



Environment
Agency

River factfiles

The Derwent catchment

get to know your rivers



We are the Environment Agency. It's our job to look after your environment and make it a better place – for you, and for future generations.

Your environment is the water you drink and the ground you walk on. We work with Government and business, making your environment cleaner and better.

The Environment Agency is here, making your environment a better place.



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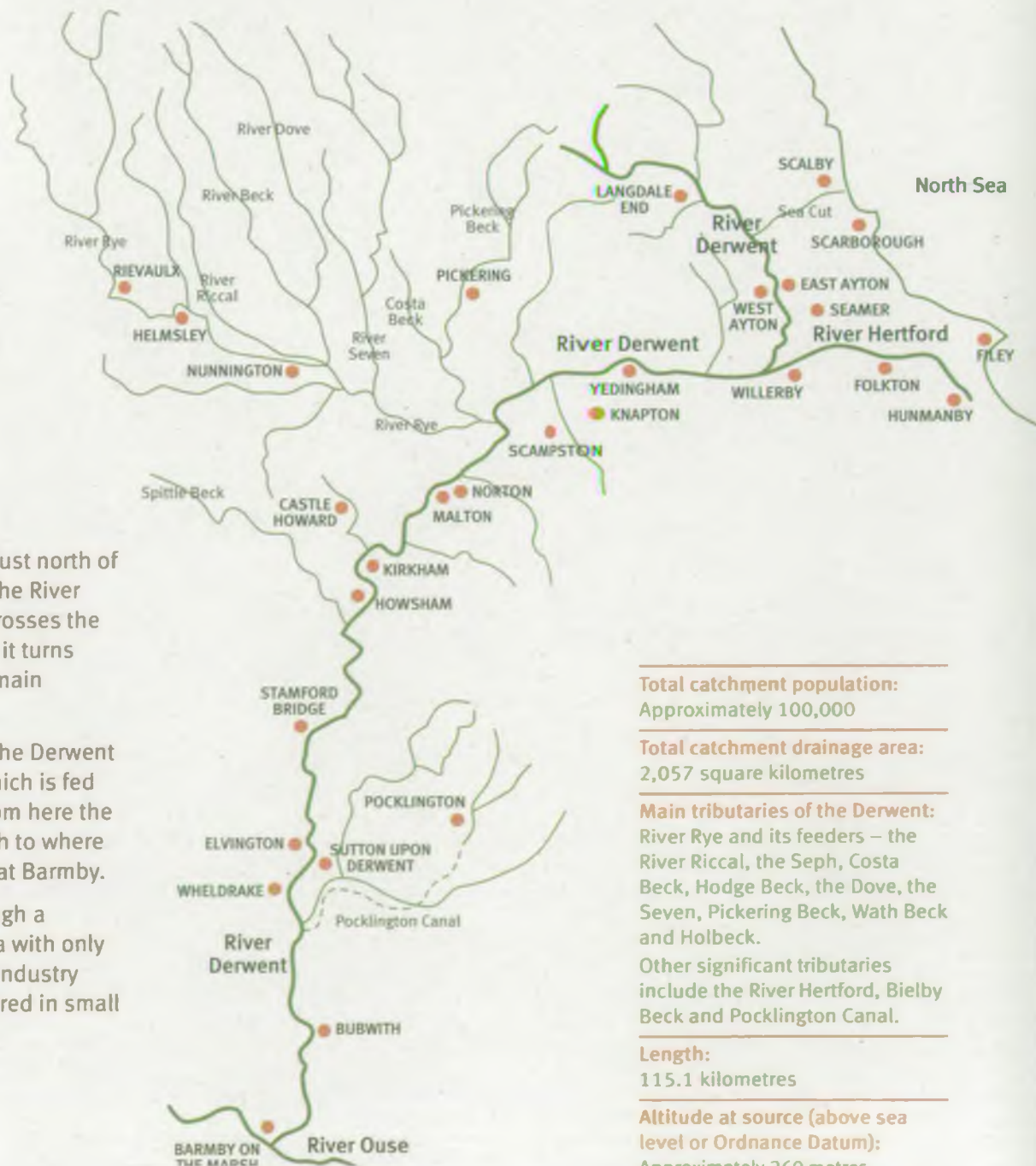
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The River Derwent rises on Fylingdales Moor and flows southwards across the North York Moors. The Sea Cut, a man-made channel, connects the Derwent to the North Sea near Scarborough.

The Derwent catchment



As the river turns west, just north of Willerby, it is joined by the River Hertford. The Derwent crosses the Vale of Pickering and as it turns south it is joined by its main tributary, the River Rye.

In the lower reaches of the Derwent is Pocklington Canal, which is fed by Pocklington Beck. From here the Derwent continues south to where it meets the River Ouse at Barmby.

The Derwent flows through a predominantly rural area with only a small amount of light industry and the population centred in small towns and villages.

Total catchment population:
Approximately 100,000

Total catchment drainage area:
2,057 square kilometres

Main tributaries of the Derwent:
River Rye and its feeders – the River Riccal, the Seph, Costa Beck, Hodge Beck, the Dove, the Seven, Pickering Beck, Wath Beck and Holbeck.

Other significant tributaries include the River Hertford, Bielby Beck and Pocklington Canal.

Length:
115.1 kilometres

Altitude at source (above sea level or Ordnance Datum):
Approximately 260 metres

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How clean are your rivers?

The rivers and tributaries in the Derwent area are mainly of high water quality. In the upper sections of the river and its main tributaries flow through the North York Moors, a sparsely populated moorland area with little industry other than farming and fish farming.

The overall rural nature of this river catchment means it has not faced the major problems of pollution from industry that other urban rivers have. It is still at risk and we have to keep a close eye on the potential problems all industries can cause.

Agricultural effluents pose a particular problem in rural areas and can have devastating consequences if they find their way into a watercourse.

Silage liquor, which is produced when farmers compress cut grass for winter feed, is around 300 times more polluting than untreated sewage. Cattle slurry is highly polluting and sheep dip chemicals cause problems even at low concentrations. A single pollution incident can cause the deaths of many thousands of fish.

Even the beauty of the landscape can bring its own problems, particularly during the summer months, when a substantial increase in visitor numbers can place considerable strain on undersized rural foul drainage systems.

The past decade has seen improvements in water quality in most rivers in the north of England thanks to tougher regulation and investment - and the Derwent is no exception to this.

Our officers will continue to work with water companies, the agricultural community, industry and

business to make sure the water quality of the Derwent is protected and, wherever possible, improved for future generations.

Water quality classification 2004

The River Derwent and its tributaries, 499.2km



- Class A – very good 49.9%
- Class B – good 37%
- Class C – fairly good 4.5%
- Class D – fair 6.3%
- Class E – poor 2.3%
- Class F – bad 0%

Class A and B rivers are of a high quality – clean enough for salmon and trout to live in and to be used for drinking water. They also support a variety of invertebrates (worms, insects etc) including mayflies and stoneflies.

Class C and D rivers are often home to coarse fish such as roach and chub and sometimes trout in C waters. These rivers can be used for drinking water if it is treated and a good variety of invertebrate life can be found.

Class E rivers can still support coarse fish but cannot be used for drinking water.

Class F rivers are badly polluted. Worms and midges can live in them but fish cannot.

Water company investment pays off case study

Major investment in the environment by Yorkshire Water since 1990 has had a dramatic effect on the quality of the region's rivers and coastal waters.

The benefits of these improvements are far-reaching. Our watercourses have seen an increase in fish stocks and other wildlife and some of our rivers have undergone a dramatic transformation.

This is good news for conservation and anglers. It is also good news for tourism, leisure and the general quality of life for people living in the region. The clean-up of coastal waters has been fundamental to the vital tourism revenue drawn into Yorkshire and for the fisheries which keep some coastal communities alive.

Many of the region's cities and towns have been able to turn to their waterfronts as an important source of economic development thanks to the clean-up of the rivers running through them, which has reduced unsightly and smelly sewage litter and improved water quality.

Water company investment is a vital part of ensuring we can protect and enhance the environment for present and future generations.

We continue our work to safeguard rivers, estuaries, underground waters and coastal waters, and work with other industries to reduce pollution and discharges to the environment.

Did you know you can check out the state of your local river by using our website?

By accessing the 'What's in your backyard' section you can choose any one of the 7,000 sites where our officers sample and test the water quality. All you need is a postcode or a place name. Check out your river at www.environment-agency.gov.uk.

“The high quality waters of the Derwent are home to a wide variety of fish, from the brown trout that dominate the fast flowing streams across the North York Moors to the considerable stocks of coarse fish in the lower reaches.”

Shaun McGinty, Environment Agency fisheries officer



Fisheries

As well as brown trout, the larger streams on the southern fringes of the North York Moors also support grayling and the area's spring-fed tributaries supply a number of fish farms producing both brown and rainbow trout.

South of the moors, where the gradients are gentler, there are some salmonids but coarse fish, especially chub, dace roach and gudgeon, dominate stocks. The Derwent is notable for its substantial stocks of pike and over recent years perch have become more numerous.

Between the confluence with the River Hertford and the town of Malton the lower sections of several tributaries have suffered from canalisation. This is where artificially straight channels have been created in the past to improve navigation. This has reduced the number of spawning, nursery and

over-wintering areas. In an effort to tackle this problem, fish havens have been created and the recently completed Malton flood defence scheme included work to benefit fish stocks.

We have also installed fish passes at Stamford Bridge and Kirkham Abbey to allow coarse and migratory stocks to overcome barriers and travel upstream to spawn.

Downstream of Sutton-on Derwent the main river used to be tidal but the installation of Barmby Barrage has largely eliminated salt water. As a result flounders have disappeared whilst fish favouring low flows, such as roach and perch, have increased.

All three British species of lamprey, a rare and protected fish, can be found in the Derwent catchment.

Wildlife and conservation



Rare and protected species, including otters, water voles and our native white-clawed crayfish, are to be found in this river catchment and work is taking place to protect them and their habitats. In the last century, around 17 species of plants and animals became extinct in the UK, emphasising the need to care for our native species and the areas in which they live.

The Derwent catchment is home to many sites of national and international importance for wildlife. The diverse countryside offers a range of habitats from open moorland in the upper catchment to lowland floodplain lower down the system.

In the upper catchment many of the tributaries start their journey in the North York Moors, much of which is designated as an internationally

important site for blanket bog, heathland and for its breeding birds. The River Derwent from the confluence with Rye Mouth is a Special Site of Scientific Interest for its wide variety of aquatic plants and insects. It is also designated for its internationally important species such as otters, lampreys and water crowfoot.

The Lower Derwent Valley, which includes the river and adjacent

floodplains, is recognised for a wide variety of wildlife interests including lowland hay meadows, over-wintering waterfowl and breeding wetland birds.

We are continuing our work with many other organisations to protect and improve these valuable habitats and the wildlife they attract.

More concentrated populations of **water voles** are found around the confluence of the Derwent and the Hertford.

Otter activity is regularly seen in Malton.

Native white-clawed crayfish are found in the upper catchment both in the Derwent itself (Forge Valley) and other tributaries such as the River Rye (Nunnington/Duncombe Park).

Lowland hay meadows in the lower Derwent valley are important for a variety of **birds, insects, wildflowers and grasses.**

Water crowfoot is found in faster flowing stretches such as Kirkham, the centre of Malton and on tributaries such as the River Rye.

The increasingly rare **greater water parsnip** are found in the lower Derwent valley.

Pollution watchdog

Pollution prevention and control is a vital part of our work. We are responsible for regulating many industrial processes to make sure they are not damaging the environment.

Major investment by industry over the past couple of decades, as well as much tougher limits on discharges to air, land and water, have all had benefits for the environment.

This work and investment is continuing throughout the Derwent catchment and will hopefully bring about further improvements in water quality and a reduction in pollution incidents.

But the work doesn't stop at big industrial processes. Other businesses and the farming community also need to be pollution aware. We work with all these sectors to highlight the simple ways they can help protect the environment and even save money at the same time.

Slurry and fertilisers can have a devastating effect on water quality, wildlife and fish stocks. Every year we have to deal with damaging incidents caused by inadequate storage facilities or poor working

practices.

Some of these are caused by the collapse of lagoon walls, leading to the release of slurry, which runs across land into watercourses and can wipe out fish stocks for miles downstream. Overfull slurry stores can also cause problems if heavy rainfall gets into them and they overflow.

Thankfully the picture is not all doom and gloom. Simple steps can prevent problems and we are working with farming organisations in a bid to wipe out bad practice and reduce damaging incidents.

You can find out more about our regulatory role and powers, as well as details of industry discharges, on our website at www.environment-agency.gov.uk. Find out what's being emitted from industrial sites in your area, including into controlled waters. Go to 'What's in Your Backyard' click 'search for other topics' and click on 'pollution inventory'.

Water source

Water is essential to life and we have a duty to make sure our water resources are used properly. To do this, our officers closely monitor water in the environment. Abstraction licences are issued to regulate who can take water from the environment and the amount that can be taken over a period of time.

The River Derwent is an important source of drinking water for much of Yorkshire, supplying towns and cities such as Hull, Leeds, York and Scarborough. The water is abstracted directly from the river and also from groundwater sources.

Scarborough is supplied from a borehole at Irton. The groundwater

at Irton is partially replenished via swallow holes in the River Derwent at Ayton. As such, Irton borehole is a major groundwater abstraction.

The major abstractions in the lower Derwent are for public water supply to meet demand from Yorkshire cities. A pipeline from Moor Monkton on the Ouse to Elvington treatment works on the Derwent

transfers river water from the Ouse to Elvington for treatment and then to South and West Yorkshire.

The major abstractions on the upper Derwent are for fish farms, which return the vast majority of the water to rivers.

Watching the waste



Every year more than 400 million tonnes of waste is produced in England and Wales, with about 25 million tonnes of this from households. All this waste has to be safely handled and disposed of.

The great bulk of waste at the moment is disposed of in landfills. When it breaks down it produces a liquid called leachate, as well as methane gas.

Landfill site operators have to make sure this liquid doesn't escape into groundwater or rivers by lining their sites with impermeable barriers.

We regulate the movement and disposal of waste through a system of licences. We also work with landfill site operators and other businesses to make sure that deposited waste does not pose a risk to the environment.

What's under your feet?



From its source in the North York Moors the Derwent and its tributaries flow over Corallian Limestone, from the Jurassic period.

In the southern part of the River Derwent, downstream of Stamford Bridge, the area is dominated by a Sherwood Sandstone aquifer, from the Triassic period.

To the east, the Sherwood Sandstone dips under the Mercia mudstone, also from the Triassic period.

Dealing with flood risk

Recent years have shown how communities across the UK are at risk of flooding. Climate change will probably increase this risk and so it is as important that people are aware of the steps they need to take to help protect themselves and their property if they live in a flood risk area.

We have invested heavily in both flood defence and flood warning systems throughout the Derwent catchment.

An unusual feature of the River Derwent is the Sea Cut, a man-made channel constructed in the nineteenth century which runs eastward from the Derwent at Mowthorpe to Scalby, north of Scarborough. During floods the majority of flood water from upstream is diverted down the Sea Cut into the North Sea.

Some of the more recent major flood defence schemes include Old Malton, Malton and Norton, completed in 2003, and Stamford Bridge, completed in 2004.

The towns suffered serious flooding in 1999 and 2000 and the new defences have increased the level of protection for homes and businesses in the area.

We also provide flood warning schemes for Pickering, Sinnington, Old Malton, Malton, Norton, Buttercrambe, Stamford Bridge, Elvington, Bubwith, Brighton, Kexby Bridge, Thorganby, Wressle, Scalby and Brackenholme. In the near future a new scheme is planned for West Ayton.

In a bid to tackle flood risk we are starting to look at the catchment as a whole, rather than communities in isolation.

The way land is managed in the uplands of a catchment has impacts much further downstream, and every development in the floodplain can have an effect on flood risk.

Alongside all this work and investment is the on-going maintenance of existing defences and general maintenance of watercourses, which all helps in the battle to reduce flood risk.

3,500 properties are at risk of flooding in the Derwent catchment.

42 per cent of these are in areas where the Environment Agency provides a flood warning service, with this number growing all the time.



Get the most from your rivers



Angling – The Derwent is popular for angling throughout much of its course between Barns Cliff, above Langdale End, and the confluence with the Ouse at Barmby. Fly-fishing for brown trout and winter grayling takes place as far downstream as East and West Ayton. Downstream of Malton the Derwent attracts mainly coarse fishermen. For more information get a copy of our North of England Angling Guide by contacting us on 08708 506 506.

Navigation/watersports – Pleasure craft use many sections of the Derwent and canoeists make use of fast water at Howsham Weir.

Walking – The Derwent area has many attractive walks and takes in part of the Cleveland Way, which starts at Helmsley Castle and passes through Rievaulx Abbey, and also part of the Yorkshire Wolds Way.

Useful contacts

Pickering Tourist Information Centre 01751 473 791

Scarborough Tourist Information Centre 01723 373 333

Would you like to find out more about us,
or about your environment?

Then call us on

08708 506 506 (Mon-Fri 8-6)

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or visit our website

www.environment-agency.gov.uk

incident hotline **0800 80 70 60** (24hrs)

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