

# Gold Coast Sustainable Loads Study

## Client

Gold Coast City Council  
Moreton Bay Waterways and  
Catchments Partnership

## Date

2009

## Services & Expertise Provided

WaterCAST modelling to predict  
catchment loads;

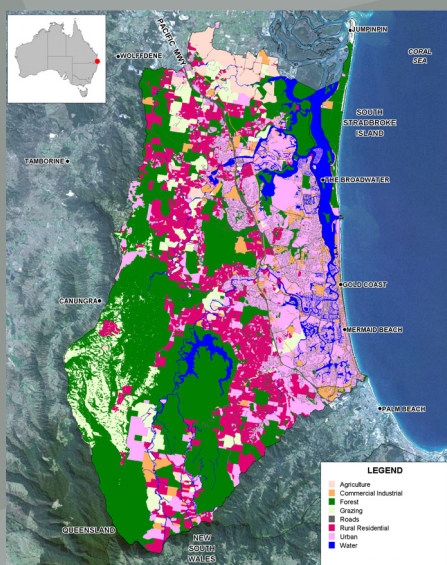
Development and calibration of a  
TUFLOW HD and AD model;  
and

Analysis of existing and future  
scenario loads in comparison  
with water quality objectives on a  
typical rainfall year basis.

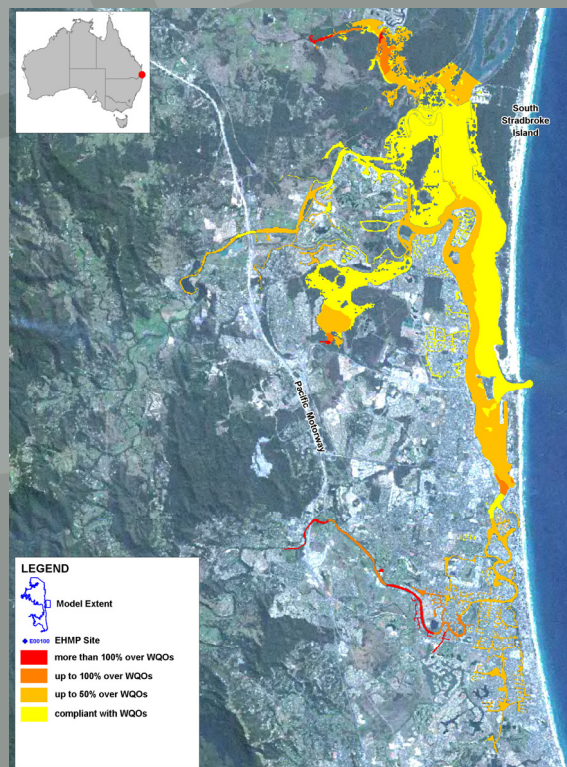
BMT WBM was commissioned to undertake a sustainable loads study for the major estuarine waterways connected to the Gold Coast Broadwater. The fundamental aim of the study was to develop and link rigorous catchment and waterway models to enable a thorough understanding to be gained in regard to how loads entering the waterways translate into resultant water quality levels.

Various future land use change and catchment management scenarios were assessed to determine the impacts on catchment loads and resultant receiving water quality, compared to the set water quality objectives of the waterways.

A WaterCAST catchment model and a TUFLOW HD and AD model of the estuarine reaches of the Nerang, Coomera and Pimpama systems, as well as the Gold Coast Broadwater, were developed and calibrated to existing datasets. These models constitute a tool for Council to define the degree of management intervention required to see the waterways of the Gold Coast move towards a sustainable load situation.



WaterCAST Model  
Existing Land Use



Comparison of TN Annual Median  
TUFLOW Results with WQOs