

SUMMARY OF COASTAL WATERS IMPROVEMENTS - CASE STUDY

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In 1986 the DoE extended the number of beaches covered by the 1975 EC Directive on bacterial standards for coastal waters to 370. North West Water were asked to take steps to improve the water quality around Blackpool.

The Water Authority responded by making a £35m provision in the Capital Programme over a period of 3 years to improve the situation by 1993. To help the Water Authority to achieve the tight timetable, John Taylor and Sons were appointed as consultants to help with the feasibility study. From the outset it was clear that a study of this complexity was best addressed by producing sophisticated mathematical models of both the 'on-land' sewerage and dispersion of the pollutants through the coastal waters. WRC Environment were engaged to produce hydrodynamic and dispersion models of the coastal waters and WRC Engineering were engaged to build WASSP-SIM models of the coastal areas of Fleetwood, Thornton/Cleveleys, Blackpool and Lytham St. Annes. The outputs from the WASSP-SIM models were utilised as inputs to the hydrodynamic and dispersion models.

A probabilistic approach to choosing a suitable storm for testing upgrading options for compliance was described.

A description of the project team set up to cope with the extensive WASSP-SIM modelling work is given. Some detailed points about the modelling work are highlighted to show the dangers of force-fighting.

The modelling work is now complete and the study has highlighted the benefits of taking an integrated look at the 'on-land' and marine phases of drainage systems. The use of sophisticated computer models provides invaluable information for the optimisation of such systems that is not otherwise available.