



# Information on Greywater Reuse In Single Household Residential Premises

## What is Greywater?

Greywater is wastewater generated from bathrooms (shower and basin), laundries and kitchens, or those components of household sewage that DO NOT come from a toilet, urinal or bidet.

Kitchen wastewater must not be reused as untreated greywater. It may be reused after treatment, but it is recommended that since bathroom and laundry water is relatively uncontaminated compared to kitchen water, and can be generated in higher volumes, greywater should be primarily sourced from the bathroom and laundry.

## What is in Greywater?

The characteristics of greywater produced by a household will vary according to the lifestyle, health status and water usage patterns of the occupants. Greywater contains micro-organisms, chemical contaminants (in particular nutrients and salts) and physical contaminants (such as dirt, lint and sand). A number of strategies can be easily followed to prevent and minimise any negative effects from the reuse of greywater.

## What are the main advantages of greywater reuse?

Reusing greywater provides a number of benefits including:

- Reducing your metered water consumption
- Reducing the amount of sewage discharged to the river
- Reducing your water bills
- Irrigating your garden during drought periods.

## What are the main disadvantages to greywater reuse?

- The disadvantages of greywater reuse may include:
- The potential for pollution and undesirable health effects if the greywater is not reused correctly
- Initial cost of a greywater system and plumbing requirements
- Ongoing maintenance.

## Guidelines for greywater reuse in households

The NSW Department of Energy, Utilities and Sustainability have published guidelines for greywater use in households. The Guidelines relate to single, detached households only and do not include premises comprising of more than one dwelling and can be found on the Department website at: [www.dues.nsw.gov.au](http://www.dues.nsw.gov.au).

### Ways to reuse greywater

There are three ways of reusing greywater:

- **Manual bucketing** – small quantities of greywater are captured in a bucket for re-use outside on gardens or lawns. No council approval is required. See Murray Shire Council Greywater Manual Bucketing Guidelines for further information.
- **Diversion** – greywater diversion devices redirect greywater for use outside the home on gardens or lawns using sub-surface irrigation. No council approval required under certain conditions. Needs a plumber to install. For further information see Murray Shire Council Greywater Diversion Devices Fact Sheet.
- **Treatment** – greywater treatment systems for reuse inside the home (e.g., toilet flushing, washing machine) as well as outside on gardens or lawns. Council approval is required. Needs a plumber to install. For further information see [www.dues.nsw.gov.au](http://www.dues.nsw.gov.au).

### Keeping Your Plants and Soil Healthy with Greywater

The level of greywater reuse in the garden needs to be balanced with the amount of water, solids and nutrients that the plants and soil in your garden can absorb. If excess greywater is applied:

- excess nutrients may run-off or leach through the soil to enter waterways, contributing to algal blooms and other water quality problems;
- soils and plants may become waterlogged and inhibit plant growth;
- soils can become physically clogged with organic and suspended material or damaged by salts in the greywater; or
- greywater may contribute to rising watertables and subsequent salinity problems in some areas already impacted by salinity.

When using greywater on your garden or lawn, you will need to consider the type of household detergents, soaps, or other chemicals you use. Many contain ingredients that will harm your plants and soil. The following tips will help to ensure that the use of greywater for garden irrigation does not affect the health of your plants and soils.

## **Choose 'Environmentally Friendly' Detergents, Cleaners and Laundry Detergents**

Salt is included in washing powders as filler. There is generally less salt in concentrated powders, and even less in liquids. Minimising the salt content of your greywater is important to prevent soil salinity. Washing detergents also include phosphorus and nitrogen, which are nutrients necessary for plant growth, so greywater can be substituted for fertiliser and provide phosphorus and nitrogen to your garden and lawn.

The typical nutrient loads that are applied to the soil by irrigating with greywater are very similar to those that are applied by following the directions on common fertiliser packages. The reuse of greywater, therefore, has the potential to significantly reduce the need for fertiliser application on gardens and lawns. The application of nutrients through the irrigation process is also preferred, as the nutrients will be applied more gradually and will reduce the risk of nutrients being washed away during wet weather events.

However, too much phosphorus in greywater can be toxic to some plants, most notably native Australian plants.

If your garden has native plants you should try to minimise the phosphorus content of your greywater by choosing a laundry detergent that is low in phosphorus.

- **Choose a liquid or concentrated powder washing detergent.**
- **Choose a washing detergent that is low in phosphorus.**

The salts, nitrogen and phosphorus content of various washing detergents available in Australia can be found at [www.lanfaxlabs.com.au](http://www.lanfaxlabs.com.au).

## **Soaps**

Fats in greywater generated from soaps and fabric softeners can make soil water-repellent.

- **The soil will benefit from an application of a soil rewetting agent every six months.**

## **Bleaches and Disinfectants**

Bleaches (such as hair dyes and nappy wash), disinfectants (including eucalyptus and tea tree oil) and germicides can detrimentally affect the health of soils by killing soil organisms.

- **Don't reuse greywater when using cleaning chemicals in the bathroom or laundry, or when using hair dye, disinfectants, germicides or other chemicals; instead, divert the water to sewer.**

## Regularly Check Your Gardens and Lawn

In addition to the above tips, you can also undertake regular checks to ensure that the use of greywater is not damaging the health of your soil, lawn and plants. Signs of unhealthy soil, lawn and plants include:

- damp and boggy ground hours after irrigation;
- surface ponding and run-off of irrigated water;
- poor or excessive vegetative growth with reduced fruit;
- evidence of pests and diseases on plants;
- unusual odours;
- clumping of soil; or
- fine sheet of clay covering surface.

If you notice any of the above signs you should re-assess the amount of greywater you are using for irrigation and check that your irrigation distribution system is working correctly.

### Further Information:

NSW Department of Health - Greywater Reuse in Sewered Single Domestic Premises  
[http://www.health.nsw.gov.au/publichealth/ehb/general/wastewater/greywater\\_policy.pdf](http://www.health.nsw.gov.au/publichealth/ehb/general/wastewater/greywater_policy.pdf)

NSW Department of Utilities, Energy and Sustainability - Greywater Reuse Guidelines  
[http://www.deus.nsw.gov.au/water/Greywater/Greywater Reuse Guideline.asp#TopOfPage](http://www.deus.nsw.gov.au/water/Greywater/Greywater%20Reuse%20Guideline.asp#TopOfPage)

[www.envirop plumber.com.au](http://www.envirop plumber.com.au) - Provides a directory of sustainability trained plumbers.

[www.lanfaxlabs.com.au](http://www.lanfaxlabs.com.au) - Provides information on detergents suitable for use with greywater reuse.

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May 2007