# **RESIDENTIAL WATER USE**



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UNIVERSITY OF AUCKLAND Waipapa Taumata Rau

NEW ZEALAN



This national study shows us when and where New Zealanders are using water in their homes. Results draw on hundreds of household surveys and 66 high-resolution meters from around the motu. Data has been analysed to inform water efficiency programmes, demand forecasting and infrastructure design.

### Overall use summary

|  | All households | Metered and volumetrically charged | Not metered and volumetrically charged |
|--|----------------|------------------------------------|--|
| Average Daily Volume (litres)                | 543            | 424                                | 682                                    |
| Median Daily Volume (litres)                 | 397            | 319                                | 551                                    |
| Average Daily Volume Per<br>Person (litres)* | 237            | 198                                | 304                                    |
| Median Daily Volume Per                      | 165            | 127                                | 266                                    |

#### Use breakdown

31%

29%



#### Participating councils

#### Did not participate Surveyed Surveyed with high-res metering

#### Person (litres)

Weekday and weekend peaking factors



#### Average hourly flows and minimum night flows

|  | Average<br>Hourly Flow<br>(litres/hour) | Median Hourly<br>Flow (litres/<br>hour) | Average MNF<br>(litres/hour) | Median<br>MNF<br>(litres/hour) |
|--|---|---|------------------------------|--------------------------------|
| All households                         | 25.7                                    | 19.6                                    | 8.4                          | 2.1                            |
| Metered and volumetrically charged     | 20.8                                    | 16.7                                    | 9.1                          | 1.6                            |
| Not metered and volumetrically charged | 31.3                                    | 25.2                                    | 7.6                          | 3.1                            |







# Temporal variations by use type



#### Seasonal variations by use type





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# Usage – per household



### Water use variability

A reported average water use (e.g. 640 litres per day) fails to capture the variability in the water used by a household, as shown in the figure below. Water use also varies

# Outputs

Full summary of results, methodology, limitiations, and opportunities for future research are listed in project report available at:



#### **BRANZ PROJECT REPORT:**

www.branz.co.nz/pubs/research-reports/sr469/



#### **UNIVERSITY OF AUCKLAND DATA ANALYSIS:**

www.waternz.org.nz/Resources/Article?Action=View&Article\_id=2243



# **PROJECT SUMMARY WEBINAR:**

www.waternz.org.nz/Resources/Article?Action=View&Article\_id=2258

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#### considerably between households and during the year.

