

Grey Water Management

Greywater Recycling & Reuse



What is Greywater?

- ▶ Greywater or sullage is defined as wastewater generated from wash hand basins, showers and baths, (but not from a kitchen sink or toilet) which can be recycled on-site for uses such as Water Closet (WC) flushing, landscape irrigation and constructed wetlands.

What is Blackwater?

- ▶ Greywater is distinguished from 'Blackwater' which is wastewater from WC flushing, kitchen sinks. Blackwater should not be reused in the home because of high risk of contamination by bacteria, viruses and pathogens.

- Greywater (also spelled graywater, grey water, gray water) or sullage is all wastewater generated in households or office buildings from streams without fecal contamination.
- By definition greywater is generally waste water from showers, baths, basins, and washing machines.
- Greywater treatment is easier than municipal wastewater treatment, generating a large interest in its reuse and recycling.
- Typical applications for greywater recycling and re-use are toilet flushing, irrigation and other non-potable uses.
- Reusing wastewater is a crucial part of the sustainable management of water resources. Greywater can be an important alternative water source, especially in arid and touristic areas, where the biggest water demand is usual in the dry period. The potential ecological benefits of greywater recycling include:
 - Less environmental impact from septic tanks and water treatment plants,
 - Reduced freshwater extraction from rivers and aquifers,
 - Reduced energy use and chemical pollution from water treatment,

Groundwater recharge and reclamation of nutrients

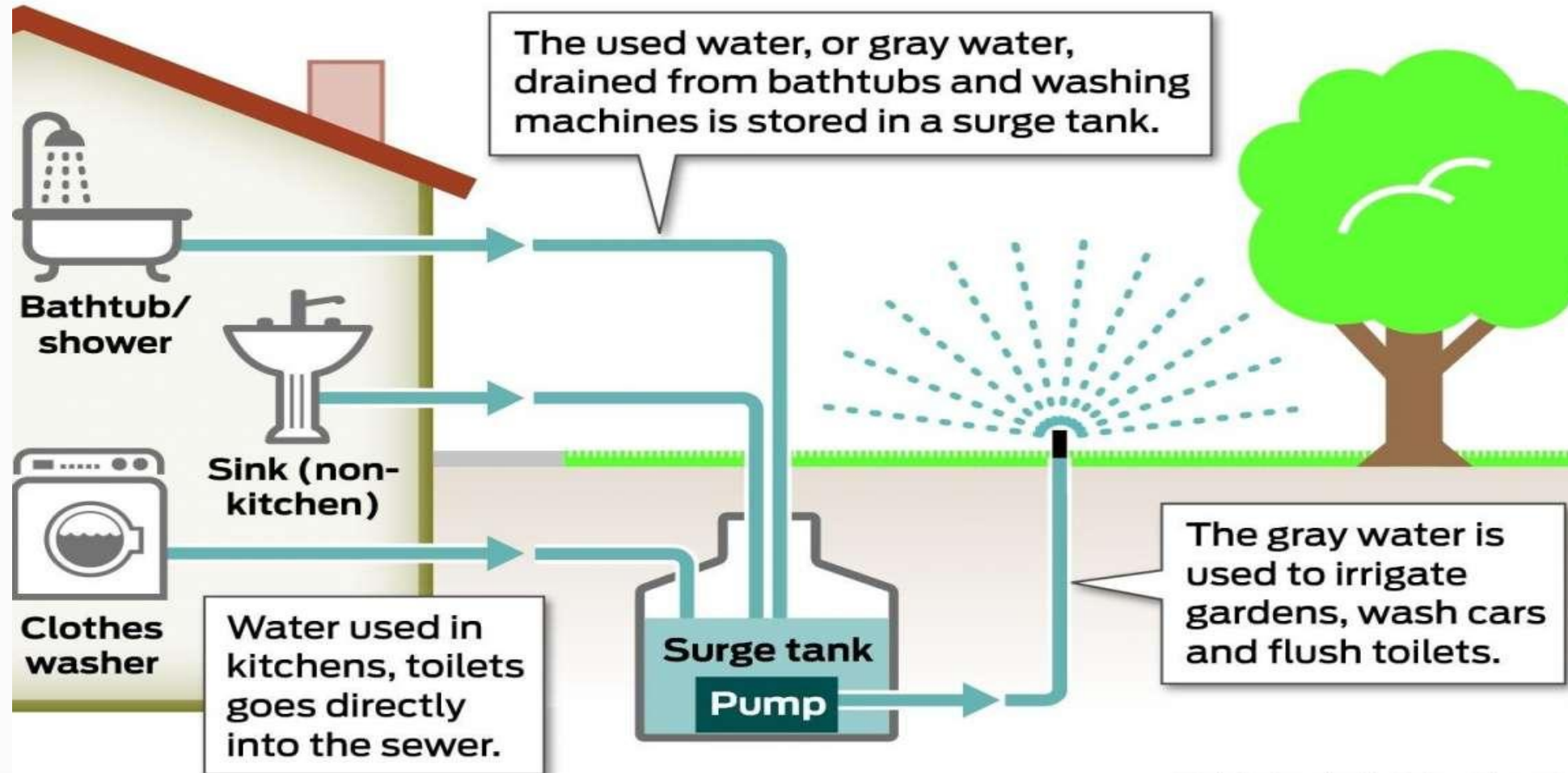
What is GW treatment?

- ▶ GW treatment is removal of unwanted suspended material from the greywater collected and disinfecting the same to make it useful for toilet flushing or irrigation or discharging to sewer lines according to the local laws applicable.

Why reuse GW?

- ▶ GW Recycling can save upto 35-40% of water consumption within a residential building by reusing shower & basin water for the use of toilet flushing, irrigation, car washing, cleaning, etc.
- ▶ Conventional plumbing systems dispose of greywater via septic tanks or sewers. The many drawbacks of this practice include overloading treatment systems, contaminating natural waters with poorly treated effluent and high ecological/economic cost
- ▶ Instead, you can reuse this water. The most common reuse of greywater is for irrigation.
- ▶ Even a greywater disposal system has less negative impact than septic/sewer disposal

low gray water systems work



Todd Trumbull / The Chronicle

Advantages of GW Recycling & Reuse

- 1) Save water (30-35% reduction in consumption) and money
- 2) Reduce the demand on your reservoir/toilet distribution pumps
- 3) Increase the lifespan of your septic system
- 4) Less strain on public sewage treatment system
- 5) Reduction in energy use by the municipality
- 6) Increase points to reach LEED certification goals
- 7) Groundwater recharge
- 8) Reclamation of otherwise wasted nutrients

Reuse applications of treated GW

- ▶ Watering Gardens
- ▶ Fire hydrants
- ▶ Field Irrigation
- ▶ Toilet flushing
- ▶ Cooling tower make-up