

Water Research Laboratory 0.9 m open channel flume

Hydraulic structures are relevant in a wide range of water engineering applications and WRLs research provides vital support to the water engineering profession. WRL continues to expand our large scale hydraulic facilities, state-of-the-art instrumentation and hydraulic expertise. This ensures that the pure and applied research of free surface flows required by the water engineering profession can be based on large scale hydraulic experiments. Complex flows, novel hydraulic structures and channel boundaries often require physical modelling as it is the only reliable method for investigation and design.



Flume specifications

- 0.9 m wide x 35 m long x 1.4 m deep
- Connected to WRL's recirculation facility enabling continuous flow rates of up to 400 l/s
- Also can be connected to Manly Dam supply for constant head experiments
- Large glass side for flow observations
- Modular experimental configurations with a variety of bed slopes and internal structures
- Tail water control with variable downstream gate

Typical investigations

- Applied and fundamental research of open channel flow
- Case studies of open channel flows and hydraulic structures
- Testing of weirs, sluice gates, flat-slope spillways and hydraulic jumps
- Sediment transport and scour
- Flow resistance and flow structure interactions
- Stormwater assessments, culverts and bridges
- Energy dissipation structures including block-ramps and plunge pools
- Interpretation and measurement for eco-hydraulics such as fish passage

