

## BEES water objective

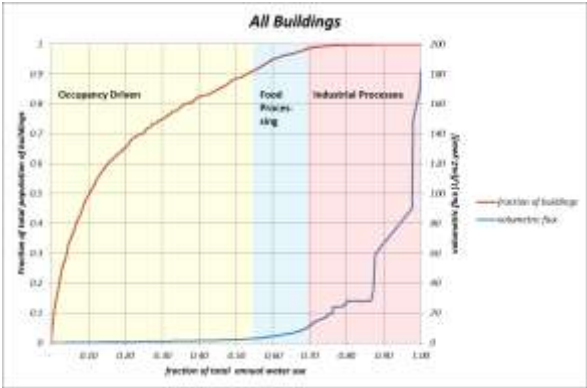


- ▶ **Increase understanding of water use in non-residential buildings**
  - Heterogeneous group
  - Accommodates businesses
- ▶ **BEES**
  - Only commercial buildings
  - No industrial activities
  - Emphasis on office and retail use
- ▶ **Water study went beyond BEES sample framework, but only for Auckland at a property level**



Water demand structure



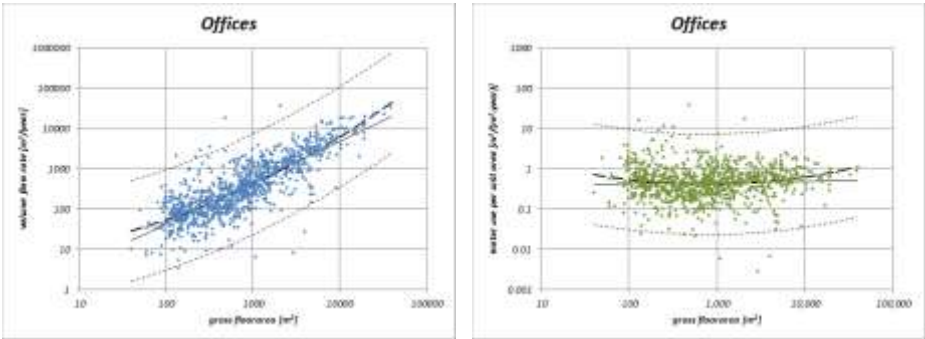


- ▶ 54% of demand from 92% of buildings use less than 3,000 L/(m<sup>2</sup> .year)
- ▶ Industrial process threshold set at 10,000 L/(m<sup>2</sup> .year)



Offices



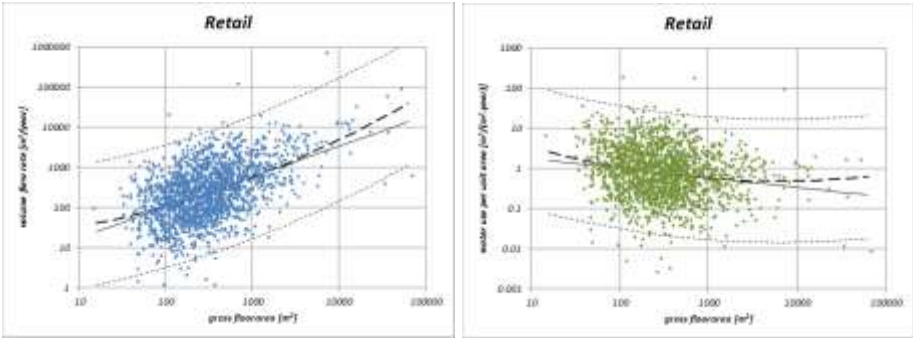


- ▶ Water use relationship with floor area
- ▶ Average annual water use is 540 L/(m<sup>2</sup>.yr)



Retail



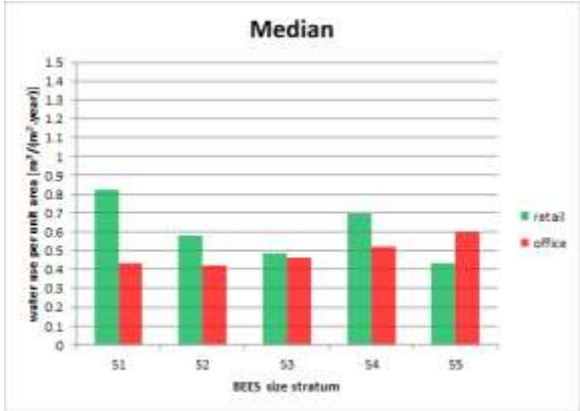


- ▶ Median water usage in retail decreases with building size
- ▶ Retail has a wide range in water use
- ▶ Average annual water use is 1,200 L/(m².yr)



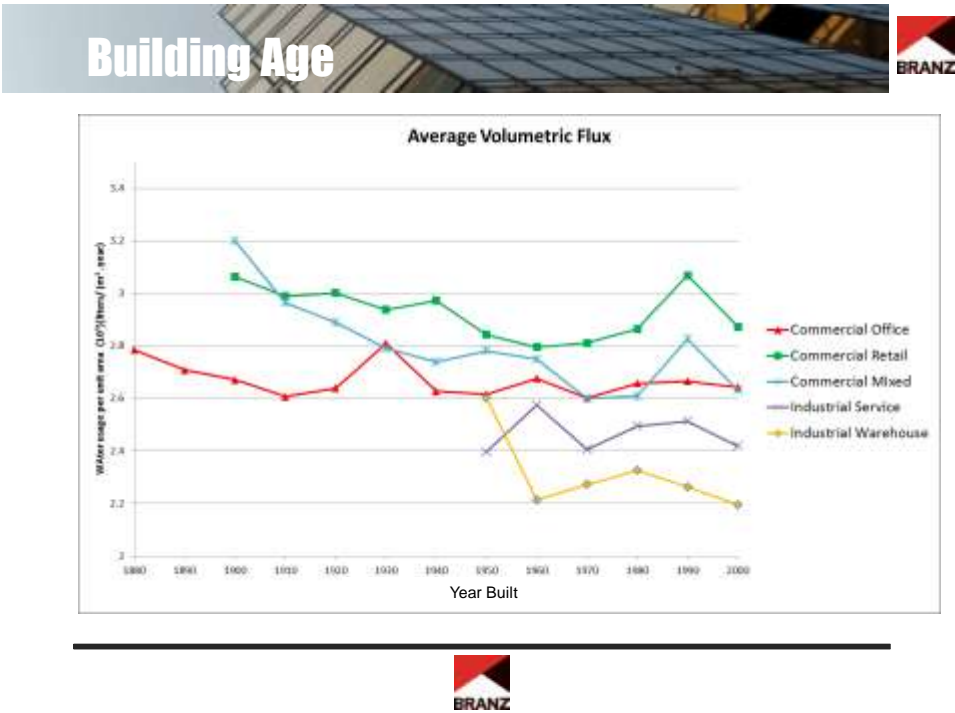
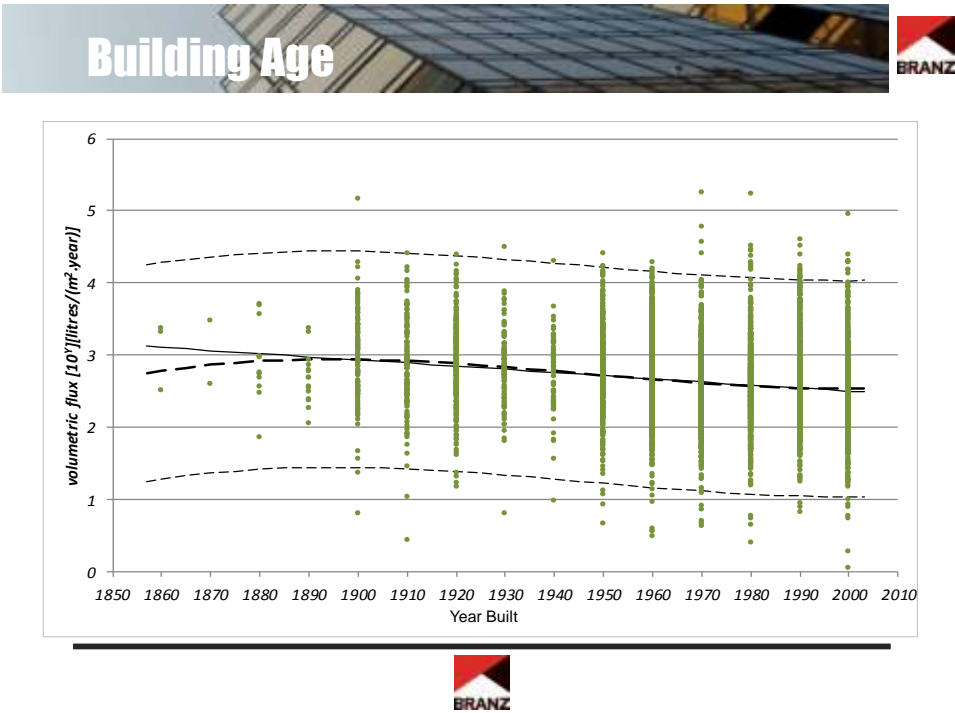
Office and Retail





- ▶ Small to medium retail uses more water than offices
- ▶ Larger offices use more than retail





## Conclusion



### ▶ **Water usage varies over tremendous range**

- Building size explains some of the variance, but creates questions
- Occupancy and presence of food processing drives water use
- Age does not seem important, new buildings are not better

### ▶ **Reference base line for Auckland**

- Makes benchmarking possible
- Important for those aiming to do better

