

## NZWWA MODELLING SPECIAL INTEREST GROUP- Water Supply modelling training courses

**Presenters:** Dan Stevens –lead presenter with support from:

Marcel Bear – Compare and support presenter

Charlotte Mills - support presenter

	<b>Water modelling training programme</b>	<b>Presenter</b>
	<b>Day 1</b>	
1	Introduction to the course	<b>Marcel Bear</b>
2	<b>Introduction to water systems</b>	
	<b>Types of reticulation</b> (bulk and local pipes) <b>components</b> (reservoirs, tanks, pipes, valves, pumps), <b>demands</b> (types, leakage, patterns, typical amounts)	<b>Dan Stevens</b>
	<b>System issues-why model</b> (low/high pressure, leakage, sec. of supply, fire flow, water quality - lack of accurate data to address these issues), Strategic Planning, Public Health Risk Management Plans, Legislative requirements	<b>Dan Stevens</b>
	<b>Options</b> to address these issues (new sources, pipes, pumps, valves, pipe configuration/zone boundaries)	<b>Dan Stevens</b>
	<b>Model use and building</b>	
3	<b>Developing a model</b> -where to start. What is a model?	<b>Dan Stevens</b>
	<b>Types of model:</b> Strategic/Planning, Operational, Optimised, Raw Water	<b>Dan Stevens</b>
4	<b>Model build</b> - data sources and cleaning before use	<b>Dan Stevens</b>
	<b>Representing components</b> -sources, reservoirs, tanks, pumps, valves	<b>Dan Stevens</b>
	<b>Demand analysis</b> -allocation methods, data needed, leakage	<b>Dan Stevens</b>
	<b>Building the model</b> - automated and manual methods	<b>Dan Stevens</b>
	<b>Day 2</b>	
	<b>Recap day 1</b> - the model build is complete, now what?	<b>Marcel Bear</b>
	<b>Calibration</b>	
5	<b>Field test design</b> -planning locations for pressure/flow and other monitors	<b>Dan Stevens</b>
	<b>Data gathering</b> -how to get the most useful information from the field	<b>Dan Stevens</b>
6	<b>Calibration</b> – as much art as science	<b>Charlotte Mills</b>
	<b>Anomaly resolution</b> – possible solutions and knowing when to stop	<b>Charlotte Mills</b>
	<b>Issues and options</b>	
7	<b>System performance analysis</b>	<b>Dan Stevens</b>
8	<b>Hydraulic issues</b> – understanding the causes	<b>Dan Stevens</b>

<b>9</b>	<b>Security of supply-</b> risk of failure and option examples	<b>Dan Stevens</b>
<b>10</b>	<b>Fireflow analysis-</b> firefighting flows, sprinkler needs and background demand	<b>Marcel Bear</b>
<b>11</b>	<b>Strategic Upgrade Plans</b>	<b>Dan Stevens</b>