

# South Pine River Sustainable Loads Assessment

**Client**

Unity Water

**Date**

2009 - 2011

**Services & Expertise Provided**

Baseline ecological health surveys based on physio-chemical and biological indicators;

Catchment modelling using WaterCAST to derive diffuse pollutant export loadings;

Review of historical WWTP flow and quality data;

Box model of freshwater and estuarine water quality for scenario assessment;

Use of 2-dimensional Moreton Bay Water Quality Model for further scenario assessment; and

Results interpretation, reporting and stakeholder presentations.

The Moreton Bay Regional Council is experiencing rapid urban growth. Unitywater has identified the need to upgrade the Brendale Wastewater Treatment Plant (WWTP) to provide additional treatment capacity into the future. In response to the proposed augmentation of this WWTP's capacity from 41,000 EP to between 50,000 and 77,000 EP, a 'Sustainable Loads' assessment has been undertaken to assist in the determination of a preferred pathway to configure and manage effluent discharge from the plant.

Fundamentally the sustainable loads approach assesses the potential environmental effects of various WWTP discharge options (i.e. flow and effluent discharge qualities). The methodology uses a multi-indicator approach to assess current condition and receiving water quality modelling to assess the quantum of change that may occur post upgrade. Ecological responses as a result of the change in water quality is determined based on a sound understanding of water quality and ecological processes within freshwater and estuarine systems.

