DRINKING WATER CATCHMENT MANAGEMENT STRATEGY

Fact Sheet

DRINKING WATER CATCHMENT MANAGEMENT STRATEGY - DRAFT PRINCIPLES

PRINCIPLE	WHY IS THIS PRINCIPLE IMPORTANT?	EXAMPLE Focus Areas
Principle #1 Council will **PRIORITISE** drinking water catchment management actions through long-term planning and investment.	The supply of safe drinking water begins in our water catchments where rainfall collects and is captured before being stored (as source water), then treated and delivered to the community as drinking water. Council manages water quality at each stage of this system - this is called the multi-barrier approach. A multi-barrier approach is a well-established method for ensuring safe drinking water and recognises that water quality risks can be prevented or reduced at multiple points in the system, and that no single barrier will manage all water quality risks. Catchment management provides robust and effective barriers in a multi barrier risk management approach to ensuring drinking water quality (Deere et al., 2008) and should be considered a water quality treatment asset. A lack of resourcing, strategic planning and prioritisation in catchment management increases the likelihood of the risks that impact human health. It also increases Councils reliance on water treatment, which contradicts the advice of water industry bodies and best practice guidelines for the management of drinking water. Catchment management provides further security for the provision of safe drinking water and may potentially improve the performance of Council's water treatment facilities. Council will endevour to ensure investment and resourcing in catchment management is appropriate and is prioritised where practable alongside other essential services. Council will also aim to ensure that the planning and delivery of other essential services does not negatively impact catchment management objectives.	**1. Influence council's statutory and strategic planning tools** **2. Prioritise funding** **3. Investigate regulatory opportunities**

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Principle #2 Council will **PROTECT** our drinking water catchments through Council run and key stakeholder led programs and projects.	As required under the Framework for Management of Drinking Water Quality detailed in the Australian Drinking Water Guidelines (ADWG), Council commissioned Source Water Assessments of its drinking water catchments. The assessments were undertaken in accordance with the Water Services Association of Australia (WSAA) Manual for the Application of Health-Based Targets and determined that Councils drinking water catchments fell into the highest risk categories, being *Category 4 - Unprotected* and *Category 3 - Poorly Protected*. The outcome from the Source Water Assessments indicates a high level of risk for source water contamination within Council's drinking water catchments. Contamination typically occurs when pathogens, sediment, chemicals and nutrients are introduced to source waters from land uses and events such as recreation, farming, waste disposal, bushfires, flooding etc. The ADWG advises that the most effective barrier against contamination is the protection of source waters as it provides much greater surety than other barriers such as treatment. Council will endeavour to plan and deliver programs and projects in the drinking water catchments to establish barriers to protect against source water contamination and to ensure water quality is protected and enhanced.	**1. Undertake planning that enhances and protects water quality within Council's drinking water catchments** **2. Riparian zone establishment and rehabilitation** **3. Protecting water ecology** **4. Managing water use**

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Principle #3 Council will seek to **UNDERSTAND** and **APPLY** this understanding of our drinking water catchments through targeted sampling, monitoring, surveillance, and actions.	There are many characteristics of a drinking water catchment that help us to understand how it behaves. These characteristics are unique to a particular catchment and can be impacted by physical and human factors such as climate, topography, hydrology, vegetation, soil structure, history and land use. As an example, a drinking water catchment which is high in fine-textured soils will contain water that is usually high in pathogens when turbidity is high, as the soil type has increased interaction and adsorption of microorganisms (Gerba & Bitton 1984, Schijven & Hassanisadeh 2000). Understanding how our drinking water catchment behaves is vital for informing and improving water quality planning and decision making, to ensure human health is not compromised. It is often recognised as one of the most important barriers in the multi barrier risk management approach to protecting drinking water quality (Hunter Water 2011). Understanding the behaviour of catchments also supports Principle 2, as it helps to inform, justify and prioritise programs to protect against source water contamination. Council manages water quality within its drinking water system using a risk management framework, as detailed in its Drinking Water Quality Management Plan. For the drinking water catchments, this framework is entirely reliant on the understanding of the catchment for appropriately defining the hazards and applicable controls. A good understanding of a catchment also enables a proactive response to incidents and targeting of priority areas for catchment management activities. A thorough understanding of drinking water catchments requires detailed knowledge of the catchment, tailored to the unique factors that are relevant to the catchment. For example, an open catchment would benefit from a land use survey that may inform of cattle grazing near a drinking water offtake, which would then prompt regular inspections of the relevant sites and water sampling for parasitic pathogens. Participation in research at a local level is also important for expanding knowledge of drinking water cathchments and improving understanding of the specific characterisistcs of an individual water supply system (NHMRC 2011). Council will endevour to undertake programs of proactive and reactive monitoring, sampling and survelliance to ensure catchment knowledge is appropriate to provide the levels of understanding required for sound decision making and to meet legislative requirements. Council will aim to invest in research on the characteristics of its drinking water catchments to ensure that knowledge and understanding aligns with the latest industry findings.	**1. Sampling** **2. Monitoring** **3. Surveillance** **4. Research**

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Principle #4 Council will **EDUCATE** and **COLLABORATE** with the community and key stakeholders about drinking water catchment knowledge, resources and projects.	The Fraser Coast's drinking water is reliant on open catchments that Council does not own and that are partially outside the local government area. Most of the land within Council's drinking water catchments are under private or state government ownership, and the upper reaches of the Tinana Creek catchment is within the Gympie Regional Council local government area. Council's drinking water catchments have a wide range of land uses, including agriculture, grazing, forestry and residential. This diverse range of land uses poses a risk to source water quality through contamination from surface water runoff. It is recognised that contamination of source water from catchment land use is the biggest issue to overcome in achieving positive water quality outcomes (CSIRO 2011). Council's direct control of catchment land use is limited to planning and enforcement through relevant planning regulation; however, even this isn't possible outside the local government area. A recognised alternative indirect approach to managing catchment land use is through communicating, educating and engaging with the community on the importance of source water protection (AWA 2020). This approach is detailed within the framework from the ADWG and is known to positively influence land management and lower contribution of contaminants to source waters from land use activities. Another indirect approach to managing catchment land use is through leadership and partnering with key stakeholders, such as other government authorities, community and industry groups, indigenous stakeholders and catchment landowners. Partnerships should focus on shared knowledge, processes effecting water quality and alternative management strategies (AWA 2020). Resultant management strategies may then create third-party led programs and projects or enable Council to implement programs and projects (a target of Principle 2) on private or state-owned land to address contamination from land use activities and development. Partnership and collaboration with key stakeholders also promote ownership and advocacy for catchment management issues. Council will aim to develop partnerships and educate our neighbours, catchment landowners and broader community to achieve better land management and water quality outcomes within drinking water catchments.	1. **Education** 2. **Collaboration with key stakeholders** 3. **Establishing industry partnerships**

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Principle #5 Council will **VALUE** our drinking water catchments beyond the provision of safe and reliable drinking water focusing on environmental, cultural, social, and economic values.	Council's drinking water catchments provide water for urban and agricultural use; however, they also provide environmental, cultural, social and economic benefits. Lake Lenthall is situated in the middle of the Wongi State Forest and supports a variety of significant and environmentally sensitive flora and fauna including the Koala (Phascolarctos cinereus) and Wallum froglet (Crinnia tinnula). The endangered and regionally significant Dry Vine Rainforest Scrub of Regional Ecosystem 12.5.13 is located along the banks of Lenthalls Dam and the upper Burrum River and is known to support one of only a few remaining Black Breasted Button Quail (Turnix melanogaster) communities in the region. Teddington Weir and Tinana Creek are located within the Mary basin and support habitat for several threatened species, including the iconic Mary River Cod (Maccullochella peelii mariensis), Mary River Turtle (Elusor macrurus) and Queensland Lungfish (Neoceratodus forsteri). Council's drinking water catchments are rich in cultural history and the Butchulla and Gubbi Gubbi first nations peoples have lived on this country and managed this land for thousands of years. As an example, within the catchment of Lake Lenthall, the Wongi Waterholes have been identified as a culturally significant site and Council operates infrastrcuture to protect the site from flooding, and is acknowledged in the Mary Basin Water Plan. The freshwaters in the Burrum River and Tinana Creek provide great opportunities for recreation, in particular boating and fishing. Kayaking is prevelant in all of Council's drinking water catchments and attracts both visitors and locals of the Fraser Coast to their waters. Lake Lenthall is stocked by the Fraser Coast Fish Stocking Association and is considered one of Australia's most consistent bass fisheries, visited by anglers from across the country. Council's drinking water catchments are home to significant species of flora and fauna, include culturally significant areas for first nation's people and provide opportunities for recreation and tourism. These values should be acknowledged and maintained.	1. **Environmental value** 2. **Cultural value** 3. **Social value** 4. **Economic value:**