

Cleaning up Europe's bathing waters

October 7 2013, by Anthony King



By investigating health risks associated with bathing waters, scientists are contributing to future reviews and revision of the EU's Bathing Water Directive.

Europe's bathing water has come a long way in the last few decades. Especially since the EU Bathing Water Directive in 1976, countries have worked to eliminate sewage contamination in the waters we swim or paddle in. David Kay, water quality expert and head of the Centre for Research into Environment and Health at Aberystwyth University in Wales, UK, has studied the disease causing organisms in European waters since the 1970s. More recently, he also helped to quantify their

health effects on people. Here, he tells youris.com about progress in bathing water qualities over the past four decades.

What kind of harmful diseases can lurk in our bathing waters?

You can get some fairly common, but minor ailments like gastroenteritis and winter vomiting bug [also known as norovirus]. These virus infections are generally not life threatening. But they could have economic significance and be an uncomfortable experience for holidaymakers. There are quite high attack rates caused by bathing in water polluted by sewage.

What has been the impact of the Epibathe research project in Europe?

We performed the first clinical trial focused on assessing the quality of bathing waters in Europe. A repeat of this approach in the EU funded [Epibathe](#) project, completed in 2008, confirmed the position of the first WHO guidelines for recreational water, published in 2003. The latter were included in the 2006 EU [Bathing Water Directive](#).

The original Bathing Water Directive in 1976 was the first environmental directive in Europe and the aim was simple: to protect public health. But there was no basic epidemiology to underpin this directive with solid evidence. The project was about filling in the gaps with epidemiological evidence on a wider range of EU waters such as Mediterranean and river bathing waters in Hungary. It compared volunteer bathers and non-bathers in a randomised controlled trial, the gold standard for scientific trials.

Has bathing water quality improved over the last

decade or more?

There has been a dramatic improvement. When bathing water directive first came in 1976, the most common disposal practice was to dump sewage into the sea untreated. Even if you disposed of it far from shore, it could come back to bathing waters. The first directive started the cleanup process, even though it did not have a good evidence base in terms of the science. Since then billions of euro have been spent on sewage treatment facilities and more beaches are passing directive standards.

A 2012 Bathing Water Report said 94% complied with minimum standards. What does this mean?

We are still applying 1976 bathing water directive standards. A beach can pass what's called the imperative level, which is the minimum standard. But there is also a guide value, which is the recommended standard. Our work within the Epibathe project has shown that there is a significant health risk at the imperative standard, but you dramatically reduce risk once you go to the guide standard.

There is talk about raising standards in the new Bathing Water Directive to stricter limits by 2015. What would that involve?

The 2003 WHO epidemiological evidence has led to more stringent standards than the 1976 directive. These new standards could produce a lower level of compliance. But authorities can implement what is called prediction and discounting. This means if they predict adverse water quality and they put a sign out, alerting the public, then they do not have to count samples taken during that period. This means you have tighter

standards and you also give the public an informed choice and so protect their health.

Holidaymakers were in the thoughts of those concerned with the bathing water directive?

In addition to public health, bathing water standards in Europe ensure holidaymakers that beaches are achieving comparable standards throughout the EU. So there is a single standard and fair competition between countries. Without it, you might find one nation with really poor water quality claiming it was, in fact, satisfactory.

What obstacles stand in the way of improving the quality or protection of European bathing waters?

Most sewage discharged anywhere near bathing waters is disinfected now, though there can be sewage overflows during times of heavy rain. Some of the residual pollution remaining comes from livestock farming. Agricultural support in Europe is generally targeted to achieve biodiversity and high standards of animal husbandry. As we go ahead with the Water Framework Directive to protect coastal bathing and shellfish waters we will need to ensure that some of the support devoted to the livestock sector is directed to water quality.

In New Zealand streams are commonly fenced off to stop livestock entering. In many parts of Europe the fence often goes into the river to let the stock drink. Sheep produce almost ten times more of these bacteria than a person does. And unlike human waste it is not treated. So livestock impact on bathing water compliance. We need to a coordinated policy response that involves agriculture.

You are looking to improve information for the

bathing public?

We are just developing a project with European structural funds called [Smart Coasts](#). This involves developing modeling systems to give that real time prediction for bathing waters in Wales and Ireland. A real time signage system is in place in Swansea, UK. But this is a work in progress.

Provided by Youris.com

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