Water quality

Why is water quality important?

Kent's marine waters are important to us for many reasons. The success of wildlife, fisheries, tourism, recreation and business all need healthy and productive seas and this cannot be achieved if the water is not clean.

Unclean seawater is a hazard to bathers, potentially causing illnesses such as diarrhoea and gastroenteritis and affecting anyone taking part in marine-based recreation. Dirty water also deters visitors. The quality of the water can therefore have a significant impact on economies which depend on tourist incomes.

As well as threatening bathers, polluted sea water can significantly affect the marine life. Poor water quality can impact a marine animals ability to reproduce, feed and cope with the general pressures faced through living in the dynamic marine environment. This not only affects the biodiversity of our seas but also the fish stocks on which fishing industry depends.

What causes poor water quality?

There are a number of causes of poor water quality on the coast, including:

- Point source pollution, arising from an identifiable and localised area, structure or facility, such as a discharge pipe.
- Diffuse source pollution, originating from various activities that cannot be traced to a single source, such as agricultural and urban run-off.
- Combined sewerage systems that can overflow into surface water during heavy rainfall.

In recent years much effort has been made to reduce pollution arising from point source discharge and attention has turned to managing agricultural and urban activities that may result in diffuse pollution. Combined sewerage systems can have a significant effect on coastal waters, as heavy rain can result in an overflow discharging untreated sewage to bathing waters causing contamination of bathing waters. It is often the case that the quality of bathing waters will be better during dry weather periods.

Why monitor water quality?

Because water quality can have serious effects on human health it is important to monitor water quality to ensure it is safe for humans to bathe. It is also important to monitor the progress being made to clean up the seas to assess the measures being taken to improve the water quality and reduce sources of water pollution, for the benefit of both humans and marine life.

The monitoring of bathing water is just one aspect of this ongoing assessment of water quality and is explained in more details overleaf.

Facts and figures

- Water quality is vital to the sustainability of our coastlines.
- Point source pollution, diffuse pollution and overflow from sewerage systems all degrade the quality of our coastal waters.
- Bathing water is monitored every year, throughout May to September.
- Kent has 27 designated bathing waters.
- Bathing water quality in Kent is showing continual improvement -
    - In 1990 none of Kent's bathing waters met the stricter bathing water guideline standard and only 63% met the mandatory guideline.
    - 10 years ago, 20% of bathing waters met the stricter bathing water guideline standard and 75% met the mandatory guideline.
    - 2004 figures showed an improvement over the past 10 years, with 20 sites meeting the guideline standard and all but one site meeting the mandatory standard.
    - Figures for 2005 improve on this further, with 25 sites meeting the guideline standard and all meeting the mandatory standard excluding faecal streptococci.
- In 2004 98% of the bathing water samples from the Southern North Sea complied with the mandatory value, 58% with the guideline value.
- Despite all efforts to improve water quality sometimes natural events such as heavy rainfall can result in a poor test result.
- Quality results show that the continual monitoring of bathing waters and the regulation of standards through the Bathing Water Directive have led to an improvement of water quality.

How is bathing water monitored?

The Bathing Water Directive (76/160/EEC) was designed to protect the public from accidental and chronic pollution incidents, which could cause illness from recreational water use. Under the Bathing Water Directive, member states are obligated to designate coastal and inland bathing waters and to monitor the quality of water throughout the bathing season.

The Environment Agency is responsible for monitoring bathing water in England and Wales, taking water samples from 485 coastal areas and 9 inland designated bathing water areas in England and Wales. These are collected two weeks before the bathing season starts (15 May) and regularly from then until the end of September. The samples are analysed and the data is used to classify bathing waters as excellent, good or poor. Bathing waters are monitored for total coliform bacteria and faecal coliform bacteria which are an indicator of the presence of traces of human sewage. Twenty samples are taken at each site at weekly intervals from pre-determined points about 30cm below the surface (additional surface samples may be taken to test for mineral oils).

In order for a bathing water to comply with the Directive, 95% of the samples must meet, in addition to other criteria, the following mandatory standards:

- No more than 10,000 total coliforms per 100 millilitres (ml) of water
- No more than 2,000 faecal coliforms per 100ml of water

The guideline standards, which should be achieved where possible, are:

- no more than 500 total coliforms per 100ml of water in at least 80% of the samples
- no more than 100 faecal coliforms per 100ml of water in at least 80% of the samples
- and for Blue Flags no more than 100 faecal streptococci per 100ml of water in at least 90% of the samples

Bathing waters analyses are also made on the basis of other standards contained in the EC Directive. Two samples are analysed for the presence of enteroviruses, and two samples for the presence of salmonellae, at any site that failed the mandatory coliform standards in the previous year.

Designated bathing waters in Kent

Kent has 27 bathing water sample points along its coast, as shown across and listed below. Sample points are concentrated on areas where the most bathing takes place - hence the high density of sample points around the Isle of Thanet.

Key: • Bathing water sample point

Designated bathing waters:

- Botany Bay
- Broadstairs
- Deal Castle
- Dymchurch
- Folkestone
- Herne Bay
- Herne Bay Central
- Hythe
- Joss Bay
- Leysdown
- Littlestone
- Margate Fulsam Rock
- Margate The Bay
- Minnis Bay
- Ramsgate
- Ramsgate Main Sands
- Sandgate
- Sandwich Bay
- Sheerness
- St Margaret`s Bay
- St Mary`s Bay
- St Mildred`s Bay
- Stone Bay
- Walpole Bay
- West Beach
- Westbrook Bay
- Westgate Bay

Bathing water quality for Kent in 2005

The bathing water quality results for 2005 show that 25 sites have met the European Commission's strict guideline standard and all 27 have met the mandatory standard, excluding faecal streptococci.

This means that bathing water quality in Kent has shown an improvement in the last year, when, in 2004, only 20 met the guideline standard, although all but one site met the mandatory standard.

Sources of information:

- www.environment-agency.gov.uk/yourenv/eff/1190084/water/213925/bathing/?version=1&lang=_e#
- www.vliz.be/projects/SAIL/