



with assistance from  
New Zealand Water and Wastes Association  
*presents*

**Managing Stormwater  
and Road Run-off  
Tools, Techniques and Devices**



# Auckland Stormwater

- Stormwater treatment has been a strong focus in larger overseas cities and in Auckland, but less so elsewhere in NZ
- This is due to:
  - High degrees of urbanisation
  - High traffic densities
  - Extensive industrial land use
  - High value, high use receiving environments
  - Sensitive receiving environments where contaminants will accumulate

# History of TP10

- Best Practicable Option vs Water Quality Standards
- Auckland specific research on:
  - Settling velocities of soils
  - Rainfall Characteristics
- Section 32 analysis
  - Costs
  - Technology
  - Receiving environment

## TP10 provides guidance on:

- Selection of devices
- Stormwater Management concepts
- Sizing of devices
- Performance
- Maintenance requirements



# Treatment Device Sizing

- If you treat 80% of the Annual SW volume- you will remove 75% of TSS on average
- Sizing of devices in TP10 is based on using TP108 “ Stormwater Runoff Modelling”
- TP108 specific to Auckland conditions

***What do you do outside Auckland??***

# How to apply TP10 elsewhere:

- Use **local rainfall** data: HIRDS or council supplied data
- Use **local hydrograph** or the Rational Method

Eg. CCC recommends a triangular hydrograph

- Think about your soils- TP10 may give a conservative sizing if soils aren't clay

# How to apply elsewhere: Device sizing

- Volume based devices eg ponds, wetlands, raingardens

**Volume generated by a 2 yr 24 hour event / 3**

- Flow rate based devices eg swales

**Flowrate in a 2 year 24 hour event / 3**

- Volume and flowrate determined by Rational Method (generally) or a specific hydrograph shape