

## Sources of water for your garden

Rainwater, greywater and bore water can be great sources of water for garden watering, particularly when used with efficient watering methods.

### RAINWATER TANKS

A simple way to use rainwater is to connect a tank to the closest downpipe and use a bucket, watering can, or a gravity-fed irrigation system to water the garden. This avoids the need for a pump.

If you would like to achieve more water savings through the use of your tank, you can also have it plumbed into your home for use in clothes washing or toilet flushing.

A pump is usually necessary to boost pressure and flow if you are plumbing your tank water into your toilet or washing machine, or using it in an irrigation system that requires pressure to operate.

### Tank size

The size of tank best suited to your needs depends on a number of factors, including:

- the area of roof available to capture the rain;
- how you plan to use the rainwater;
- the available space to install a tank; and
- the number of people in your house (if you plan to use the rainwater inside as well as in your garden).

### Approvals and regulations

The ACT Planning and Land Authority can advise on any development, building or plumbing approvals required, and any plumbing regulations that must be met, for the installation of your tank.

### More information on rainwater tanks

The ACT Government's *Rainwater tanks - Guidelines for residential properties in Canberra* (available from [www.thinkwater.act.gov.au](http://www.thinkwater.act.gov.au)) provides information about installation requirements, issues to consider, regulations and approvals, as well as tables and charts to assist you to choose the right size tank for your household. You can also estimate your water savings per year with the calculator at [www.actpla.act.gov.au/topics/design\\_build/siting/water\\_efficiency/residential\\_calculator](http://www.actpla.act.gov.au/topics/design_build/siting/water_efficiency/residential_calculator)

### GREYWATER

Greywater is wastewater generated from hand basins, showers, baths and spa baths, washing machines, laundry tubs, kitchen sinks and dishwashers. This fact sheet does not address blackwater use, which is wastewater generated from toilets, urinals and bidets.

### Sources of greywater suitable for your garden

Generally washing machine rinse-cycle water and basin, bath and shower water are the most suitable sources of greywater for garden watering. If you use low-salt, phosphorus free detergents you may not need to restrict the use of washing machine water to the rinse cycle only, and could use all the laundry water with care. However, laundry water from soiled nappies or wash water from domestic animals should not be used.

Greywater from kitchen sinks and dishwashers contains fats, oil, and food particles. Often it is chemically polluted with alkaline detergents and cleaning agents, which over time may damage the soil and your plants. Kitchen water from these sources is not suitable for reuse on gardens.



### **Storage and treatment of greywater**

**Untreated** greywater must not be stored for more than 24 hours, as it may create a health risk due to the growth of microorganisms. Storage of greywater can also cause offensive odours.

Greywater **treatment systems** are designed to remove microorganisms and pollutants from greywater, so it can be stored for longer periods. Before installing a treatment system, you should consider the costs involved, as well as your responsibility to ensure the system is maintained so it does not create a public health or environmental risk. Greywater treatment systems will require regular maintenance, such as cleaning or replacing of filters, and desludging of the holding tanks. Often a professional is required to ensure the system is operating efficiently.

### **Moving greywater into the garden**

The simplest systems involve diverting greywater from the washing machine and/or bathroom directly to the garden or lawn. This can be achieved by:

- using a bucket or siphon to transfer water;
- connecting the washing machine discharge hose to a diversion hose leading to the garden. A washing machine pump is designed to operate with minimal resistance. To protect the pump from damage, use a large diameter hose and only divert to areas lower than the height of the washing machine; or
- fitting the laundry tub waste pipe with an approved hand-operated diversion valve. You can then easily switch the plumbing diversion device to divert greywater, by gravity, from the laundry tub through a hose to the garden. This valve must carry a Watermark approval and can only be installed by a licensed plumber.

### **Tips for safe use of untreated greywater**

- Only use greywater from washing machines (preferably the final rinse water), baths and showers.
- Choose biodegradable cleaning products that contain no phosphorus and are low in salts. Concentrates and liquid detergents generally contain less salt.
- Don't store untreated greywater for more than 24 hours.

- Don't use domestic garden hose that may be used for other purposes to distribute greywater.
- Only apply enough greywater for the soil to absorb, and ensure your greywater does not pool or pond, or leave your property.
- Avoid greywater use when the soil is wet or rain is imminent.
- Regularly move the distribution point for greywater to different parts of your garden.
- Water greywater-irrigated areas periodically with tap or rainwater to reduce salt build up.
- Stop using greywater if odours are generated and plants do not appear to be healthy.
- Avoid spraying or sprinkling greywater. The best irrigation systems for greywater are piped under the ground, although some people also use drip irrigation or put piping under mulch.
- Don't use greywater on food plants that are eaten raw.
- Don't use greywater where children or pets (especially dogs) are likely to play.

### **More information on greywater**

For more detailed information on greywater reuse see the ACT Government's *Greywater Use – Guidelines for residential properties in Canberra*, available from [www.thinkwater.act.gov.au](http://www.thinkwater.act.gov.au), or call

- ACT Health, Health Protection Service, Ph: 6205 1700 (health issues)
- ACT Planning and Land Authority, Ph: 6207 6262 (building and plumbing enquiries)

### **BORES**

In the ACT, new bores are no longer allowed on urban residential properties. Where there is an existing bore it can provide a valuable alternative to potable water.

The reliability of a bore can vary with time and is influenced by both climate and extraction rates. The cost of operation and maintenance depends on how deep the water lies below the surface.

The quality of bore water can vary significantly and often has a high concentration of salts and dissolved minerals such as iron and calcium. These can have a detrimental effect on soil structure and plant growth, and may block tap and irrigation fittings.

The effects of bore water are increased where evaporation is high, since this further concentrates the salts in the soil. It is recommended that bore

water is tested prior to use and periodically over the life of a bore to ensure it is a suitable quality for its intended use.

Depending on the quality of your bore water, your tank bore and pump may require regular maintenance. Also, bore water that is high in dissolved minerals and salts may damage plant foliage, so always water the plant root zone.

In the ACT, a Water Access Entitlement must be held before a licence to take water can be issued. A licence to take water is required for every bore. For further information, contact the Department of the Environment, Climate Change, Energy and Water.

#### **MORE INFORMATION**

For more information on water efficiency tools rebates and *Think water, act water* initiatives:

Ph: 13 22 81

Email: [WaterResources@act.gov.au](mailto:WaterResources@act.gov.au)

Website: [www.thinkwater.act.gov.au](http://www.thinkwater.act.gov.au)