

SAVE WATER - SAVE MONEY

Byron Shire Council

CONSERVING WATER

Why it is important to conserve water

To supply this region with water, there is in storage at any time less than one year's water supply. Sometimes, including much of 1991, there is much less than a year's supply. although rainfall is plentiful and regular, the amount of water which can be supplied with the present works is about what is presently being used. So, unless we take some action soon we will need new supplies of water at considerable cost.

Also, as a Shire-wide average, about 75% of all water used is disposed of to the sewer after it is used. The volume of effluent is growing quickly and the standard to which it must be treated is rising. Soon we will need new treatment plants in nearly all towns of the Shire at substantial cost. So, if we can reduce water consumption, we stand to gain from reduced rates and charges and from reduced impact on the environment in Byron Shire.

What to DO to SAVE WATER

DO...

- * *Leave your grass a few centimetres long and mulch it*
- * *Plant native plants in the garden which do not need to be watered once established. (Council has a brochure on suitable plants).*
- * *Water only when necessary.*
- * *Wash the car from bucket, and hose down on the grass to make best use of the water.*
- * *Install a low-flow shower rose.*
- * *Adjust your toilet to flush on the minimum (8 meters per flush is a common limit).*
- * *Wait until you have a full load before using the dishwasher or washing machine.*
- * *Fix leaks and dripping taps as soon as possible.*
- * *Report leaking mains and hydrants to the Council as soon as possible.*
- * *Think about whether you want to pay for more water or use the money for something else.*

BUT DON'T...

- * *Leave an unattended hose running (stand and water the plants or use a tap timer).*
- * *Flush the toilet unnecessarily (use the bin for rubbish disposal).*
- * *Hose the path or the house (sweep instead).*
- * *Peel vegetables under a running tap (use a bowl or fill the sink).*
- * *Rinse the plates under a running tap (use a bowl or fill the sink).*
- * *Brush your teeth with the tap running.*
- * *Fill and empty the pool unless you have to.*

Other newsheets in this series deal with:

Saving Water in the Kitchen
Saving Water in the Bathroom
Saving Water in the Laundry
Saving Water in the Garden
Selecting Plants for a Low Water use Garden
Roof Water Tanks in Town Areas

Some facts about the Shire's water usage

Number of water consumers	5,550 (about 4,000 are sewerred)
Metered water use	about 2,250 ML/y
Average water use (all consumers)	350 kL/y
Average water use (domestic consumers)	315 kL/y

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SAVING WATER IN THE BATHROOM

Typically, about 40% of all household water use occurs in the bathroom.

Purchasing a new bathroom

In the past, if you were purchasing a new bathroom or a new house, it was common to make decisions based only on colour and decorating sense, and take pot-luck with the technology of the equipment. Today, you should consider whether you can afford to make decisions this way. today, if you select older-style equipment, it could cost an average size family \$15.00 per year or more in water and energy compared to more informed selections.

When you select bathroom equipment, in approximate order of importance you should install:

- * A low-flow shower head.
- * A low-volume, dual -flush toilet.
- * An aerated spout or tap at the sink.

You should also avoid having a bidet, unless you are prepared to pay the extra water and energy bills.

Shower Head

The shower is the second largest water user in most houses (after the garden).

Older style universal shower heads use 12 litres per minute or more. Newer low-flow shower heads typically use about 8-9 litres per minute.

A low-flow shower head is the best investment you will make all year. The water and energy that you use for a shower costs about \$1.70 per kilolitre or more, so for a 10 minute shower there would be a saving of about 7 cents. Over the year, this is about \$25.00 per person.

Toilet

Typically, the toilet is the point in the house with the third largest water use, after the garden hose and the shower.

Low-volume, dual-flush toilets are not compulsory in Byron Shire (they are in many capital cities now, including Brisbane which insists on flush volumes of 6 litres and 3 litres). But they will save you a lot of money over time if you install them. They have about the same purchase price as the older single-flush volume type with high water consumption and can be bought in a range of colours and styles.

If you are getting a new toilet, get a good low-water use one. Conversion kits are available for some toilets to make them dual-flush. These are relatively cheap and can pay for themselves within a year or so from the savings in water.

Reducing water use in your present bathroom

If you already have a bathroom, you can reduce your water consumption by:

- * Installing a low-flow shower head (these are quite cheap and there is a large range).
- * Taking shorter showers.
- * Adjusting the toilet to flush on the minimum; for modern toilets this is often 8 litres.
- * Flushing the toilet only when necessary; don't use it as a garbage disposal.
- * Fixing any leaks in the equipment or the washers.
- * Turning off the tap while you clean your teeth.

For many toilets you can get conversion kits to make it a dual-flush system. Toilets with a top press button are the easiest to convert.

Checking the toilet for leaks

you can check the toilet for leaks by putting food dye in the cistern and watching the water in the bowl to see if it starts to colour over the next few minutes. If it does, you need to replace the seal in the cistern.

Leaks and dripping taps can waste a lot of water. Fix them all as soon as possible.

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SAVING WATER IN THE KITCHEN

About 10% of all water used in the average household goes in the kitchen. These are the ways in which kitchen water is commonly used:

Dishwashers	30-90 litres per wash
Dishwashing by hand	18 litres per wash
Drinking, cooking, household cleaning	6-10 litres per person per day
Waste disposal unit	30 litres per day

It is possible to save water in each one of these areas.

Taps

There are many types of taps, including the following ones that are useful for saving water.

Aerating taps and spouts) are relatively inexpensive and effective. They can reduce flow rates by up to 50% and provide the same ability of the stream to wash. They also reduce splashing.

Quarter-turn taps provide better control over water flow. Water savings are estimated at 5% of conventional taps. Also, because they have ceramic seats, they are less liable to leak.

Single-lever taps (mixing taps) can prevent wastage by avoiding the need to use separate hot and cold taps to balance water flow and temperature. They also have ceramic seats. Their water savings are similar to those for quarter-turn taps but are only suitable for mains pressure.

Spring-loaded and electronic taps turn off automatically. They are more suited to public and industrial use than to household.

Leaks

Leaking taps are not only annoying, they can cost a lot of money. One drip per second is about 7kL per year. A steady dribble will waste hundreds of kilolitres per year and add considerably to your water bill. If the leak is from the hot water, you may have less of it when you want it and it will cost a lot of money for energy.

Garbage disposal units

These are very convenient, but on average they use about 30 litres of water per day and add considerably to the sewage problem. A better way to dispose of fruit and vegetable scraps is to compost them for the garden.

Dishwashers

The water required for a dishwasher can be as low as 30 litres and as high as 90 litres per load.

When you are buying a dishwasher, always ask how much water is used per cycle because over the life of the machine this could be a more important consideration than the purchase price of the machine.

The lower water use dishwashers use water more efficiently than washing-up by hand (assuming normal care of water with hand-washing).

A dishwasher comes ready to connect to the hot or cold tap. Dishwashers connected to the cold tap are often more economical because some cold water is used for rinsing.

Some helpful hints

- * *Never wash the plates under running water; use a bowl of water or fill the sink.*
- * *Peeling vegetables under running water wastes a lot; use a bowl of water or fill the sink.*
- * *Do not use hot water when cold will do.*
- * *Fix all leaks and drips as soon as possible; the water is valuable.*
- * *Some dishwashers have economy cycles which use less water. Select these where appropriate. Generally, they clean ordinary dishes but not heavily soiled cooking utensils.*
- * *Always wait until the dishwasher is full before using it; this gives the best economy.*

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SAVING WATER IN THE GARDEN

The garden is often the place where most household water is used and where most water can usually be saved. If you want your garden to look nice and enhance your house (most people do), you can achieve this effect without using a lot of water - even when it is dry.

A separate leaflet deals with plant selection for low water use gardens and there are books in the Byron Shire Library on this aspect of gardening.

When to apply water

Water should be applied only when necessary for plant health. In sandy soils this means that water should be applied at several days interval in the hottest weather. In loamy soils a good soaking every week in the hottest weather will probably be better for most mature plants than daily watering.

Sandy soils do not hold as much water as loamy soils and pass excess water easily below the plant root zone where it is wasted. So, apply only what is needed.

Apply water when the sun and wind are low. On a hot summer day, more than half of all the water poured onto gardens can be wasted through evaporation and run-off.

Mulching

Applying a mulch to the soil will reduce the evaporation directly from the soil surface and will make watering more effective. Organic mulches (like compost, straw, dry manure and bark chips) will also assist the soil to develop a good structure so that water enters it more quickly and deeply. The soil will also hold more water with a higher organic content. Organic mulches generally have to be used on flat areas or incorporated in the soil around the wet season or they will float away when the rain comes.

Mulching also helps keep down weed growth; some inorganic mulches, like plastic weed matting, can stop them altogether. Talk to your local nursery about what is best for your plants.

How to water

The aim of watering is generally to apply water to the roots. Generally, if you apply water to the leaves, the first 2-3mm of water is caught on the leaves and evaporates quickly later. (Some fertilisers require foliar application of water containing the fertiliser but these require the use of a watering can or an approved hand-held device and are not much used in the garden. Some plants called Bromeliads also require watering from above).

Watering lawns

Most lawns will survive and even look well without watering. You can encourage the lawn to be drought-resistant by:

- * *Cutting it no shorter than 20-30 mm from the soil (ie some leaf still in place).*
- * *Aerating any compacted areas with a spike or fork to get the water to soak in better*
- * *Fertilising lightly (and only occasionally) with a commercial lawn food.*
- * *Leaving some or all of the clippings on the lawn - this reduces the need for fertiliser.*
- * *Planting lawn varieties which are appropriate to the climate.*

Watering systems

All watering systems are capable of abuse and will only save you time, energy, water, fertiliser and anything else if you adjust them correctly. The Australian Water Resources Council has indicated that most elaborate systems tend to be out of adjustment most of the time and should be avoided unless there is adequate attention to operation.

The simplest system for watering the garden is a hose with a tap timer. If you are going to water the garden and leave the hose unattended, a tap timer ought to be your minimum equipment.

Drip and Trickle systems

Drip and trickle watering systems are sometimes called local irrigation because they do not wet the soil surface much but apply the water directly where a plant needs it. These systems promote low water use.

Drip systems (in common with all irrigation systems) can only be connected by the householder to the tap and not to any other water supply connection. A qualified irrigation installer or a plumber is required to connect to the water mains or your own pipes.

Jet sprays

Jet sprays are generally used to water the ground near the plant roots and do not spray water high in the air. They are therefore low water use devices. They are useful for fruit trees as they can wet a significant volume of soil for the tree (whereas a single dripper per tree does not). Jet sprays are also useful for flower beds.

Movable sprinklers ('a Drag Hose')

This system relies on you knowing where you want to water and how much you have previously watered other nearby areas. It looks like a simple system but unless you are watching carefully, it is easy to water areas which do not need it and leave out ones that do need it.

If you use 'a drag hose' system, then make notes on where you watered and get to know how hard you turn your sprinklers on to get the throw you need. (Make sure you don't use a pressure which is too high or too low and waste a lot of water).

Pop-up sprinklers

These should be installed by a professional to meet Council's requirements for back-flow prevention. If you have a system of this type and it has an automatic controller, ensure that you adjust the controller so that whenever it rains, watering stops. You can get rain sensors for most systems which assist a little, although a better system is to use a tensiometer or gypsum block to turn the system off if the soil moisture is high. Better still, use manual operation.

All automatic systems require constant regular attention to make sure they are operating to peak efficiency. Back-flow prevention devices can go out of adjustment and waste water, so they should be inspected regularly.

Tank water

Unless it is disinfected, tank water collected in town is not particularly healthy for drinking, but is useful for the garden.