

What is Wastewater? - Gold Coast -

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What is Wastewater?

Wastewater or sewage is any water that has been affected in quality by a human influence. It includes liquid waste discharged from our homes, commercial properties, industry and agriculture. The average person produces approximately 250 litres of wastewater every day (GCCC 2007).

Water on the Gold Coast comes from the hinterland area at Springbrook. It travels via rivers, streams and underground seepage to our dams, including Hinze Dam and Little Nerang Dam, before being transported through a series of pipes and pumping stations.

Once water is used, its treated and either reused or carried back into the rivers and ocean where the process starts again.

Where does it go?

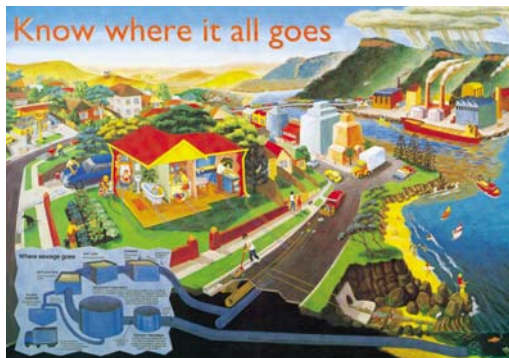


Image: Know where it all goes (NSW EPA 2004)

Wastewater Treatment Plants

Gold Coast Water is responsible for the collection, treatment and disposal of wastewater. Gold Coast City has four wastewater treatment plants located at Elanora, Merrimac, Coombabah and Beenleigh. Wastewater is treated to a high standard and released to either the Gold Coast Seaway or the Albert River, or recycled.

Approximately 130 million litres of wastewater is treated each day by the wastewater treatment plants, and approximately 15% is recycled for use in irrigation of golf courses, parks and nurseries (GCCC 2007). Other waste material collected at the treatment plants such as grit, which cannot be recycled, is sent to landfill.

Gold Coast treatment plants are designed to treat a maximum of 133 million litres of wastewater per day – that is an average of 250 litres of wastewater per person daily (GCCC 2007).



Image: Wastewater treatment plant (GCCM 2006)

Treatment levels

The level of treatment ranges from primary to tertiary.

Primary: is the initial stage of sewage treatment and involves removing solid particles. Sewage is filtered through fine screens to take out solid matter such as paper and plastic. It then flows into primary sedimentation tanks where human waste, or sludge, settles to the bottom and the oils and grease float to the top where it is collected.

Secondary: treatment removes dissolved and suspended organic and inorganic solids, through bacterial decomposition, which breaks down the material. The

effluent flows into tanks where bacteria grows and naturally treats the wastewater. The liquid flows into sedimentation tanks where more particles then settle to the bottom for collection.

Tertiary treatment further removes inorganic compounds and substances, such as plant nutrients nitrogen (N) and phosphorus (P). Chlorine is added to kill off the bacteria.

What is Recycled Water?

Recycled water is treated wastewater not released into the ocean but instead used for non-drinking purposes such as agriculture, golf courses, parks and gardens, and on development sites.

Gold Coast Water's objective is to manage water resources by:

1. Reduce (consumption)
2. Use/Recycle (water/recycled water)
3. Release (wastewater)

Council has recently started construction on a new wastewater treatment plant and recycled water treatment plant in Pimpama that will produce Class A+ recycled water. This is the highest class of defined recycled water in Queensland. The Pimpama Coomera Master Plan looks at delivering Class A+ recycled water directly to homes via a colour coded dual reticulation system for toilet flushing and outdoor use.



Image: Sprinkler using recycled water (GCCM 2006)



Image: Recycled water for outdoor use (Gold Coast Water 2007)

Water Quality

Gold Coast water is tested regularly for microbiological, physical and chemical quality as it leaves the treatment plant.

Water generally contains:

- Chlorine – to remove water-borne disease
- Lime – maintain pH
- Aluminium – as a result of natural leeching from soil and rocks in the dam catchment area
- Other metals are found in the water supply in trace level concentrations.

What about Stormwater?

Any water that runs off into drains is stormwater. This includes nutrients from runoff, sediments from construction, detergents, oils and chemicals.

For further information on stormwater please refer to the 'What is Stormwater?' information sheet.

Further information

For further information please contact Griffith Centre for Coastal Management on (07) 5552 8506 or email gccm@griffith.edu.au

Griffith Centre for Coastal Management Information Sheet