Recycled Water
FACT SHEET

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Is Recycled Water safe to use?

Recycled water undergoes a high standard of treatment to ensure it is safe and suitable for its purpose. Recycled water schemes are approved by the designated regulatory authorities and have to adhere to legislation. Regular monitoring and reporting is undertaken (and required) to ensure the quality of the water being supplied.

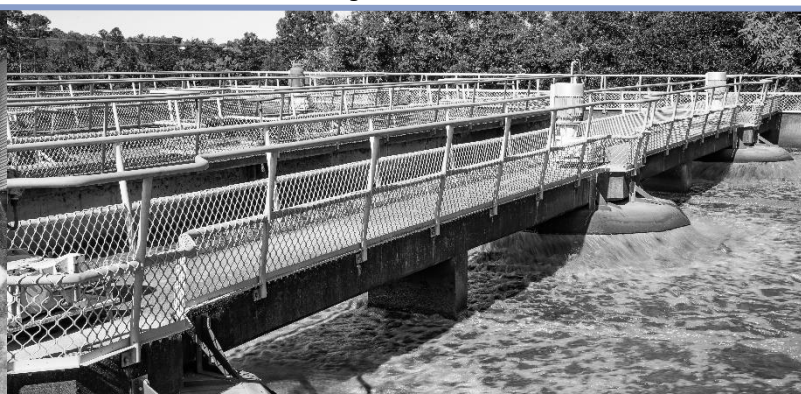
How is Recycled Water regulated?

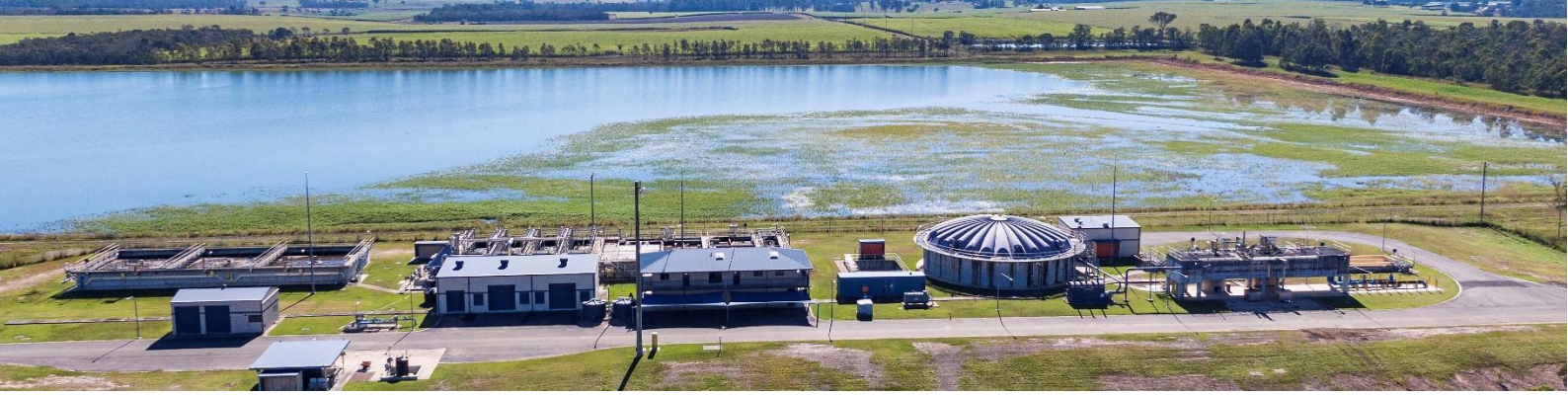
Recycled water is regulated under the ***Queensland Public Health Regulation 2018***, ***Environmental Protection Act 1994*** and the ***Water Supply (Safety and Reliability) Act 2008***.

Aim	• To protect public health and, for certain schemes known as critical recycled water schemes (those approved to place water back into the drinking water supply), to ensure continuity of operation of the scheme to meet the essential water supply needs of the community or industry. • Non-critical recycled water schemes in Queensland are required to be registered with Water Planning and Regulation (the Regulator).
Recycled Water Quality Criteria	• The quality criteria for recycled water is set out in the Queensland Public Health Regulation 2018. • These criteria prescribe the minimum water quality that must be met by recycled water providers to ensure that the quality of recycled water is protective of public health. Recycled water quality is classified as A+ to D in Queensland. • Recycled water on the Fraser Coast is Class B quality.
Recycled Water Regulator	• The Queensland Department of Environment and Science (DES) is responsible for the regulation of applying recycled water to land, discharges to waterways and protecting the environment. • Certain STP license conditions relating to each reuse scheme are monitored for compliance by the DES. • Protection of public health through use of recycled water is regulated by Queensland Health.
Recycled Water Usage & Management on the Fraser Coast	• Recycled water on the Fraser Coast has been in operation for the past 25 years. • In addition to meeting legislation requirements for protecting public health and the environment, WBW has adopted a risk management and a multi barrier approach to ensure the reuse schemes on the Fraser Coast are robust and safe for approved end uses. The multi barrier approach incorporates the following elements: ▪ Monitoring of recycled water ▪ Soil and land assessment ▪ Monitoring quality of biosolids ▪ Training users ▪ Development of reuse agreements with conditions around how recycled water is to be used ▪ Monitoring soil moisture ▪ Remote operation and monitoring of irrigation to prevent over irrigation of soils

Pulgul Sewage Treatment Plant

Aubinville Sewage Treatment Plant





Nikenbah Sewage Treatment Plant

What are the licence conditions for Recycled Water on the Fraser Coast?

The license conditions for sewage treatment plants (STPs) on the Fraser Coast were developed to reduce the volume of nutrients discharged from WBW STPs into the waterways across the region

- Each STP has a set of discharge targets that are agreed through a negotiation process between WBW and the relevant state environmental authority at the time (currently DES). This is known as a license agreement.
- The negotiations for the environmental license agreements consider historical data, modelled future simulations and environmental impact assessments. **For example:**
  - The license agreements for Pulgul and Eli Creek STPs include daily maximum flows, maximum nutrient discharge levels per year and a minimum amount of recycled water that must be irrigated.
  - Nikenbah STP is different as it is not able to release recycled water into a water body and has a 100% reuse condition

Average Dry Weather Flow Targets for reusing Recycled Water

Average Dry Weather Flow (ADWF) is the volume of sewage generated by households and businesses during normal dry weather. Flows in the sewerage network can increase during wet weather due to stormwater inflow and infiltration.

- Average Dry Weather Flow (ADWF) is calculated on an annual basis.
- All additional flows above 90% may be released as long as releases are within daily limits.
- While 90% ADWF is the minimum amount that must be irrigated, WBW often reuses far more than this, especially during dryer years when farmers make maximum use of the recycled water.
- Achieving 90% ADWF reuse can be challenging during wetter years when continuous rainfall means farmers do not need the recycled water and there is little opportunity to irrigate on WBW plantations WBW was unable to achieve the 90% ADWF requirements in 2010/2011 and 2011/2012 during high rainfall years.

Managing the Recycled Water Reuse Scheme

The benefits of the recycled water reuse scheme are numerous but not without challenges. The table below illustrates some of the key strengths, challenges and possible solutions of the recycled water reuse scheme.

Strengths	Challenges	Strategies
• Provides a sustainable and effective use of a precious resource. • Reduced cost for WBW when private users irrigate with recycled water. • WBW can continue to irrigate the hardwood plantations even during high rainfall years. • Prevents nutrients from being released into water bodies. • Absorbs carbon dioxide from the atmosphere. • Helps to improve and provide a service to the community.	• Private users cannot be relied upon to use the recycled water during wet weather periods. There can be entire years when it is raining so much that demand for recycled water from private users becomes very low. • WBW must be careful to avoid overloading the soil with nutrients or saturating the irrigation areas and causing overland flows of the recycled water.	• The plantations use specific tree types that can survive extended dry periods and also survive extended periods of wet conditions. • Construction of recycled water storage dams. The dams allow for storage of the recycled water for when private users aren't using it. • Release of recycled water at outfalls. The volume of recycled water released is limited to ensure safe and sustainable release to the environment with minimal risk of ecological harm.

Information obtained from multiple sources including: Council incl. 'What Happens When I Flush – Know your Hervey Bay Sewage Network Engagement Booklet'.

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