



## CONSERVING WATER

Byron Shire Council has given utmost priority to total water cycle management. This includes educating the community on ways to conserve water.

On average each person in the shire uses 242 litres of water per day. That means the average 3-person household uses approximately 726 litres of water per day.

Approximately three-quarters of the water entering the home ends up as waste water. This includes water from the toilet, shower, bath, laundry, and kitchen. Waste water leaves the home via the sewerage system, and is transported to treatment plants where it is cleaned to make it suitable for release back into the environment.

### REDUCING WASTE WATER

Reducing waste water is an immediate aim of Byron Shire Council.

The volume of waste water generated in the shire has increased substantially over recent years, *and it is continuing to grow*. The increasing volume of waste water places pressure on the treatments plants. When the plants become overloaded they may be unable to efficiently treat the waste water to the standard required before it re-enters the environment, this in turn can affect the quality of our rivers and oceans.

The hydraulic loads currently processed by the Shire's treatment plants are a major concern. By becoming aware of the amount of waste water we all create we can reduce the amount entering the sewerage system. **Reducing waste water can be as simple as reducing the amount of water used in the first place.**

If everyone in the Byron Shire reduced the amount of water they used by 10% our impact on local waterways would be substantially improved.

### THE ENVIRONMENT

By using less water the need to build new dams can be deferred. When a new dam is built valuable land is flooded and it causes major changes to the environment both upstream and downstream of the dams catchment. Saving water also reduces the need to replace existing water pipes and reservoirs.

Despite the abundant rainfall in this region water remains our most precious resource. It is an essential part of our lives, and unfortunately, is often taken for granted. Humans can only live approximately two weeks without water but up to a month without food. It is easy to often use more water than is needed.

There are many good reasons to reduce water consumption. Over-using water increases our impact on the environment and costs us all money. Follow these tips to save water and money and to improve the environment for everyone.

# TIPS FOR SAVING WATER

- **IN THE BATHROOM**
- **IN THE LAUNDRY**
- **IN THE KITCHEN**
- **IN THE GARDEN**

## • **IN THE BATHROOM**

**Typically, about 40% of all household water is used in the bathroom and toilet. If you follow the tips below this amount can be reduced.**

- Turn off the tap when brushing your teeth and shaving. Leaving the tap on can waste up to 5 litres each time you brush your teeth. (That's 10 litres per person per day). A cup of water can be used instead to rinse your mouth when brushing or to rinse your shaver when shaving.

### *Showers*

**The shower is the second largest water user in most houses** (after the garden). This can be reduced by

- Taking shorter showers
- Installing water efficient shower roses.

Older style universal shower roses can use between 12 - 20 litres of water per minute. Water efficient shower roses use about 8-9 litres of water per minute. A good quality, water efficient, shower rose will still provide a comfortable shower.

### *Toilet*

**The toilet is the third largest water user in the home**, after the garden and the shower. Ways to reduce the amount of water used by the toilet include:

- Installing a dual flush cistern or buying a dual flush conversion kit.

These can reduce the amount of water used in the toilet by up to 50%. Low-volume, dual-flush toilets are compulsory in many capital cities including Brisbane, which insists on flush volumes of 6 litres and 3 litres. A dual flush toilet will save you money over time. They have about the same purchase price as the single-flush toilet and can be bought in a range of colours and styles.

- Checking that your cistern is not leaking. It's easy. Put a few drops of food colouring in the cistern. If the colouring appears in the toilet bowl, without the toilet being flushed, there is a leak. Leaks can be easy to fix. Contact a plumber.
- Flushing the toilet only when necessary. A toilet uses about 10 litres per flush. Flushing cotton buds and other bathroom rubbish down the toilet wastes lots of water. Don't use the toilet for garbage disposal, use a bin.

## ● IN THE LAUNDRY

Front loading washing machines use about 25% less water, and a lot less energy, than top loaders. Some machines also have water saving options such as variable water levels for small loads and suds saving, where the wash water is re-used.

Next time you are due to replace your washing machine think about a front loader.

## ● IN THE KITCHEN

The kitchen uses about 10% of all water used in the average household. A breakdown of kitchen water use is:

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 (7000 litres) 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 will also be wasting money on your energy bills

### **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.

- Always make sure the dishwasher is full before using it and use the economy cycle whenever possible.

## ***Some helpful kitchen hints***

- \* Never wash the plates under running water; fill the sink or use a bucket if camping or away from the kitchen sink.
- \* Peeling vegetables under running water can waste a lot of water; use a bowl of water or fill the sink.
- \* Fix all leaks and drips as soon as possible; the water is valuable. One dripping tap can waste up to 200 litres of water per day.

# ● IN THE GARDEN

**The garden is the biggest single user of household water.** It is also the place 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.

Follow these simple tips.

### ***When to apply water***

- Don't use a hose or sprinklers during the hottest parts of the day, half of the water will evaporate. Water only when necessary.

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. Water in the evenings when it is cool.

- Water harvesting is another good idea – instead of being wasted rainwater run off can be directed away from drains into plants via special drains.
- Plant native trees, which do not need watering once they are established. 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.

## ***How to water***

The aim of watering is to apply water directly to the roots. If you apply water to the leaves, the first 2-3mm of water is caught on the leaves and evaporates quickly.

## ***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 appropriate to the climate.

## ***Watering systems***

- Automatic sprinklers should have a rain sensor or moisture over ride switch.
- Check drip watering systems. They can turn into big water wasters if left to run continuously.

All watering systems are capable of wasting water. Adjusting them correctly will save you time, energy, water, and fertiliser. The Australian Water Resources Council has indicated that even the most elaborate systems tend to go out of adjustment at some 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.

### *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 that do not need it and leave out ones that do.

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.

### *Pop-up sprinklers*

A professional plumber should install all pop-up sprinklers in order 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. Rain sensors are available for most systems, however 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 at peak efficiency. Back-flow prevention devices can go out of adjustment and waste water. It is a good idea to inspect them regularly.

### ***Mulching***

- Mulch not only saves water but reduces weeds as well.

Applying 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.

### ***Helpful garden hints***

- Sweeps paths with a broom not a hose – there's no point watering concrete.
- The average in ground swimming pool takes about 55,000 litres to fill. Use a pool cover to avoid losing water to evaporation.
- Wash the car on the lawn using a bucket to make the best use of water

## **REMEMBER**

When buying any water appliance make sure you look for the AAA water efficiency rating:

- A** = Acceptable water efficiency
- AA** = High water efficiency
- AAA** = Excellent water efficiency

## **\$AVING MONEY\$\$**

Byron Shire Council's water and sewerage rates are charged by volume. So saving money is easy, the less you use the less you pay!

The biggest water uses in the home are the shower, the toilet and the garden. Reducing water usage in these areas will achieve the greatest savings in energy and water costs for most families.

The average 3-person household could save over \$120 per year in water and energy costs if they do all of the actions in the table below. If they also save water in the garden this could increase to \$160 in savings each year.

<b>ACTION</b>	<b>Typical Saving</b>
Install a low flow shower	\$24 / person/ year
Fix dripping water tap	\$10 / yr
Water with a tap timer	\$20 / yr
Wash car with a bucket	\$11 / yr
Change toilet cistern	\$ 5 / yr

**FOR MORE INFORMATION ON HOW YOU CAN  
SAVE WATER AND SAVE MONEY,  
CONTACT BYRON SHIRE COUNCIL'S  
WATER EDUCATION OFFICER ON 6626 7000.**