

# River Survey

## Case study – Bude Cornwall UK

- STS were invited by the UK Environment Agency to conduct a survey of a small river running onto one of the bathing beaches at Bude Cornwall.
- The area is renowned for its clean beaches and is very popular with both families and surfers alike.
- There were therefore two driving factors behind ensuring that the water discharging to the beach was clean. Firstly that it met the required regulations for bathing water quality and secondly that it did not appear visibly polluted or odorous causing complaints from users.
- The challenge for monitoring in flowing streams is clearly that what is there today may not be there tomorrow. Officers may be able to identify potential problems but be unable to trace these back to source. This coupled with the standard determination using 5 day BOD means results can be meaningless in actually trying to identify and resolve a pollution source.

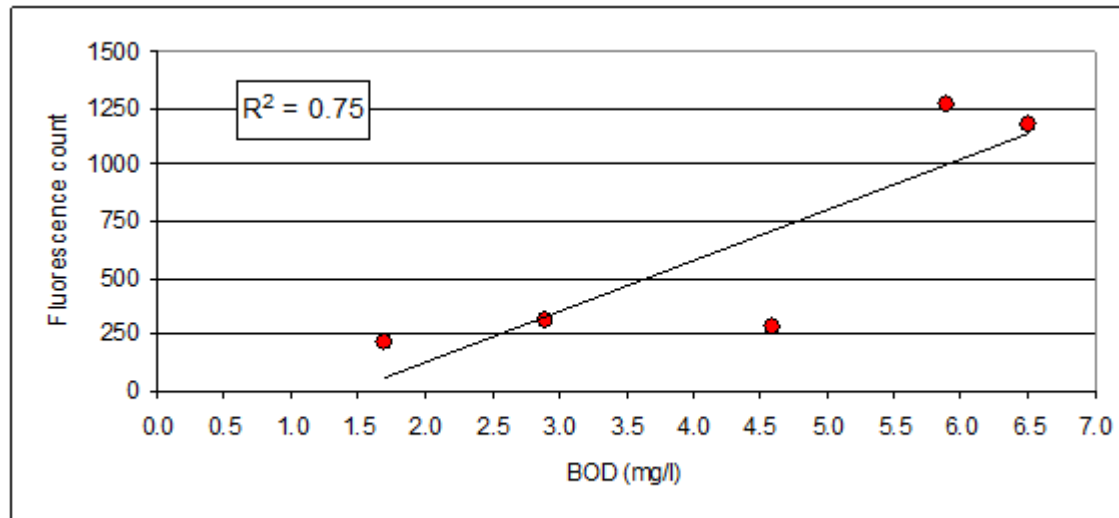
A survey was carried out along a stretch of river discharging onto a problematic beach. Survey data was gathered at points along the course where there was either a change in land use or where secondary water courses intersected the main stream.

Clear evidence was found of higher readings (480 and 510) as the stream passed through a light industrial area, in particular it was found that there was a car washing business operating just above one of these discharge points.



Sampling point 30 was measured in the tributary joining the main stream and showed a correspondingly lower reading, the effect of dilution of this cleaner flow on the lower part of the stream is evident as the fluorescent readings decrease down stream.

BOD samples were also taken at most of these sampling points and correlated to the fluorescent readings taken with the SMF4



Measurements  
made with  
SMF4 Mk II

Graph showing BOD against fluorescence count

The demonstration clearly shows that the SMF4 can be used to identify and trace the source of pollution back to a source in real time. This enables users whether regulators or water companies to take swift corrective action often without the need and expense of repeated visits to problem sites.

There may still be a requirement for evidential sampling in order to fulfil regulations but this has now been minimised and targeted to become both more accurate and more efficient.