

GREYWATER USE

Frequently asked questions

1. What is Greywater?

Greywater is the water that is generated from use of the shower, bathtub, spa bath, hand basin, laundry tub, clothes washing machine, kitchen sink and dishwasher. Greywater does not contain wastewater from the toilet, urinal, or a bidet.

2. Why should I reuse Greywater?

Greywater is a significant water resource provided it is managed in an environmentally responsible manner and that public health and the health of the household is protected. By capturing greywater and using it as an alternative to the town water supply in an appropriate manner you can reduce your water consumption. Your water account will reflect this reduction in water use and this will create positive environmental outcomes.

3. Is it safe to reuse Greywater?

Yes, if used with care and within legislative guidelines. Greywater can contain disease-causing micro-organisms such as bacteria, protozoa, viruses and parasites. It may also contain fats, oils, detergents, soaps, salt, nutrients, food and hair derived from household and personal cleaning activities. These constituents can pose both health and environmental risks. However, the public health risks associated with the reuse of domestic greywater onsite are considered low, as the source of the contamination would be from the immediate family. Other sources of transfer of pathogens around the immediate family would be considered a higher risk, such as direct physical contact or sharing of food and utensils. Similarly the risk of environmental damage from the careful use of greywater is low.

4. How can I reduce the risks associated with Greywater reuse?

Greywater should only be used in the garden. The following measures will reduce the health and environmental risks associated with use of greywater;

- Don't use sprinklers with greywater,
- Don't use grey water from the kitchen
- Don't put greywater on food plants,
- Don't put greywater on lawns where children are likely to play,
- Don't allow greywater to leave your block,
- Don't irrigate with greywater during periods of wet weather,
- Use subsurface irrigation systems,
- Not allowing greywater to enter the stormwater system and
- Make sure the greywater does not create a nuisance i.e. odours or ponding

5. My neighbour is reusing Greywater, is my property still safe?

Appropriate reuse of greywater is not considered to be a health threat to neighbouring properties.

6. Are there any regulations about Greywater reuse?

The Public Health Act (2005) can be used to control actions that would impact on the health of your neighbours. If greywater flowed on to your neighbours' property, or you created an aerosol or odour problem, this act could regulate your activities.

The Environment Protection Act (1994) can be used to control actions that would cause environmental impact, for example if you allowed greywater to flow off your block or to contaminate groundwater or soil this act could regulate your activities.

The Water Act 2000 and the *Plumbing and Drainage Act 2002* require that any modification of the drainage of waste from sinks, baths or showers be conducted by a licensed plumber. - Plumbing and drainage work associated with the installation of a greywater diversion valve or treatment system must be carried out by a licensed plumber. Council approval must be obtained prior to the installation of any greywater systems. Such systems must be installed by a licenced plumber and disigned by a competent person.

7. What are the environmental risks associated with reusing Greywater?

Many of the contaminants in greywater can be processed by soil or plants if the system is not overloaded. These include organic material, nutrients, salt and sediment. Nutrients can even be beneficial in moderate concentrations (eg on lawns but not on native plants). Some greywater contaminants are not capable of being treated or degraded in the soil. Principal among these is salt, which can comprise up to 30% of some laundry detergents and can cause soil degradation. Excess salt can cause damage to the soil structure.

8. If I am going to reuse Greywater can I improve its quality by using different types of soaps, detergents etc?

Yes. The choice of cleaning products can reduce environmental impact of greywater. Common washing powders contain sodium salts as bulking agents that produces a saline (salty) greywater. Some detergents and powder cleansers contain boron that can be toxic to plants in high concentrations.

It is recommended that for clothes washing you select products low in sodium; either liquid concentrates or powdered products that use potassium salts. There are websites that list the sodium content of a range of laundry products.

9. Can greywater from all parts of the house be reused?

Kitchen Greywater

Kitchen wastewater can be heavily polluted with food particles, oils, fats, and other wastes, it can also contain high concentrations of micro-organisms. It is often polluted with detergents and cleaning agents, particularly those from dishwashers which are very alkaline and may be harmful to soils and plants by altering their characteristics in the longer term. For these reasons kitchen greywater is not allowed for reuse under the *Plumbing and Drainage Act 2002*.

Bathroom

Chemical constituents of bathroom greywater include soap, shampoo, hair dyes, toothpaste and cleaning chemicals. Greywater from hand basins is more polluted than bath or shower greywater, but is much lower in volume. Some of these contaminants act as plant nutrients and can be beneficial in the garden, but others can adversely affect plants or soil structure. Concern is often expressed about people urinating in showers and baths and the associated health aspects of using this greywater in the garden. However, urine in a healthy person is sterile. While some bladder infections may pass micro-organisms in urine, the potential for these organisms to survive and cause infection is considered remote. Greywater from the bathroom is suitable for reuse.

Laundry

Greywater from the laundry improves in quality from wash water to first rinse water to second rinse water. Bacterial loads in laundry greywater are not usually high except when nappies are washed. Chemical contaminants of the wash cycle water are soap, salt, sediment and organic material. If used for garden watering the wash cycle water can damage plants and soils and create bad odours. Rinse water contains a much lower pollutant load and the use of this water poses a much lower threat to the environment and to public health.

Domestic pets, which are washed in the laundry tub, can be a further source of contamination for greywater.

Greywater from the laundry, particularly rinse water is suitable for reuse.

12. Can I store Greywater on my property before I use it?

Untreated Greywater that is stored for a number of days will go bad and give rise to offensive odours. Should this Greywater then be surface irrigated it will produce extremely offensive odours, and may provide conditions conducive to disease transmission and attract insects and rodents.

For these reasons untreated Greywater must not be stored for more than 24 hours. When the immediate reuse of greywater is not practical, for instance during periods of wet weather, greywater should be directed to sewer system.

Gladstone Regional Council does not permit the storage of grey water at any time.