

## Baseline Water Consumption Worksheet

### If you have your utility bill or regular water meter readings for your facility

1. Gather the bills or meter readings for a 12-month period (or as close as possible).
2. Calculate the average gallons consumed in one day:
  - You will probably have to convert your measurements from cubic feet (what most water meters and bills are measured in) to gallons.  $1 \text{ ft}^3 = 7.48 \text{ gal}$ .
  - In some cases, water consumption may be very low on days when no one is in the facility (i.e. weekends and holidays). If this is the case at your facility, consider calculating average consumption per workday.  
Keep in mind that in some situations HVAC systems and other machinery (like water-cooled refrigerators, vending machines, and icemakers) may consume water regardless of occupancy. Find out if these machines are or are not turned off on weekends and holidays and consider this information in your calculations.
  - Consider calculating average consumption per shift, or another increment that may be more useful in determining your maximum times and areas of water consumption.
3. Create a spreadsheet to display and analyze your data. The [Baseline Spreadsheet Template](#) is available as an aid.
4. Also, consider calculating the estimated water consumption based on the guidelines below, to compare your actual water consumption to the estimated guidelines for a similar facility.

### If you do not have accurate water meter readings

Consider the following estimated consumption guidelines to calculate your approximate water consumption per day of operation.

Note: If you must use this table, you will have only an estimated water consumption value for your baseline on the plan template. Without actual bills or water meter readings, calculating the actual average consumption is impossible.

#### Facility Estimation Guidelines

Facility Type	Gallons per Day
Auditorium	5 g per seat
Camp – construction camp	60 g per person
Camp – summer camp	55 g per person
Campground (no water or sewer hookups)	75 g per campsite
Campground (with hookups)	100 g per campsite
Day care and preschools	25 g per person (child and
Factory (not including industrial waste)	25 g per person per shift
Hospital	300 g per bed
Institution (with residents)	100 g per person
Laundry	400-500 g per standard-size machine
Marina (no bathhouse)	10 g per boat slip
Marina (with bathhouse)	30 g per boat slip
Motor pool	300 g per car washed
Office buildings (without cafeteria)	25 g per employee
Restaurant – 24 hour	50 g per seat
Restaurant – standard (or cafeteria)	35 g per seat <i>or</i> 15 g per 15 ft <sup>2</sup>

Restaurant –food stand	50 g per 100 ft <sup>2</sup> of total floor space
School –boarding school	60 g per student
School –day school (no cafeteria or showers)	10 g per student
School –day school (with cafeteria)	12 g per student
School –day school (with cafeteria, showers, gym)	15 g per student
Service station	1000 g for first bay or pump island 500 g per additional bay/pump island
Stadium	5 g per seat
Swimming pool	10 g per swimmer
Swimming pool (with hot water shower)	13 g per swimmer
Travel trailer/recreational vehicle park with water and sewer hookups	120 g/campsite

Data compiled from:

N.C. Division of Water Quality’s regulations on Wastewater Not Discharged to Surface Waters.

(<http://h2o.enr.state.nc.us/admin/rules/2H.0200.pdf>)

Residential Water Use Research Project of the Johns Hopkins University and the Office of Technical Studies of the Architectural Standards Division of the Federal Housing Administration, 1963. Found on page 79 of Water Supply and Pollution Control, 6<sup>th</sup> Edition, W. Viessman, 1998.

The Community Water Systems Source Book, 5<sup>th</sup> Edition. Table 1.

#### Toilet Estimation Guidelines

<b>When Manufactured</b>	<b>Gravity Tank Type</b>	<b>Flush Valve Type</b>
Before 1977	5.0 – 7.0 gpf	4.5 – 5.0 gpf
1977 to mid 1990’s	3.5 gpf (some 5.0 gpf)	3.5 gpf
After mid 1990’s	1.6 gpf maximum	1.6 gpf maximum

\*gpf = gallons per flush

[Water Efficiency Manual for Commercial, Industrial, and Institutional Facilities](#). “Water Management Options: Sanitary and Domestic.” P.31.