

the data base where the hour of peak water use is, for example, consistently at 1 a.m. The 4-hour interval from 6:00 to 10:00 a.m. contains about 50% of the peak hours by volume and 42% of the peak hours by number. The morning rush hour from 7:00 to 8:00 a.m. is the most likely time to experience the hour of peak water use, both by volume and by number of uses.

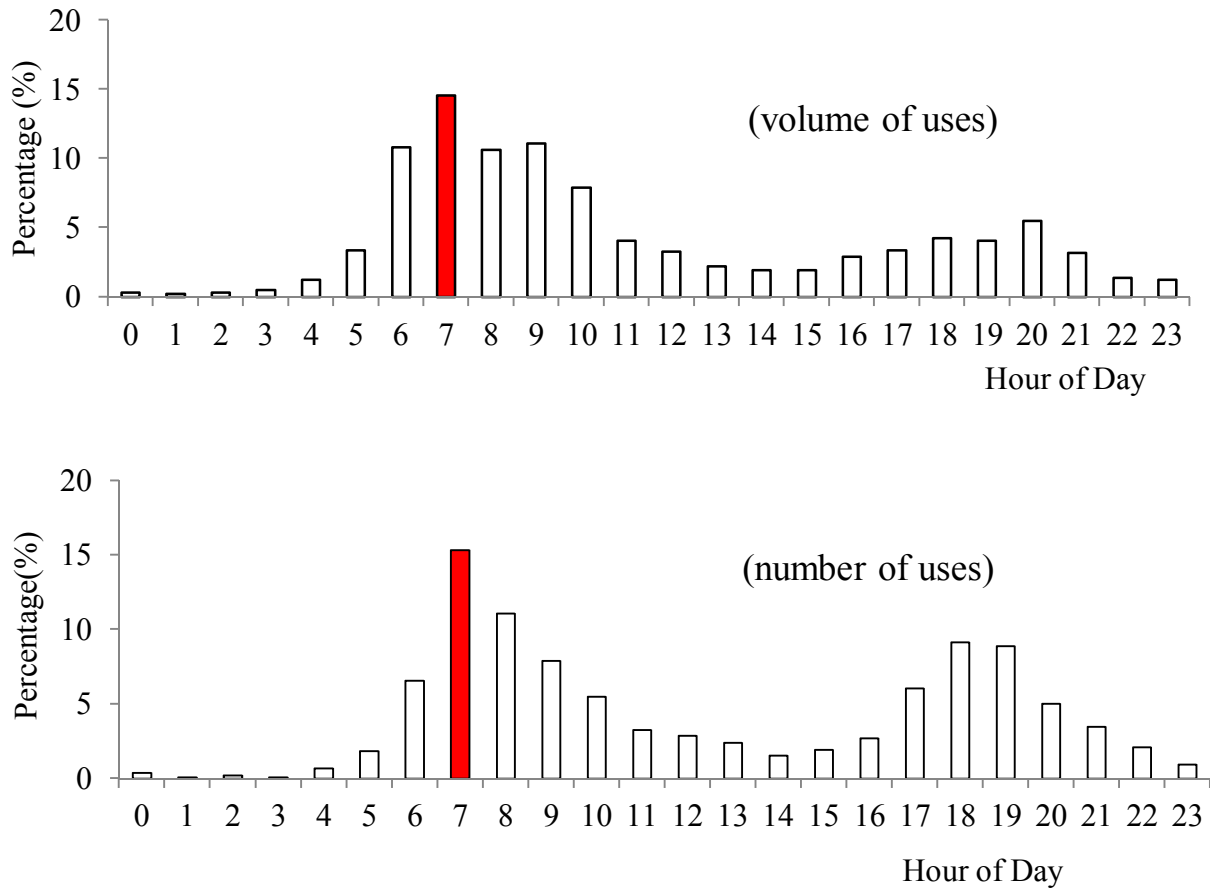


Figure 4 Distribution of observed peak hour in 1038 single family households by volume of water use (top) and number of water use events (bottom).

3.5 Main Assumptions

Following are some key assumptions made in the analysis of the water use data:

1. The flow pattern for a single water use event at any fixture is a rectangular pulse described by two parameters: a constant flow for a fixed duration.
2. Fixtures with identical functions have the same probability of use, irrespective of their location in a building.
3. The kitchen sink and bathroom lavatory are considered to be faucets with the same water use signatures.
4. The plumbing system that exists in each home of the data base is designed properly and operated within typical residential norms.