

## Isle of Man River Water Quality to Spring 2005

### **Introduction**

In 2002 the Government Laboratory prepared a detailed report entitled "River Water Quality 2000", based on a three year cycle of data collection. A simple summary report was published subsequently in March 2005 showing data to 2003, though on a less comprehensive basis.

This present report extends the data to include the latest available, that for Spring 2005, to allow assessment of the river water quality against the Department of Local Government and the Environment's Key Performance Indicator, that 98% of all monitored rivers on the Island should achieve fair or above in respect of both biological and chemical qualities.

It is noted that whereas biological sampling in 2004 was restricted to a single season, limiting the assessment that could be made, sampling returned to normal in 2005. At the time of preparing this current report the assessment of data from the Autumn 2005 samples is still in progress. Once completed a comprehensive report similar in detail to that prepared for the data to 2000 will be prepared. Current plans are to maintain no less a thorough monitoring programme in 2006 and beyond.

### **Biological Water Quality**

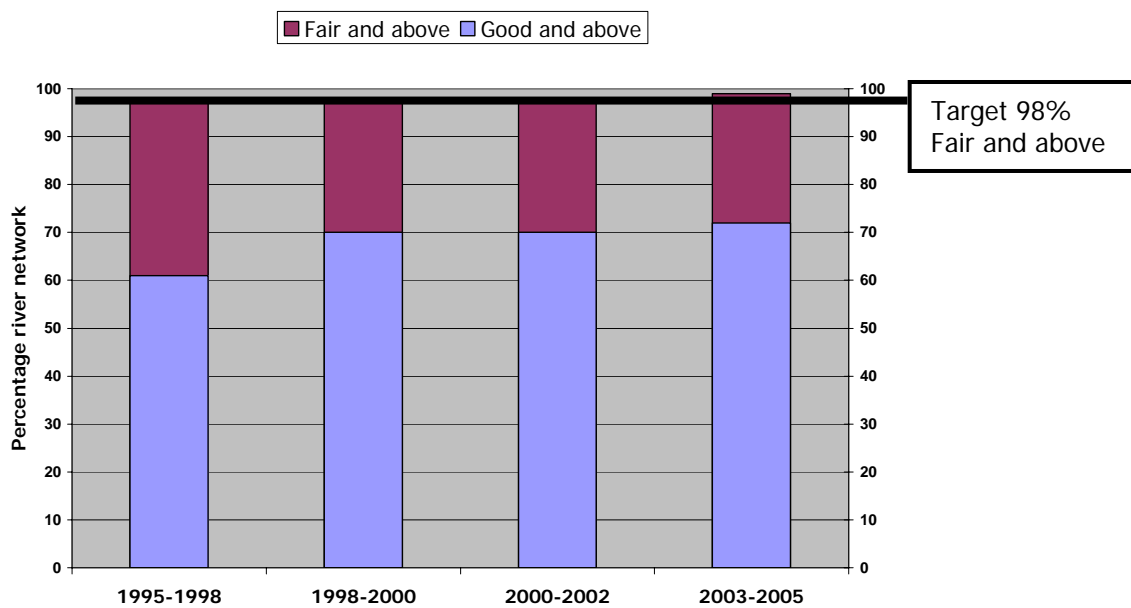
The biological assessment of water quality is based on the macro-invertebrate communities of rivers. Macro-invertebrates are animals such as mayflies, snails, shrimps and worms. These animals respond to everything contained in the river water (including pollutants occurring infrequently or in low concentrations) as well as physical damage of their habitat. Therefore, their use as a measure of water quality supplements regular chemical monitoring, which may miss such environmental impacts.

In the latest 3 year monitoring period, from spring 2003 up to and including spring 2005, 99% of Manx rivers were of fair or above biological quality, as shown graphically in Figure 1 and in tabular form in Table 1. Indeed, 72% of Manx rivers

were good and above biological water quality, supporting rich, and diverse animal communities requiring water very low in organic pollution.

These latest figures represent a general increase in quality on all previous sampling periods, and compare favourably with the U.K., where 71% of English/Welsh rivers and 51% of Northern Irish rivers were good or above quality in 2004. (No comparable 2005 data for the UK are available yet.)

**Figure 1. Percentage of monitored river length achieving fair or above biological quality 1995 – 2005 as measured by river water analysis**



**Table 1. Percentage of monitored river length achieving different biological water quality classes**

Water quality class	1995-1998	1998-2000	2000-2002	2003-2005
Very good	21	22	30	56
Good	40	48	40	16
Fairly good	27	20	18	17
Fair	10	7	10	10
Poor	2	3	2	1

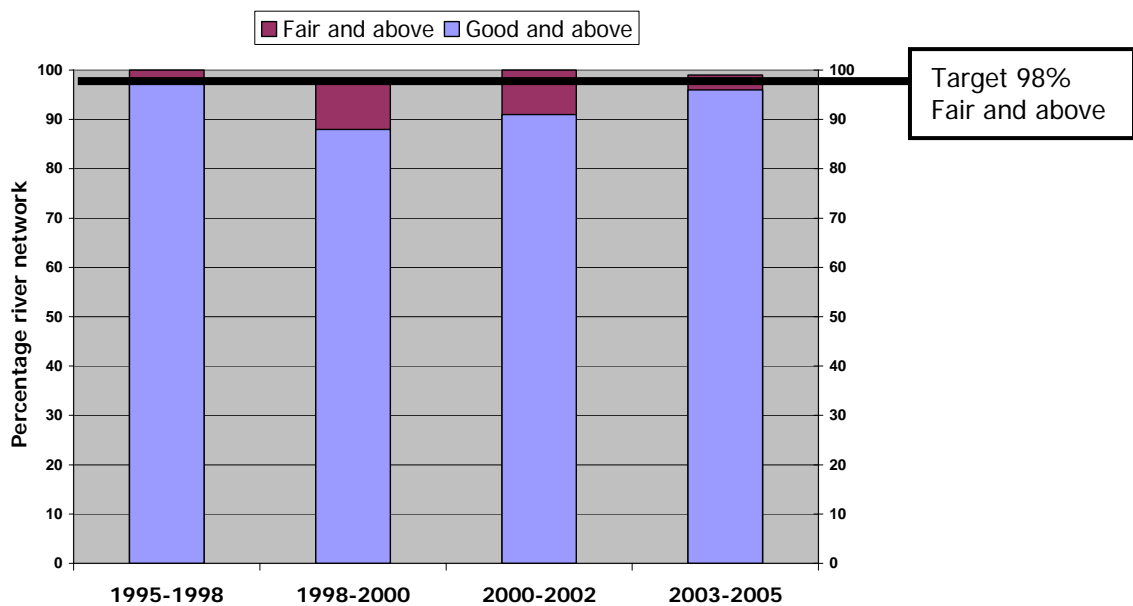
## Chemical Water Quality

Chemical water quality, as defined for monitored river sites, is derived from combined measures of dissolved oxygen, biochemical oxygen demand and ammonia and is used as a general indicator of organic pollution.

In the latest 3 year monitoring period, commencing spring 2003 up to and including spring 2005, 99% of Manx rivers were of fair or above chemical quality as shown graphically in Figure 2 and in tabular form in Table 2. Indeed, 96% of Manx rivers were good and above water quality, indicating rivers with little organic pollution, ecosystems at or close to natural and many able to support salmonid fisheries.

As with the biological quality, this situation compares very favourably with the U.K., where only 65% of English/Welsh rivers and 58% of N. Irish rivers achieved this good or above quality class in 2004. (No comparable 2005 data for the UK are available yet.)

**Figure 2 Percentage of monitored river length achieving fair or above chemical quality 1995 – 2005 as measured by river water analysis**



**Table 2. Percentage of monitored river length achieving different chemical water quality classes**

<b>Water quality class</b>	<b>1995-1998</b>	<b>1998-2000</b>	<b>2000-2002</b>	<b>2003-2005</b>
<b>Very good</b>	<b>83</b>	<b>74</b>	<b>69</b>	<b>84</b>
<b>Good</b>	<b>15</b>	<b>14</b>	<b>22</b>	<b>12</b>
<b>Fairly good</b>	<b>2</b>	<b>10</b>	<b>6</b>	<b>1</b>
<b>Fair</b>			<b>3</b>	<b>2</b>
<b>Poor</b>		<b>2</b>		<b>1</b>

### **Conclusion**

The latest results from Spring 2005 generated by the Government Laboratory confirm that the Key Performance Indicator (KPI) target for 98% of all monitored rivers on the Island to achieve fair or above biological and chemical qualities has been maintained successfully since monitoring began in 1995.

Isle of Man Government Laboratory

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