England and can be from coastal or estuarine waters, rivers, lakes, ponds, canals or groundwaters. They are taken for several reasons including compliance assessment against discharge permits, investigation of pollution incidents or environmental monitoring. The archive provides data on measurements and samples dating from 2000.

Only complete samples, where all analyses have been completed, are included. Currently the dataset does not include all groundwater or third-party data.

You can also look at Water Quality information via the Sewer Overflows site which provides an interactive view of issues that you can zone in on <https://theriverstrust.org/sewage-map>



What can impact water quality?

Many things can impact water quality ranging from sewage, agricultural run-off, pesticides and herbicides, chemicals, plastics and pharmaceutical residues. A brief overview on the issues each one creates is provided below

- Sewage – there are various ways sewage can impact rivers, it can be through discharges of treated sewage effluent or raw sewage spills via storm overflows. If sewage enters our rivers, microorganisms decompose it using the **available oxygen in the river** to ‘respire’. As a result, this means less oxygen in the water affecting fish and **invertebrates**. It also contains a lot of Nitrates and Phosphates which stimulates suffocating algal blooms.
- Agricultural run-off – this usually takes the form of sediment which runs off muddy fields during rainfall. Sediment smothers out riverbed habitats where invertebrates live and fish lay their eggs causing localised population declines. Sediment can also contain pesticides, herbicides, artificial fertiliser and nutrients from animal faeces. The cumulative effect of run off from multiple areas kills fish and other aquatic species.
- Road run-off – all sorts of things can run from a road into a river. Diesel and Petrol spills, tyre and brake wear from vehicles. The long-term effects are not fully understood however short-term acute events such as high rain volume after a dry spell contributes significantly to high levels of fish death
- Pesticides and herbicides – insecticides used as flea treatments for cats and dogs are impacting our rivers. Fipronil and Imidacloprid are found in high levels in most of our rivers. For example, one flea treatment on a medium sized dog is enough to kill 60 million bees
- Chemicals - Mercury—released from coal-fired power and even crematoriums have ended up in our rivers, and looks set to stay. This, along with PBDEs (flame retardants) and PFOs (waterproofing and non-stick), are three of the hazardous substances that most frequently result in our river water bodies failing to pass chemical health tests.
- Litter and plastics - Much of this is plastic. A litter survey by Thames21 found that single-use plastic items make up **83%** of all items on the tidal Thames foreshore in London. The most common item recorded was Plastic wet wipes. These wipes have accumulated to the extent that they are creating thick mats. Food wrappers, cotton bud sticks, drink bottles and their lids, cups and takeaway containers were also common culprits.
- Pharmaceutical residues - Paracetamol, nicotine, caffeine and epilepsy and diabetes drugs were widely detected in a University of York study.

To find out more about river pollution click [here](#) to read the State of our Rivers Report issued by The Rivers Trust in September 2021

You can also watch the widely watched and publicised 2021 documentary 'Riverside' featuring George Monbiot and directed by Franny Armstrong. This covers ground-breaking investigation into the sudden rise in pollution in Britain's rivers. <https://www.youtube.com/watch?v=5ID0VAUNANA>

How do I report pollution events?

Call the Environment Agency 24 hr incident hotline (0800 80 70 60) to report:

- collapsed or badly damaged riverbanks
- damage or danger to the natural environment
- dead fish or fish gasping for air
- flooding from main rivers or the sea
- illegal removals from watercourses
- incidents at Environment Agency-regulated waste sites
- main rivers blocked by a vehicle or fallen tree causing risk of flooding
- poaching or illegal fishing
- pollution to water or land
- unusual changes in river flow

Next steps

Significant changes are needed to address the issues our Rivers are facing Nationally. These include:

- Changes to the planning approval system
- Transitioning to regenerative farming
- Legally binding targets for biodiversity and freshwater
- Stopping untreated sewage reaching our rivers
- Robust monitoring and enforcement of policy
- Reconnecting Communities with their River
- Increased Government spending within the Environment Agency
- Targeted action in key areas.

You can read more about these elements in this report called Blueprint for Water written by the Wildlife and Countryside Link.

[WCL Blueprint for Water Vision Report.pdf](#)

Alongside this, the Environment Agency provided 12 Wider Environment Water Environment Challenge categories to the Catchment Partnerships, who could then vote on what they wanted their top 6 to be. In Surrey both the River Wey Landscape Partnership and the River Mole Catchment Partnership voted on the following as key to our County:

- Nature recovery, providing designated areas for nature and biodiversity

- Connecting communities with nature
- Support the Nature Recovery Network and Local Nature Recovery Strategies
- Protect and restore healthy soils and nutrient balance
- Reduce storm overflows and drainage system incidents
- Build environmental resilience and adaptation to climate change

Invasive Species

What are the main problem plants in Surrey?

Himalayan Balsam, Japanese Knotweed, Floating Pennywort, Skunk cabbage

Where can I find out more about NNIS ?

<https://www.nonnativespecies.org/> Contains everything you need to know about NNIS, native choices for your garden and how to stop the spread of them.

How can I tackle Himalayan balsam in my area?

Obtain Landowner permission, pull by hand from the base of the plant and pull all the roots out, snap the stem below the first node, don't pull after the 1st of August as the plant will spread seeds, ongoing management every year to prevent the plants re-seeding, The seeds can last in the seed bank for years so ongoing management will be required for a while. Pile up the plants away from river so they cannot wash back in and allow to compost down.

Is balsam good for bees?

Yes, but as it produces lots of nectar it out competes all other plants that would be their food source in the spring during the hungry gap.

What should I do if I have Japanese Knotweed?

The most effective way to treat Japanese knotweed is with a glyphosate-based weedkiller. This treatment will have to be done for at least 3 to 4 years to combat regrowth. However, it is recommended to use a professional who has access to stronger pesticides that are more effective.

What is the best way to tackle pennywort?

You need to obtain landowner permissions to remove pennywort. The safest way to do it is from the bank with rakes and dragging to the bank. Then leaving it to decompose away from the river. However, this can still be dangerous and precautions such as life jackets should be taken. In water removal is also possible but should only be done in favourable weather conditions and with people experienced in working within water.

What is being done to tackle pennywort in Surrey?

The angling trust, British Canoeing, Canoe clubs, angling clubs and the EA hold various different sessions throughout the year removing pennywort especially on the Wey.

What to do if you see a mink?

If you see a mink, please send the record to surreybic@surreywt.org.uk. With where you saw, when it was and who you are.

Mink impact on Water Voles in Surrey?

It has now been over ten years since a water vole was officially recorded in Surrey and we believe the species has sadly become locally extinct. The predation by American mink which were brought to the UK for fur farming, has had a major impact on water vole populations. Mink are good swimmers and females are small enough to enter the water-line burrows of water voles. Preying on the smaller mammals to feed their kits, they can wipe out an entire water vole population in one breeding season.

Mink or otter?

Both have long tails, but a mink's is more rounded and furrier, whereas an otter's is somewhat flattened. Mink also has darker coats and, unlike otters, don't have any webbing on the feet. The face of an otter is rather blunt; a mink's is pointy.

Signal crayfish?

Signal crayfish are very widespread across the county and the country. They have been present in Surrey since the late 70's. This has had serious effects on the environment and white claw crayfish. The signal crayfish carries the crayfish plague which has caused a 50-80% decline in the native populations. They also burrow up to 2m into the river bank depositing silt, causing erosion and bank collapse. The current way to manage them is to trap them and destroy them.

How do I get a licence to trap crayfish?

To get a licence for trapping please visit <https://www.gov.uk/guidance/permission-to-trap-crayfish-eels-elvers-salmon-and-sea-trout>

How can I reduce the chance of spreading NNIS?

To reduce the spread of NNIS you can Check, Clean, Dry

CHECK: Check your equipment, boat and clothing after leaving the water for mud, aquatic animals or plant material. Remove everything that you find and leave it at the site.

CLEAN: Clean everything thoroughly as soon as you can, paying attention to areas that are damp or hard to access. Use hot water if possible.

DRY: Dry everything for as long as you can before using elsewhere as some invasive animals and plants can survive for more than two weeks in damp conditions.

<https://naturalresources.wales/about-us/news/news/check-clean-and-dry-to-protect-our-waters-from-pests-and-diseases/?lang=en>

Native Species

Current status of water vole in Surrey?

Water voles have been decimated by mink and declining wetland habitats. They are now thought to be extinct in Surrey, with the last officially being seen over 10 years ago. But there is hope, some people claim to have seen water voles in headwaters this is yet to be officially confirmed. There are also potential releases happening on the Hogsmill and other sites bordering Surrey.

Are beavers returning to Surrey?

There is a National Trust site in Hazlemere where beavers have been released in an enclosure. Future sites are also being looked at in Surrey with a hope to release in the near future.

Will beavers impact fish passage?

Beavers have co-evolved with fish for millennia and if there were any serious impacts on fish migration they would have been studied by now. Beavers even have the potential to create new nursery grounds with their dams. The river Otter beaver trail has lots of up-to-date information on this in a UK setting <https://www.exeter.ac.uk/research/creww/research/beavertrial/#read>

Current status of otters?

Otters currently have very low numbers in Surrey. They mainly pass through the county using our water ways as highways.

Water quality testing

If you want to get involved in Water quality testing the river Wey trust, Zero Carbon Guildford and Water rangers have all teamed up to monitor along the Wey. Find out here for more info <https://www.zerocarbondguildford.org/river-quality-testing>