

NRA Thames 169

fact File

RIVER WINDRUSH



GUARDIANS OF THE WATER ENVIRONMENT



NRA

*National Rivers Authority
Thames Region*

Fact File - RIVER WINDRUSH

FACTS IN BRIEF

- The Windrush rises in the Cotswolds approximately 4km north of the village of Temple Guiting. It flows south for 8km to Naunton and then in a south easterly direction through Bourton-on-the-Water and Burford to the fast growing town of Witney before reaching its confluence with the Thames at Newbridge.
- The Windrush catchment covers an area of 365 square km.
- The average rainfall in the Windrush catchment is 770mm.
- The fall in the river from its source to its confluence with the Thames is 167m.
- From its source to its confluence with the Thames it is approximately 73km long.
- Tourism is a major industry in this area, and Eye and the Windrush are central features of the attractive villages of Upper and Lower Slaughter and Bourton-on-the-Water.
- Historically the area was famous for the locally produced blankets, the whiteness of which was attributed to the quality of the river water and the local clay. At one time there were as many as 20 mills operating on the river, milling corn, spinning wool and fulling the cloth.

THE NATIONAL RIVERS AUTHORITY

Established on 1st September 1989, the NRA is an independent public body charged with safeguarding and improving the natural water environment. It is responsible for flood defence, regulating the quality of rivers and groundwaters, balancing the needs of various water users, protecting and improving fish stocks and promoting water-based recreation of all kinds. The NRA is committed to improving wildlife habitats and conserving the natural environment in all it undertakes.

PLANNING LIAISON

The NRA works with local planning authorities to protect the Windrush catchment from undesirable development.

DISCHARGES

The following are the major discharges into the Windrush and its tributaries. The figures given are the maximum amount permitted to be discharged.

Discharge	Cubic Metres per Day	Type of Effluent
WINDRUSH		
Windrush Trout Farm	300	Fish Farm
Burford STW	3000	Sewage effluent
Smith & Sons, Gill Mill	13637	Mineral
Smiths Gravel Stanton Harcourt	3840	Mineral
DIKLER		
Waterhead Barn Fish Farms	2500	Fish Farm
Bourton-on-the-Water STW	7560	Sewage effluent
COLWELL BROOK		
Witney STW	19200	Sewage effluent

Due to the rural nature of the catchment, there are a number of small sewage treatment works serving isolated settlements, schools and public houses. These are all monitored by NRA staff based in Oxford.

WATER QUALITY

The upper reaches of the Windrush and its main tributary, the Dikler are fed with high quality water from springs in the Cotswolds. Water quality is good throughout the length of the Windrush and its main tributaries. The rivers flow through a predominantly rural area and are popular with fishermen in pursuit of the native Brown Trout. Water is abstracted from the Windrush at Worsham downstream of Burford, to supply drinking water to the market town of Witney and the surrounding area. The effluent from the sewage treatment works serving Witney is the largest single discharge in the catchment and influences the quality of the Colwell Brook and Emma's Dyke.

There are 21 regular river sampling points within the Windrush catchment.



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WATER QUALITY OBJECTIVES

From	To	Length Km	Objective
WINDRUSH			
Taddington	Worsham	49.3	1A (Good)
Worsham	Thames	24.0	1B (Good)
DIKLER			
Source	Windrush	12.2	1A (Good)
EYE			
Chalk Hill	Dikler	9.9	1A (Good)
RISSINGTON DITCH			
Little Rissington	Great Rissington STW	2.0	E*
Gr. Rissington STW	Windrush	1.1	1B (Good)
HAZLEFORD BROOK			
Source	Windrush	8.8	1A (Good)
SHOWELLS BROOK			
Source	Priest Hill	1.0	E*
Priest Hill	Windrush	1.1	2B (Fair)
COLWELL BROOK			
Source	Witney STW	1.4	1B (Good)
Witney STW	Emma's Dyke	0.7	3 (Poor)
EMMA'S DYKE			
Witney	Colwell Brook	1.5	2B (Fair)
Colwell Brook	Ducklington	0.2	3 (Poor)
Ducklington	Windrush	0.5	2B (Fair)

E* - Ephemeral: stream is regularly dry. When flowing it should comply with the objective of the downstream reach.

BIOLOGY

The River Windrush and its tributaries are regularly sampled by biologists from the NRA.

This sampling shows that the majority of the catchment (the Dikler, Eye and Windrush) is of a very high biological quality. 30 to 40 different invertebrate families, including many species of pollution-sensitive mayfly and caddis-fly larvae, as well as the native crayfish are found throughout.

The tributaries in the vicinity of Witney such as the Emma's Dyke and Colwell Brook are of a lower quality and support as few as 6 invertebrate species. Such pollution-tolerant communities are typified by the presence of fresh water shrimps and water hog-lice.

WATER RESOURCES

The River Windrush derives most of its flow from springs and seepages rising from the water table in Oolitic Limestone beds. Some flow will also be derived from direct run-off from roads, paved areas and areas of clay soil. More than half the rainfall is lost through evaporation and the growth of plants. The remainder provides the water resource which in this catchment amounts to 337Ml/d (million litres per day). This water must be shared between the flow of the river to support the natural environment and the community's need for water supplies to homes, industry and agriculture.

In order to ensure that there is sufficient information on river flows, the NRA carries out regular measurements and has a number of fixed gauging stations. There are two such sites on the Windrush, at Worsham and just above the confluence with the Thames at Newbridge.

ABSTRACTIONS

Water can only be abstracted from rivers or groundwater under licence granted by the NRA. In the Windrush catchment both the river itself and groundwater are used as sources of water. Total licenced abstraction amounts to 32 Ml d, about 10% of the average available resource. Much of the water abstracted is returned to the river through sewage treatment works.

All abstraction licences specify the maximum amount of water which may be taken and they are regularly checked by the NRA's Licence Inspectors.



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TRIBUTARIES

The Dikler rises at Donnington and meets the Windrush just below Bourton-on-the-Water. The Eye has its source near Eyford Park and flows through the Slaughters to join the Dikler just above Bourton-on-the-Water. The Sherbourne Brook rises just west of Sherbourne and has its confluence with the Windrush at Little Barrington.

FISHERIES

The Windrush is an EC-designated salmonid fishery from Henfold Bridge to the River Thames. It was part surveyed by the NRA fisheries department in 1986 and 1989. Results showed that for much of its length, good numbers of brown trout, grayling and stocked rainbow trout were present. In some areas past dredging has resulted in a poor habitat quality and a limited overall biomass.

Below Burford, coarse fish such as chub, barbel, roach and dace become more dominant. Low flows following a series of dry winters have had a marked impact particularly in the reach between Worsham and Witney.

FLOOD DEFENCE

Reducing the risk of flooding from the Windrush and its tributaries on a day-to-day basis and planning major flood defence projects in the Windrush catchment forms part of the NRA Thames Region's work. The NRA's river control room at Reading keeps around the clock check on weather conditions and river levels. Staff interpret the information and give the local emergency services early warning of possible floods.

A flood defence team is based at Oxford to carry out regular river maintenance work. This includes dredging, weedcutting, and removal of blockages. This team is mobilized during flood emergencies to keep rivers clear of obstructions so that flood waters can be conveyed away as quickly as possible. They also provide assistance to environmental quality staff in cleaning up after pollution incidents.

The NRA is committed to protecting and improving the natural river environment and wherever possible our flood defence work includes features of environmental conservation and enhancement.



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