

# Hydrological and Hydraulic Engineering Capabilities

Hydrological and hydraulic engineering is a core area of our expertise. RILEY undertakes:

- ❖ hydrological analyses including flood and low flow yield assessments;
- ❖ river and floodplain modelling;
- ❖ spillway capacity and dam break studies; and
- ❖ resource consent applications and reviews, for example, the hydrological effects of a residential or industrial development or hydro scheme.

RILEY water resources staff are particularly knowledgeable with regard to hydrological issues and effects associated with the consenting of new and existing hydro-electric schemes. These large multi-disciplinary projects require a broad range of hydrological and hydraulic field and modelling skills to enable assessment of issues associated with the engineering, ecological, landscape and planning disciplines.

Hydrological/hydraulic modelling packages utilised include:

- ❖ Hilltop Software – hydrological analysis and simulation to assess catchment rainfall characteristics or, for example, the existing and post-scheme hydrological characteristics of a river at a power station outfall;
- ❖ MIKE 11 – dam break, river and floodplain modelling to assess the hydraulic effects in a river;
- ❖ MOUSE HD – pipe network modelling;
- ❖ HEC-RAS – floodplain and spillway capacity modelling;
- ❖ HEC-HMS – flood routing to calibrate catchment response during recorded events to enable accurate estimates of design floods including the PMF.

RILEY is committed to delivering a quality, cost-effective service. We have high professional standards, ethics and integrity, all of which are backed up by our internationally recognised ISO 9001 certification.

For further information on the services we can provide refer to our web site or please contact us.

