

River factfiles

The Swale, Ure and Ouse 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
and the ground
Government and
environment cle

The Environment
a better place.

water you drink
business,
making your

your environment

 ENVIRONMENT AGENCY Information Services Unit	
Please return or renew this item by the due date	
Due Date	

Published by:

Environment Agency
Rivers House
21 Park Square South
Leeds LS1 2QG

Tel: 08708 506 506

Email: enquiries@environment-agency.gov.uk

www.environment-agency.gov.uk

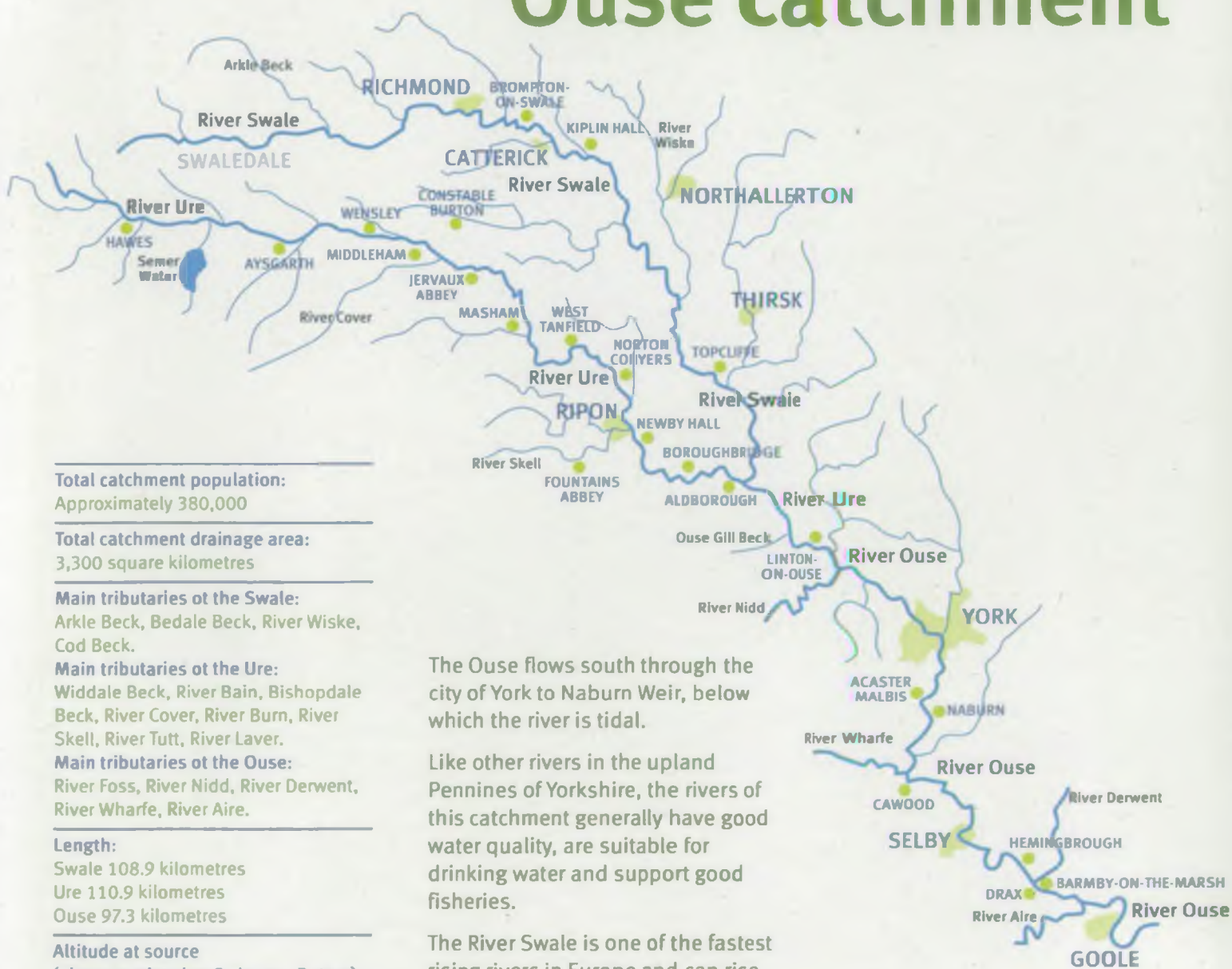
© Environment Agency

All rights reserved. This document may be reproduced with
prior permission of the Environment Agency.

The River Swale begins as a small series of becks on the Northern Pennines within the beautiful Yorkshire Dales National Park. It flows eastwards along Swaledale and passes through Richmond and Catterick before turning south eastwards to join the Ure at Boroughbridge.

The River Ure also rises on the Pennines just south of the Swale and becomes known as the River Ouse at the point where Ouse Gill Beck runs in.

The Swale, Ure and Ouse catchment



Total catchment population:
Approximately 380,000

Total catchment drainage area:
3,300 square kilometres

Main tributaries of the Swale:
Arkle Beck, Bedale Beck, River Wiske, Cod Beck.

Main tributaries of the Ure:
Widdale Beck, River Bain, Bishopdale Beck, River Cover, River Burn, River Skell, River Tutt, River Laver.

Main tributaries of the Ouse:
River Foss, River Nidd, River Derwent, River Wharfe, River Aire.

Length:
Swale 108.9 kilometres
Ure 110.9 kilometres
Ouse 97.3 kilometres

Altitude at source (above sea level or Ordnance Datum):
Swale 500 metres
Ure 640 metres
Ouse 25 metres

The Ouse flows south through the city of York to Naburn Weir, below which the river is tidal.

Like other rivers in the upland Pennines of Yorkshire, the rivers of this catchment generally have good water quality, are suitable for drinking water and support good fisheries.

The River Swale is one of the fastest rising rivers in Europe and can rise up to almost three metres in an hour. This gives it an erosive power.

ENVIRONMENT AGENCY



102030

How clean are your rivers?

The upper sections of this catchment are rural and the principal industries are livestock farming, tourism and mineral extraction – all of which exert their own pressures on the environment.

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

While the overall rural nature of this river catchment means it has not faced the problems of pollution from industry that other urban rivers have, it is still at risk. 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.

Within the urban area there are some significant industrial areas which discharge, or release, direct to the river or via sewage treatment works. These include the power generation sites, the food industry in and around York and a large industrial area in Selby.

Our officers will continue to work closely with all the industries in the Swale, Ure and Ouse catchment to protect the rivers and the life they support and wherever possible, bring about further improvements.

Water quality classification 2004

The River Swale, 370km



- Class A – very good 51.5%
- Class B – good 27.9%
- Class C – fairly good 17.3%
- Class D – fair 0%
- Class E – poor 3.3%
- Class F – bad 0%

The River Ure, 395km



- Class A – very good 29.8%
- Class B – good 29.8%
- Class C – fairly good 40.4%
- Class D – fair 0%
- Class E – poor 0%
- Class F – bad 0%

The River Ouse, 152km



- Class A – very good 0%
- Class B – good 60.4%
- Class C – fairly good 11.7%
- Class D – fair 8.4%
- Class E – poor 19.5%
- Class F – bad 0%

The River Ouse Estuary, 22.7km



- Class B – fair 100%

Estuary classification

Class A – good, Class B – fair, Class C – poor, Class D – bad

The classifications are based on:

Biological quality – presence of certain species of fish.

Aesthetic quality – evidence of aesthetic pollution e.g. sewage-derived litter.

Chemical quality – in terms of dissolved oxygen concentrations.

A score is allocated for each of these categories which are added to determine the overall class.

River classification

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.

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.

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 – and 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. This 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.

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 good quality river and groundwaters in the Swale, Ure and Ouse catchment provide a valuable source of water. There are six impounding reservoirs in the area, which are formed by constructing a dam across the river to store water for public use.

In addition to the reservoirs, water is also taken for public water supply directly from the River Ouse. The groundwaters of the catchment also provide valuable water for both domestic and agricultural use.



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.



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 Swale, Ure and Ouse catchment is home to many sites of national and international importance for wildlife. The diverse countryside offers a range of habitats from moorland and grassland to limestone, gritstone and shale geology and the associated plants and animals found there. The Swale supports large mobile gravel shoals which are potentially important nesting sites for certain birds and habitat for invertebrates.

We continue to work with many other organisations to protect and improve habitats and the wildlife they attract. This includes work with landowners and other interested parties to try to control the spread of invasive plants, such as Japanese knotweed, which is firmly established on the middle Swale, and giant hogweed, a problem for the lower Ure.

Otters are found on the Ure, just north of Ripon.

Native white clawed crayfish live in the Ure north of West Tanfield.

Sand martins are present on the lowland section of the whole catchment.

Kingsfishers are found on the Swale south of Northallerton and **plovers** on the Swale south of Richmond.

River shingle beetle (*bembidion testaceum*), listed as a high priority nationally, are found on the Swale south of Northallerton.

Tansy beetle are found on the Ouse near York.

Water voles are present on the Foss at York.

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 Swale, Ure and Ouse 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 as very simple steps can prevent problems and we are working with farming organisations in a bid to wipe out bad practice and reduce damaging incidents.

Saving a precious resource case study

Investment at a Selby paper company to find ways to reduce the amount of water it uses will have knock-on benefits for the River Ouse.


Rigid Paper Limited has invested £125,000 in equipment to reduce the volume of water used at the site. It includes two large buffer tanks, which will collect and balance water from the

papermaking machines, a new drum thickener and a centrifuge, to extract and re-use water from the sludge, which would normally be disposed of.

The company has also spent £500 on new high pressure/low volume spray nozzles to wash its storage vessels. New water meters will monitor the reduction in the amount of water used and

these meters will also be used to pinpoint other areas across the site where water use can be reduced.

All this means less water needs to be taken from the Ouse, which benefits the environment, especially in times of drought. For the company, the investment will ultimately lead to a fall in its water costs.



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'.

“Recent years have seen growing numbers of young salmon in the River Ure which shows the natural recovery of stocks is continuing. This is due mainly to Environment Agency and local industry efforts to reduce pollution in the tidal River Ouse.”

Paul Frear, Environment Agency fisheries scientist



Fisheries

The Ure

Salmon once thrived in the River Ure but their numbers declined in the 1940s as a result of industrial pollution. Thankfully, improvements in the water quality of the tidal Ouse have had positive knock-on effects with increasing numbers of salmon parr found in the main River Ure below Aysgarth, where the falls act as a natural barrier to migratory fish.

The upper sections of the Ure are home to brown trout and grayling and further downstream coarse fish become more abundant. Chub and dace predominate around Ripon and roach, perch, bream and pike become more abundant in the slower, deeper waters towards Boroughbridge.

The Swale

The upper sections are home to brown trout and grayling. Barbel, chub and dace thrive at Brompton-on-Swale and common bream have been introduced to the area for angling. Gudgeon and roach are found above Topcliffe Weir and further downstream predatory species such as perch and pike are common.

The Ouse

Recent years have seen the return of sea lampreys to the Ouse, which highlights the improved water quality. The Ouse also supports large numbers of coarse fish of many different species and provides the corridor for salmon returning to the catchment.

What's under your feet?



The craggy limestone scenery of the Yorkshire Dales in Swaledale and Wensleydale is produced by Carboniferous Limestone, which is between 280 and 360 million years old. The rocks get progressively younger moving down river from the Dales.

As the Ouse flows through the Vale of York, the rocks become Permo-Triassic, between 213 and 286 million years old. This is in turn overlain on the eastward side of the Vale of York by the Mercia mudstone and Jurassic Lias, which is between 144 and 213 million years old.

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 as ever 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 Swale, Ure and Ouse catchment.

To help protect householders and businesses, there are a range of defences around the catchment. These include flood embankments, flood walls and numerous washlands and flood storage areas, which help reduce flood levels downstream. Recent years have seen major schemes at Selby and Barlby and improvements to defences in York, Cawood and Kelfield.

Because so many rivers converge on the Ouse from this large catchment,

the city of York is vulnerable to severe flooding. Many different schemes are in place to help protect the city, including the Foss Barrier. This is across the River Foss, immediately upstream of its confluence with the Ouse in the city.

When the Ouse rises to a critical level the barrier can be lowered until the water recedes. This prevents backflow up the Foss, which could flood the city. Water from the Foss itself is pumped around the barrier into the Ouse further downstream.

Alongside all this work and investment, is the on-going

maintenance of existing defences and general maintenance of watercourses.

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.

16,500 properties are at risk of flooding in the Swale, Ure and Ouse catchment.

80 per cent of these are in areas where the Environment Agency provides a flood warning service and this number is growing all the time.

Get the most from your rivers



Walking – A cycleway follows the Ouse along floodbanks between Hemingbrough and Barmby-on-the-Marsh. This is part of the trans-Pennine trail linking Liverpool and Hull.

Angling – There are numerous angling opportunities throughout the river catchment. For more information get a copy of our North of England Angling Guide by contacting us on 08708 506 506.

Navigation – The River Ouse and River Ure are navigable as far up as Ripon. The tidal Ouse is navigable and used for shipping as well as recreational purposes such as waterskiing and windsurfing.

Canoeing and rowing – The main canoeing activities take place on the Ure between Masham and Sleningford Mill and on the Swale at Richmond. Rowing is traditional in York and there are dinghy sailing clubs at Acaster Malbis and Naburn.

Useful contacts

Aysgarth Falls Tourist Information Centre 01969 663 424 aysgarth@ybtic.co.uk

Boroughbridge Tourist Information Centre 01423 323 373

Hawes Tourist Information Centre 01969 667 450

Northallerton Tourist Information Centre 01609 776 864

Richmond Tourist Information Centre 01748 850 252

Ripon Tourist Information Centre 01765 604 625

Selby Tourist Information Centre 01757 703 263

York Tourist Information Centre 01904 554 488 kg@york-tourism.co.uk

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

Then call us on

08708 506 506 (Mon-Fri 8-6)

email

enquiries@environment-agency.gov.uk

or visit our website

www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)

floodline 0845 988 1188



Environment first: This publication is printed on paper made from 100 per cent previously used waste. By-products from making the pulp and paper are used for composting and fertiliser, for making cement and for generating energy.