

# 8 River Quality



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This contextual indicator measures the biological and chemical quality of rivers. Three of the sampled rivers fall largely within the Forest boundary (the Mease, Swarbourn and Sence) whilst the Trent has only a short stretch of its overall length. There are many factors that affect river quality. Over time, land management through the Forest's creation will help to reduce nitrate and fertiliser run off and soil erosion into rivers. It will also help to improve riparian wildlife habitats.

In 2007, England gathered General Quality Assessment (GQA) data using a smaller monitoring network than in previous years. Since then, water quality has been classified under the new Water Framework Directive (WFD)<sup>1</sup>. Work is now underway to incorporate this new classification into national river quality indicators<sup>2</sup>.

- As water quality is now classified under the WFD, it is not possible to directly compare new monitoring results for rivers against the GQA data (chemical and biological quality) gathered for the previous report.
- The WFD looks at the ecological health of stretches of rivers, as well as traditional chemical standards. Rivers are now classified according to their overall ecological status, as being high, good, moderate, poor or bad quality.

## ECOLOGICAL QUALITY

- Over the period 2006 – 2008, using the new WFD measure, the ecological status of rivers in the Forest area was rated as follows:<sup>3</sup>

### Ecological status of National Forest rivers, 2006 – 2008<sup>3</sup>

Water body	Overall Ecological classification
River Mease*	Moderate
River Swarbourn	Moderate
River Trent**	Poor
River Sence	Bad
Gilwiskaw Brook***	Poor

*The following rivers are classified along two stretches within The National Forest:*

\* *The River Mease: i) Gilwiskaw Brook to Hooborough Brook and ii) Hooborough Brook to the River Trent.*

\*\* *The River Trent: i) Moreton Brook to River Tame and ii) River Mease confluence to River Dove.*

\*\*\* *The Environment Agency recommends that the Gilwiskaw Brook is included in the analysis as it represents a significant part of the River Mease Special Area of Conservation (SAC).*

- It is difficult to compare 2005 GQA results with 208 WFD results, as while there has been an apparent deterioration in the Rivers Mease, Swarbourn, Trent and Sence, this is the result of changes to the grading system under the WFD<sup>4</sup>.
- In 2006, sections of the River Mease and Gilwiskaw Brook (which were notified as a Site of Special Scientific Interest in 2000) were designated as a Special Area of Conservation for their populations of spined loach and bullhead fish, white clawed crayfish and otters. The River Mease is one of only a handful of water bodies in the UK where the spined loach currently exists.

## BIOLOGICAL QUALITY

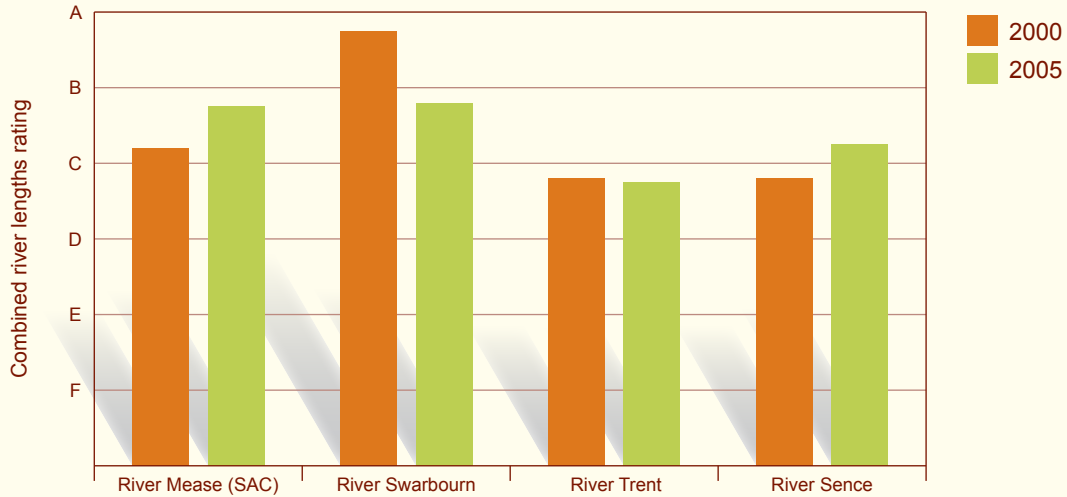
- In 2008, 72% of all English river lengths were recorded as being of good biological quality<sup>2</sup>. Rivers in the Midlands fell below this national average: 70% for the East Midlands<sup>5</sup> and 57% for the West Midlands<sup>6</sup>. However, it should be noted that in the East Midlands this represents a significant improvement in quality compared with figures for 1990, when just 43% of rivers were rated good. This is the highest regional increase in England.

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- In 2005, using the GQA data, 55% of the river lengths along the Mease, Swarbour, Trent and Sence in the Forest area were rated as having good biological quality<sup>7</sup>.

**\*Biological Quality of rivers in The National Forest, 2000 – 2005<sup>7</sup>**

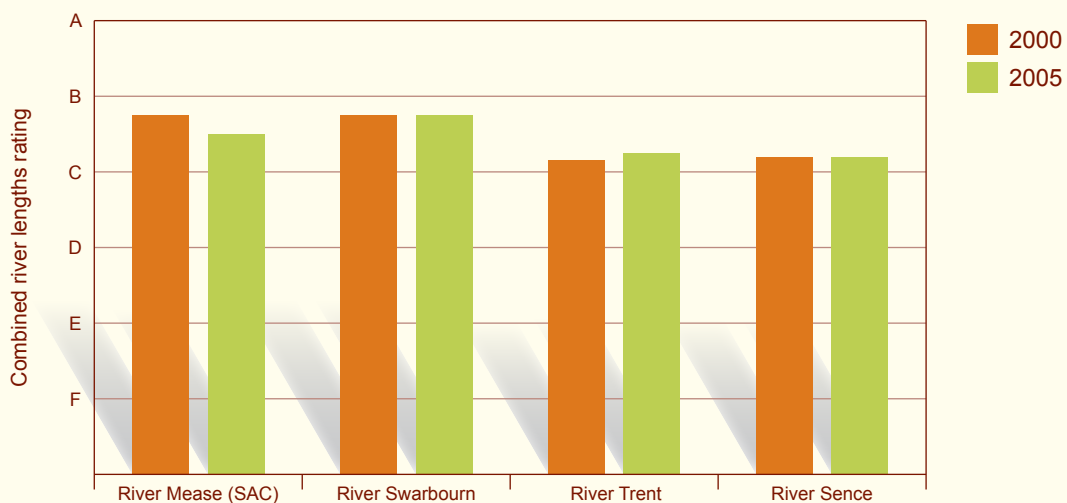


*\*Using GQA data; from the SD report 2007. (EA recommend inserting the same diagram from the SD report 2007, as this was the last update using biological GQA data, and shows status before WFD).*

**CHEMICAL QUALITY**

- In 2008, 79% of English river lengths were recorded as being of good chemical quality<sup>2</sup>. Once again, rivers in the Midlands fell below this national average: East Midlands 77%<sup>5</sup> and West Midlands 73%<sup>6</sup>. But, as with biological quality, the proportion of river lengths in the East Midlands classed as having good chemical quality showed the greatest improvement in England, increasing by 43 percentage points since 1990.
- In 2005, using the GQA data, 67% of the river lengths along the Mease, Swarbour, Trent and Sence in the Forest area were of good chemical quality<sup>7</sup>.

**Chemical Quality of rivers in The National Forest, 2000 – 2005<sup>7</sup>**



**\* ACTION:**

- 1) Work with the Environment Agency (EA) and landowners to achieve sustainable land management along river corridors and enhance riparian habitats.
- 2) Monitor National Forest river quality fully in 2015, when the EA meet Water Framework Directive objectives for first River Basin Management Plans.

**DATA SOURCES:**

- 1) Details of the Water Framework Directive are available from the Environment Agency at: [www.environment-agency.gov.uk/research/planning/33106.aspx](http://www.environment-agency.gov.uk/research/planning/33106.aspx)
- 2) From Defra website: [www.defra.gov.uk/sustainable/government/progress/national/30.htm](http://www.defra.gov.uk/sustainable/government/progress/national/30.htm)
- 3) Humber Basin Water Framework Directive from: <http://wfdconsultation.environment-agency.gov.uk/wfdcms/en/humber/Intro.aspx>
- 4) Environment Agency pers. comm. [2010].
- 5) East Midlands factsheet from Defra website: [www.defra.gov.uk/sustainable/government/progress/regional/documents/east\\_midlands\\_factsheet.pdf](http://www.defra.gov.uk/sustainable/government/progress/regional/documents/east_midlands_factsheet.pdf)
- 6) West Midlands factsheet from Defra website: [www.defra.gov.uk/sustainable/government/progress/regional/documents/west\\_midlands\\_factsheet.pdf](http://www.defra.gov.uk/sustainable/government/progress/regional/documents/west_midlands_factsheet.pdf)
- 7) Environment Agency Monitoring data [2006].