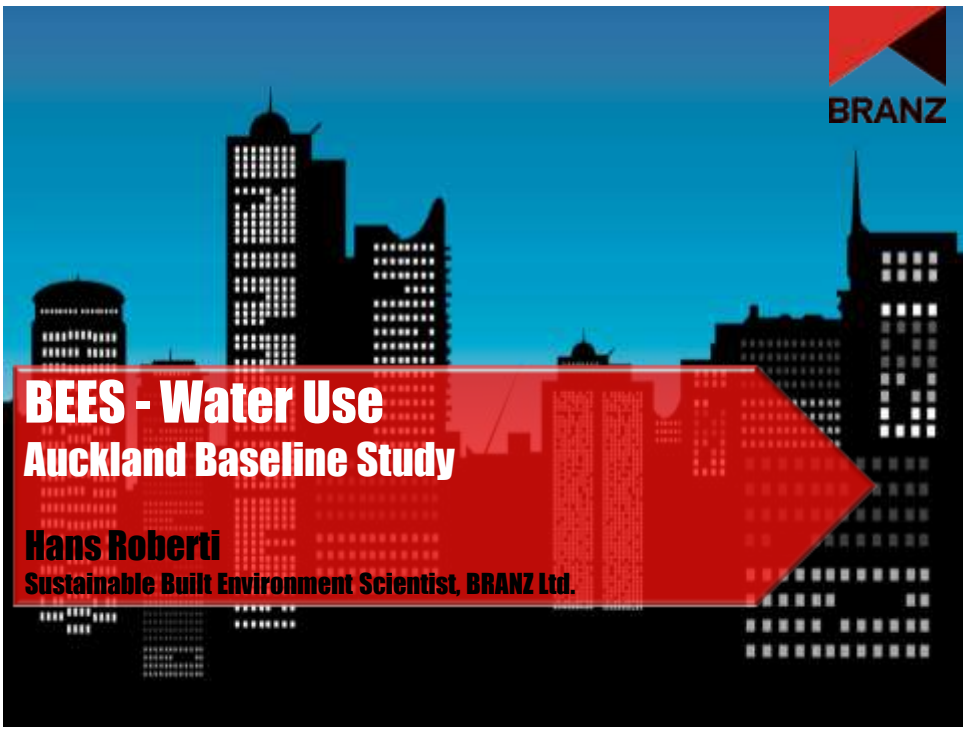
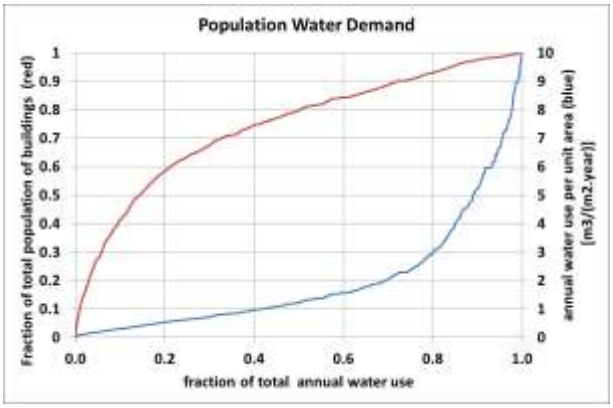


BEES Water Objective

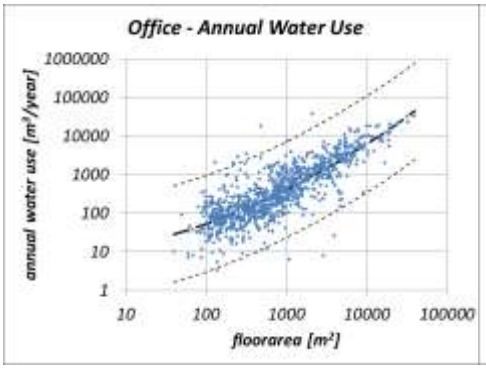
- **Increase understanding of water use in non-residential buildings**
  - Heterogeneous group
  - Accommodates businesses
- **BEES**
  - Non-residential buildings
  - No industrial activities
  - Office and retail use
- **Develop a statistical reference baseline**
  - Water study went beyond BEES sample framework
  - Focus on **Auckland** at a property level

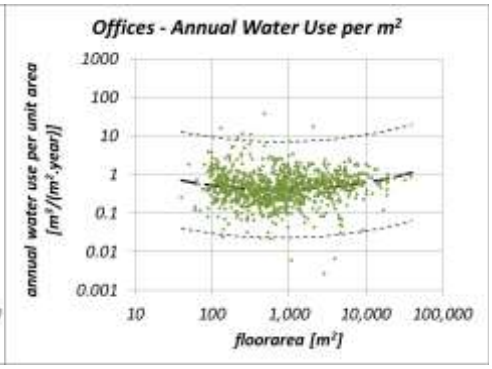
Water Demand Structure



- 54% of demand from 92% of buildings use less than 3,000 L/(m^2 .year)
- Industrial process threshold set at 10,000 L/(m^2 .year)

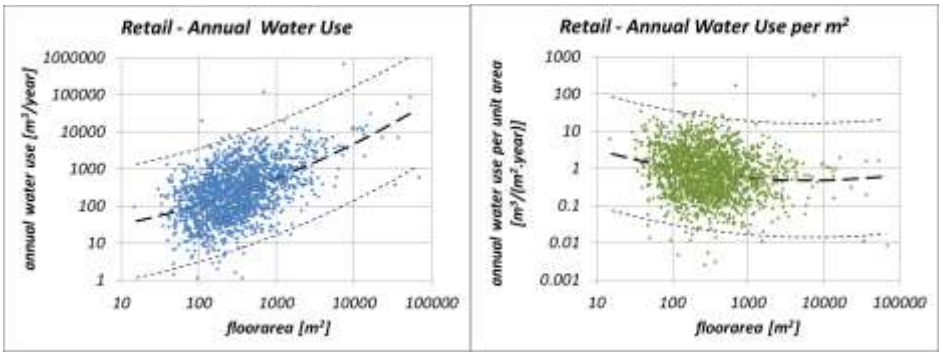
Offices





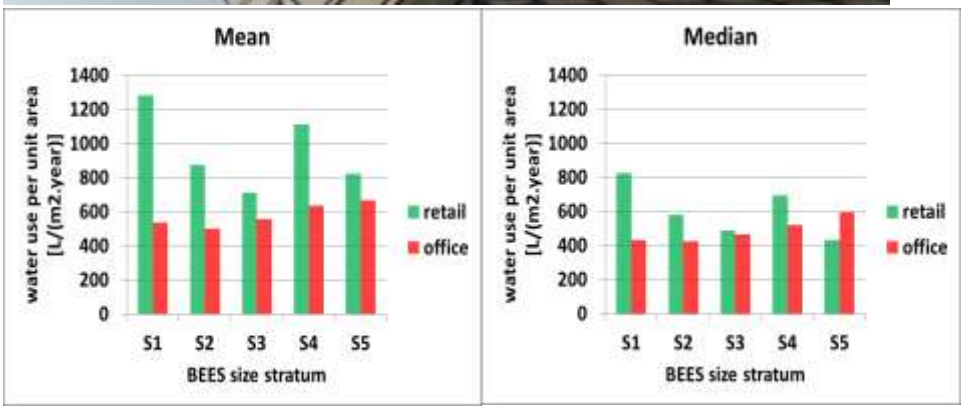
- Water use relationship with floor area
- Average annual water use is 540 L/(m^2.yr)

Retail



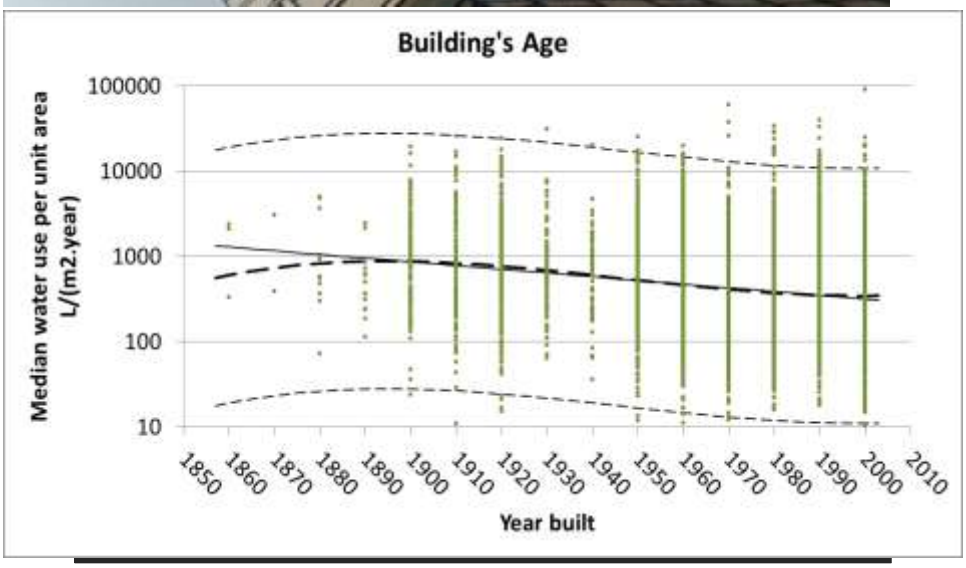
- Median water usage per m^2 in retail decreases with building size
- Retail has a wide range in water use
- Average annual water use is 1,200 L/(m^2.yr)

Office and Retail

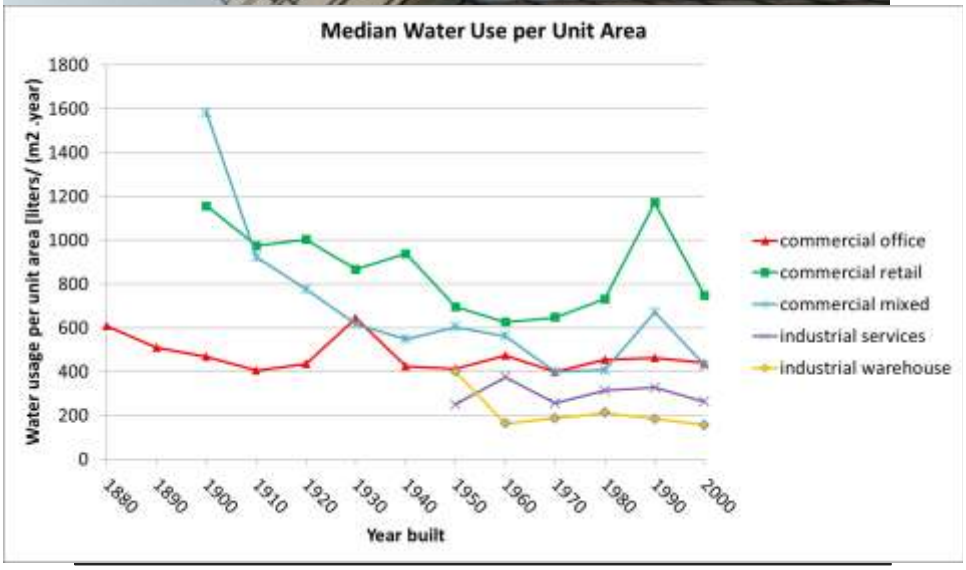


- Small to medium retail uses more water than offices
- Larger offices use more than retail (median only)

Building Age



Building Age



- **Water usage varies over tremendous range**
  - Building use and size explains some of the variance in water use, both total and m^2
  - Retail uses more water than office per m^2 (but far more variable)
  - No evidence from this analysis that building age is important. No evidence for newer buildings performing better
- **Reference baseline for Auckland**
  - Makes benchmarking possible
  - Important for those aiming to do better