OUR WATER SUPPLY
SO NEAR YET SO FAR...

The Emigrant Creek **water supply system** supplies water from this water catchment to your tap! It is made up of the catchment, dam, water filtration plant, pipelines, and reservoirs, all managed by Rous County Council.

Rain falls into the **catchment** of Emigrant Creek Dam. This catchment is an agricultural area with rural residential and some tourist development. It contains macadamia farms and stonefruit orchards, coffee and banana plantations, dairying and cattle grazing, vegetable growing, fish farming and plant nurseries. (You will learn more about this catchment later in the Water Walk.)

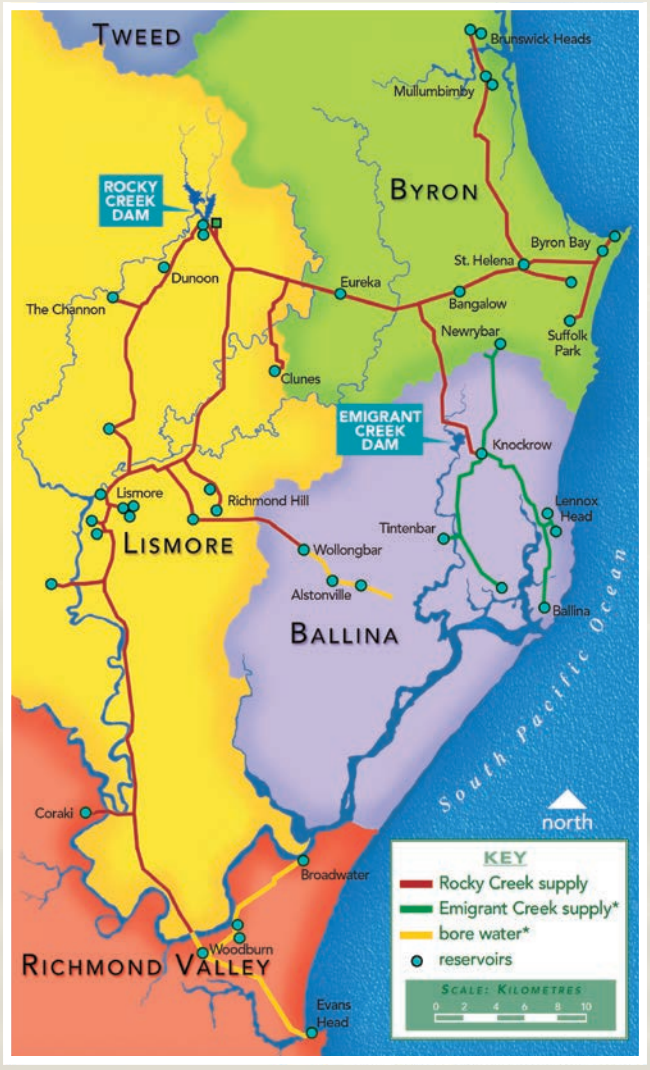
Emigrant Creek Dam contains 820 megalitres of water when it is full. That is the equivalent of 410 Olympic-sized swimming pools (like the pool in Lismore)! The dam wall is 10 metres high and is made of about 6000 tonnes of rock, soil, concrete and steel. It was constructed in 1967-8, and it flooded 31 Hectares (77 acres) of farmland. At that time, it provided the major water supply to Lennox Head and Ballina. In 1996, the Rous County Council water supply system was connected to these areas, and Emigrant Creek Dam has been used to supplement the water supply from Rocky Creek Dam.

The Emigrant Creek water supply system supplies water from this water catchment to your tap!

The run-off from the catchment produces water with a high level of nutrient and sediment, due to the large amounts of fertilizers used on the agricultural land. This is particularly so when the water level is low in the dam. This means that water needs to be treated and filtered before being distributed for human use. (You will learn more about the process of **water treatment** in the next sign and information sheet on the Water Walk.)

The treated water then flows downhill through pipes from the dam and water filtration plant to a series of large tanks or **'reservoirs'** placed throughout the region.

Reservoirs are used so that large pipes don't need to go all the way into towns from the water treatment plant. They work by evening out our 'demand' for water. At some times of the day,



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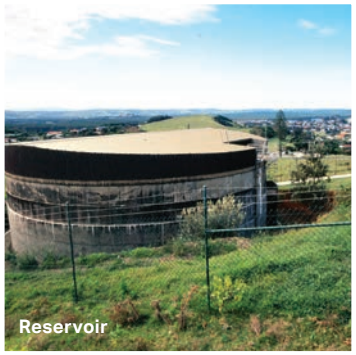
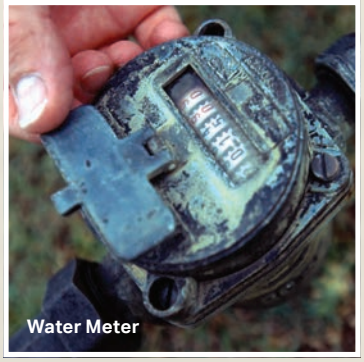
The amount of money you pay for water rates depends on how much you use. If you use less, you pay less.


Reservoir


Pipes


Water Meter

people use a lot of water all at once (eg, when everyone gets into the shower early in the morning before work and school, or when they get home in the evening and water the garden). If we had to supply all these people with water at the same time from the dam and water filtration plant, we would need a huge treatment plant and pipelines. Instead, water is treated steadily day and night and transported to the reservoirs. That way, there is a lot of water stored nearby, ready to be used when everyone wants it at once.

These reservoirs are often placed on the top of hills, so that water can flow by gravity to houses and businesses. Some of these reservoirs are higher than Emigrant Creek Dam and so water needs to be pumped up to them.

The network of large **pipes** called 'water mains' that supply these reservoirs is a total of 50 kilometres long! Most of these pipes are underground, but they are marked by white posts coming out of the ground. Maybe you've seen them in paddocks or running along the side of roads. The network of smaller pipes that take water from the reservoirs to houses and businesses is a total of another 350 kilometres!

Before the water gets to the taps in your home, school or business, it passes through a **water meter** that is on each property. The meter measures how much water is being used.

The amount of money you pay for water rates depends on how much you use. If you use less, you pay less. (You will learn more about how to conserve water later on the Water Walk)

We usually just turn on the tap without thinking about all this!

Upon its completion in 1968, the water supply system to Ballina and Lennox Head cost $1,178,000. (It would cost about $25,000,000 to construct it today). Operation and maintenance of the Emigrant Creek Dam system costs Rous County Council about $1,500,000 a year. Your water rates pay for this.

(Sources; 'From Catchment to Tap' poster by Rous County Council : 'Buffer Zone Improvement Programme – Emigrant Creek Dam: Review of Environmental Factors' (Oct 2002) by Rous County Council; 'Reforestation Plan – Emigrant Creek Dam' (July 2001) by Rous County Council).

TRY THIS!

Learn with your...

"If you live or work in the region of this map, locate where your house, school or workplace is. Using the scale on the map, calculate how far water has to travel from Rocky Creek Dam or Emigrant Creek Dam to where you use it."

"Can you imagine what life would be like without such a water supply system? Where would we get our water from? How would we make sure it was safe to drink? How do you feel about this?"

"If you live or work in the region of this map, locate where your house, school or workplace is. Use your finger to trace the source of the water that you use there. Find the closest reservoir, and the pipeline back to Rocky Creek Dam or Emigrant Creek Dam."

Learning objective: *To understand and appreciate the existence of the different components of the water supply system.*

For further information contact:

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