

21 July 2023

Department of Regional Development, Manufacturing and Water
Chief Executive
Water Planning and Sciences South Region
Attention: Senior Policy Officer

GPO Box 2247
Brisbane QLD 4001
Email: GoldCoastWP@rdmw.qld.gov.au

Dear Sir or Madam,

Re: Submission to Preliminary Public Consultation Notice for the review and replacement of the Water Plan (Gold Coast) 2006.

Gecko Environment Council Assoc. Inc. (Gecko) thanks you for the opportunity to make a submission on the review of the Gold Coast Water Plan, as well as following the publishing of the draft water plan.

Gecko agrees with the Queensland Conservation Council (QCC) that, due to the complexity of water management, the Department of Regional Development, Manufacturing and Water is strongly advised to establish a stakeholder/community advisory panel to provide advice on the development of the replacement Water Plan.

The review of the Water Plan is timely given increases in development to support population growth influencing water demand, supply and quality across the Gold Coast.

The new Water Plan must also take into effect the impacts on water supply from increased rainfall and dry periods due to climate disruption. Those impacts are already having observable effects on water and ecosystems, particularly in World Heritage Areas.

Water is foundational to healthy ecosystem services that in turn support our healthy society, economy, cultures, and way of life. It is vital at this time to develop a Water Plan that effectively protects the viability of our environment, will manage water extraction, the increasing demand for water and the human impacts on water quality and flows.

Ground Water Extraction:

The demand on groundwater resources to support economic and commercial interests is in direct conflict with sustaining the environmental values of our world heritage areas, long-term water security, equity, ecosystem health, and cultural justice.

The ecosystems of the World Heritage Listed Gondwana Rainforests of Springbrook are affected by increasing climate change impacts. The need for much improved control and management of ground water extraction on the Springbrook Plateau is overdue and essential.

In addition to domestic extraction of ground water there are two commercial businesses extracting free ground water without sufficient controls, simply for the purpose of supplying the plastic bottle water industry. A third potential commercial ground water extraction business is the subject of a court hearing and there are others hoping to benefit from the free extraction of ground water in this region.

Gecko joins with other conservation groups in recommending: -

- Aquifers across the entire plan area are included.
- Scientifically based provisions are incorporated into the new Water Plan to ensure that surface and ground water flows remain at a level to ensure maintenance of the Outstanding Universal Value of the Gondwana Rainforests. This should include specifications for recharge of underground water.
- That existing licences and any new licences to extract ground water for commercial purposes are ecologically sustainable and this must be determined prior to the issue of any licence. Such licences should also have a termination date to ensure that changing climate conditions can be incorporated into any new or reissued licence.
- As mentioned, there are existing commercial ground water extraction businesses operating under the inadequate provisions of the City Plan. Gecko supports calls for these authorisations to be converted in the near future to time limited water licences under the Water Act 2002.
- The onus of proof of sustainability of ground water extraction by commercial enterprises should rest with the commercial enterprise and not with government at State or Council levels.

Notwithstanding this, Gecko fully supports recommendations made by the Queensland Conservation Council regarding: -

- Establishment of a stakeholder/ community reference group.
- Ongoing scientific investigations of the state of water extraction both under and above ground to enable appropriate responses to changing climatic rainfall conditions.
- Ensuring water is available to enable First Nations people to fulfill their cultural obligations regarding water protection and management.

Moratorium:

Gecko thanks the Minister for his foresight in declaring a moratorium on the issuing of any new commercial ground water extraction permits over the past few years. The current term for this moratorium expires in March 2024 and Gecko requests that it be continued indefinitely in recognition of the Precautionary Principle as applied to the uncertainty of climate change rainfall and heat impacts as temperatures rise. At the very least the moratorium should continue until the legislation enacting the new Water Plan for the Gold Coast has legal force.

In addition:

Gecko also recommends the Water Plan be amended to include a minimum of the following:

1. The plan serves to protect and manage with best practice all existing environmental, social, and cultural values from the threats and pressures of population growth, commercial interests, and climate disruption.
2. The updated plan should include:
 - Groundwater
 - Overland flows
 - Transboundary flows
3. The plan supports and maintains significant First Nations cultural values and connection to Country. It provides for genuine and ongoing engagement, input and development of the plan, actions, reporting and outcomes with First Nations people across the plan area.
4. A science and traditional knowledge-based, long-term, whole system and integrated approach be fundamental to determining management actions in the plan.
5. The updated plan reflects a fundamental shift from an extractive management paradigm to a regenerative approach that builds resilience, actively recovers, and supports diverse values, cultural protections, water justice and equity, throughout the area of the water plan.
6. The water plan legislation integrates and requires implementation of adequate controls, management actions, water sensitive urban design, containment within the urban footprint, futures, and adaptive thinking, in planning for urban development.
7. The plan includes management of overland flows to support and regenerate catchment health and resilience throughout wet-dry cycles.
8. All water extraction, even by landowners who live adjacent to waterways, should require a licence, and extraction should be reduced or ceased when certain flow thresholds are reached. Landowners with town water should be restricted from water extraction all together.
9. Sufficient funding should be provided for monitoring and compliance (with penalties) of water extraction, including the alarming illegal extraction by Gold Coast landholders.
10. Reduce the earthworks threshold from 500,000m³ to an appropriate amount that is scientifically informed. As Watergum highlights in their submission, the current threshold for earthworks in a small Gold Coast hinterland stream causes major sediment, erosion and geomorphological issues.

11. The terms waterways health and water security be clearly defined in the plan and incorporate multiple values.
12. The plan is not only congruent with the SEQ Regional Plan, but also integrates the core tenants under consideration for the SEQ Bioregional Plan, such as decreasing risk of cumulative impacts.
13. The Water Plan integrates and supports (and minimises barriers to) parallel local and state government plans and programs such as healthy waters management plans, Gold Coast Water Strategy 2019 – 2024, Gold Coast Waterway Barrier Remediation program, Gold Coast Waterways Management Strategy 2021-2030, South East Queensland Natural Resource Management Plan 2009-2031, and relevant National Park management plans (including current VBMF drafts), etc.
14. The plan supports and requires effective political partnerships across transboundary water flows and catchments to be established and maintained to achieve best management outcomes. Namely, Scenic Rim, Logan City, Moreton Bay and Tweed Shire Councils.
15. The department enable a transparent, publicly accessible reporting of water data and plan outcomes, with a priority to fund and commit ongoing research of surface and groundwater to inform decisions and including establishing a network of monitoring and reporting on water volumes and values.
16. Implement accountability measures for achieving outcomes in the plan.
17. Adaptive management protocols are established to respond to the growing body of scientific and traditional knowledge, and climatic and political changes, and inform the management of water throughout the lifespan of the plan.

See ATTACHMENT: Supporting information for submission from Gecko Environment Council Assoc. Inc. (Gecko)

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a) The water to which the plan applies

The updated plan should include:

- Groundwater
- Overland flows
- Transboundary flows

b) Desired economic, social, cultural, and environmental outcomes of the plan

ECONOMIC OUTCOMES

b) Desired economic, social, cultural, and environmental outcomes of the plan

Economic and environmental sustainability are inextricably linked in the management of water resources in the Gold Coast water plan.

Economic interests at current levels of unregulated extraction as seen in the bottled water industry present additional threats to environmental, social, and cultural values.

The stability of wet-dry seasons is changing with climate disruption. With predictions of significant climate disruption to rainfall over the long-term and the fact that groundwater flows feed the Hinze dam when there's not enough rain, water security should be a priority consideration over commercial and economic outcomes in the plan.

Water security should also be clearly defined, and include water availability, quality, affordability, and access.

All priorities for water held in aquifer storage should be environmental, cultural, and to directly support the local population (drinking water and agriculture).

To determine and regulate sustainable economic outcomes, the plan should incorporate scientific data, monitoring, reporting and precautionary limits, and update the simulation period to reflect a risk and futures thinking approach¹. Based on current available data, Gecko questions the current capacity to determine a long-term sustainable average annual extraction limit.

Given a basis of measurement in the current plan is derived from a simulation period spanning 1 January 1890 to 30 December 2000, the new plan should update this simulation data to include long-range predicted changes and seasonal climate risk information due to climate disruption².

To support this point on the necessity of adaptive management of water in a changing climate, the Stockholm Resilience Centre³ identifies an important social-ecological system value as: 'Encouraging learning and adaptive thinking'.

On this point, Glenn Browning, Healthy Land and Water (2018) and Senior Engineer at Brisbane City Council says; "I think that's very important: recognising changes within the catchment and tailoring your management response accordingly"⁴.

Gecko recommends the plan should prioritise science-based and Traditional Knowledge informed allocation of water for social, cultural, and environmental outcomes *before economic* and implement adaptive management protocols for the lifespan of the plan.

The plan can do so as a minimum by including the following:

- Incorporating the conditions of the Moratorium Notice⁵ into the plan, prohibiting or minimising any further water allocations.

¹ <https://www.longpaddock.qld.gov.au/>

² <https://www.legislation.qld.gov.au/view/pdf/inforce/current/sl-2006-0321>

³ Socio-ecological resilience: The contemporary western concept of socio-ecological resilience clearly defines the biosphere or environment as a precondition for social justice, economic development, and sustainability (Stockholm Resilience Centre, 2016)

<https://www.stockholmresilience.org/research/research-news/2016-10-17-a-social-ecological-legacy.html>

⁴ Water by Design: Glenn Browning, Healthy Land and Water (2018) and Senior Engineer at Brisbane City Council <https://waterbydesign.com.au/wbd-video/glenn-browning-presentation-ecological-risk-and-prioritisation>

⁵ Moratorium Notice, Water Act 2000

<https://www.rdmw.qld.gov.au/water/consultations-initiatives/tamborine-mountain-springbrook-groundwater#:~:text=On%203%20March%202023%2C%20the,town%20water%20supply%20still%20apply>

- Recognising there is no longer a social licence for extraction operation in the Gold Coast hinterland, at a minimum re-assessing existing commercial approvals to extract groundwater, based on current data, and placing robust conditions on existing (and any new) approvals where legally possible to reduce the unsustainable and unjust extraction rate of 50 million litres/annum for commercial purposes.
 - Commercial licenses should make up a very small proportion, if any, of the water allocations, and only as regulated, responsive, monitored and reported allocations based on evidence of flow conditions.
 - Evidence for licenses and changing allocation amounts should include scientific data based on *current and long-term* simulations, annual rainfall and recharge events, and Traditional Knowledge.
 - Defining and prioritising water security.
 - As water flow season simulations change with climate disruption, allocations should be adjusted accordingly for all outcomes, with a buffer of protection particularly for environmental, cultural and social (supplemented water) flow objectives. Moreover, the plan should enable the adaptation of management actions based on annual research of flow regimes throughout all catchments and over the lifespan of the plan.
 - Any future water allocations should be reviewed more conservatively with a long term view to increasing climate change disruption.
 - It should be mandatory for all commercial operators to report on extraction and bore levels to contribute to scientific understanding, build a network of data, and be accountable to licence conditions. As a minimum the information should include the location, quantities, and quality of water in the aquifer and the local geology. Operators extraction rates should be independently checked and monitored.
 - The purpose, use and activity of all known commercial bores should be made known through conditions in the plan.
 - Supporting long term research, monitoring and measurement and undertaking studies and investigations to inform the development of the replacement water plan to meet sustainability principles in the *Water Act 2000*.
 - Integrating and supporting further information from ecological studies into impacts of aquifer extraction.
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- Making all data publicly available in a timely manner, such as the model of the NSW Water Register⁶.

SOCIAL OUTCOMES

Social outcomes should be prioritised in areas of supplemented water supplies, and where groundwater contributes to the Gold Coast water supply.

Springbrook and Lamington National Parks alone protect the headwaters for five catchments including dams that supply drinking water to the Gold Coast (Queensland Government 2011, 2013c)⁷.

Water equity and access to healthy waterways should be a benchmark consideration when developing the management actions in the plan.

CULTURAL OUTCOMES

Areas within the water plan have significant cultural values to the Kombumerri, Yugambah, Mununjali, Wangerriburra, Bunjalung, Githabul, Jagera and Quandamooka Aboriginal people.

Gecko Environment Council fully supports recognition of the cultural values and management of water as the lifeblood of our Country, providing for healthy and equitable water flows inter-generationally and for all species.

First Nations knowledge and ways of knowing should be incorporated with western scientific understanding of water and considered fundamentally in the approach, development, and implementation of the water plan. There are many instances of integrating knowledge systems, and we note the wider societal and environmental value of genuinely listening, learning, incorporating, and actualising First Nations cultural values and knowledge, as also recognised in the Gurra Gurra Framework 2020-2026.

The current water plan, like much of Australia's water legislation, inculcates the concept of 'aqua nullius' (nobody's water)⁸, and only a genuine, inclusive engagement with First Nations people in the plan area that demonstrates actual change to water management

⁶ NSW Water Register provides public access to information <https://waterregister.waternsw.com.au/water-register-frame>

⁷ Tanner-McAllister (2016) Protected area management under climate change A framework for decision making, University of Queensland, p18. Accessible: https://espace.library.uq.edu.au/view/UQ:432465/s3331774_phd_thesis.pdf

⁸ "Aqua nullius". Terra nullius has been overturned. Now we must reverse aqua nullius and return water rights to First Nations people, Environmental Justice Australia, Published: March 30, 2022 <https://theconversation.com/terra-nullius-has-been-overturned-now-we-must-reverse-aqua-nullius-and-return-water-rights-to-first-nations-people-180037>

with the integration of Traditional Knowledge and cultural values will begin to repair this injustice.

Kombumerri Traditional Custodian Roselene Best says: *“Water is sacred and alive and the source of energy to animate the country. This living water is critical to our collective survival. This is the first Lore and needs to be acknowledged and activated to protect and deliver sovereignty for water under a cohesive and comprehensive plan for the future.”*

The specific systems management practices, enactment of First Nations water governance principles, and volumes of water reserved for cultural flows to maintain cultural values and support economic aspirations, should be determined by First Nation Peoples across the Water Plan areas (broader than Native Title as in S28 HR Act)⁹.

ENVIRONMENTAL OUTCOMES

To achieve long-term, catchment-wide environmental outcomes, it is essential to maintain hydraulic habitat requirements. Gecko Environment Council recommends that instead of a one-size-fits-all approach the plan considers the whole plan area and applicable water, with unequally distributed values and risks, then determines management actions responding to (value-based) opportunities and risks in priority areas.

Groundwater

The aquifers in Springbrook, Beechmont, and Tamborine Mountain need further study over variable wet-dry seasonal periods. Groundwater is largely under-researched. The current unregulated extraction of groundwater provides no measurements, no management, and no knowledge of cumulative impacts.

Signs of water stress have already been recognised in the hinterland ecosystems, including in Gondwana Rainforest WHA. Early indications from the Springbrook groundwater investigation would support a precautionary and adaptive management approach in the water plan update.

Groundwater should be appropriately included in the plan and managed accordingly with a minimum consideration of the following threats and values:

- Cumulative threats of commercial interests, including the bottled water industry and ecotourism operations on ground (and surface water) supplies.
- Recognise that as well as being intrinsically sacred waters for First Nation peoples, the groundwater supports significant cultural values across the landscape.

⁹ S28 HR Act indicates First Nations peoples' relationship to Country is broader than Native Title and may include where Native Title has been extinguished.

- Visitation and population impacts on water use and quality (Springbrook Mountain visitor numbers 160,000 per annum). Contaminants (nitrogen and caffeine) have been discovered in groundwater supply¹⁰.
- The threat to ongoing conservation of biodiversity and protection of the Outstanding Universal Values in the Gondwana World Heritage Area due to moisture stress because of increasing environmental reliance on declining water availability as climate disrupts wet-dry seasonal fluctuations.
- Threats to multiple species (some threatened) living in habitat directly connected to aquifers.
- Finite aquifer systems have a significant role in the water cycle. Decreased water supply, including in aquifer storage, can impact the water cycle and result in increased fire risk and recovery time of the ecosystem. In 2019 Lamington National Park lost 10% of its subtropical rainforest with very low water supply recorded in aquifers at the time. The plan should ensure environmental outcomes are prioritised with a more than sufficient buffer of groundwater allocation for unstable wet-dry fluctuations.
- Aquifers are an essential buffer for cloud-water dependent species, already under threat due to increases in lifting condensation levels¹¹.
- Biodiversity pressures of vegetation communities moving upslope in response to decreasing precipitation and reduction in cloud cover¹².
- In coastal areas, the development of high-rise buildings where salt-water intrusion into groundwater is possible¹³.

Responsibility to protect the Outstanding Universal Values of World Heritage Areas

Including groundwater in the water plan is essential to protect the OUVs of the Gondwana Rainforest WHA.

Gecko Environment Council notes the responsibility of the QLD Government under the World Heritage Convention “to ensure the identification, protection, conservation,

¹⁰ QUT PhD project, Groundwater Monitoring, Tamborine Mountain, 2020

¹¹ Narsey S, Laidlaw M, Colman R, Pearce K, Hopkins M and Dowdy A. 2020. Impact of climate change on cloud forests in the Gondwana Rainforests of Australia World Heritage Area, Earth Systems and Climate Change Hub Report No. 20, NESP Earth Systems and Climate Change Hub, Australia.

¹² Laidlaw, Melinda & McDonald, W. & Hunter, R. & Putland, Dave & Kitching, Roger. (2011). The potential impacts of climate change on Australian subtropical rainforest. Australian Journal of Botany. 59. 440-449. 10.1071/BT10319.

¹³ Periot, Community meeting, 01/07/2023

presentation and transmission to future generations of the cultural and natural heritage situated on its territory.”¹⁴

The plan should draw on scientific evidence, ecological and hydraulic studies, to inform best management practices for the property.

As set out in *The Operational Guidelines for the Implementation of the World Heritage Convention, 2021*:

97. All properties inscribed on the World Heritage List must have adequate long term legislative, regulatory, institutional and/or traditional protection and management to ensure their safeguarding

98. Legislative and regulatory measures at national and local levels should assure the protection of the property from social, economic, and other pressures or changes that might negatively impact the Outstanding Universal Value, including the integrity and/or authenticity of the property. States Parties should also assure the full and effective implementation of such measures.

Overland flow

Gecko Environment Council recommends an underpinning approach to the plan which centres socio-ecological resilience, with an integrated perspective of human and nature values and influence.

Resilience should also be accounted for in the plan, for example regarding waterways ability to recover after acute risks.

The plan should define what is waterway health, and include natural, social, and cultural values in this definition.

Management considerations for overland flow should incorporate:

- regenerative approaches, emphasising opportunities to focus on recovering and improving aquatic and riparian habitat, such as rehabilitation of riparian vegetation, weed control, pest control, fish passage and fish ladders, etc.
- management actions that aim to interrupt the risk pathway of complex and potentially cumulative hazards leading to value decline. At a minimum this should include the avoidance of pollution, mitigation, and offsets (within the same catchment).

In 2022 Gold Coast catchments displayed high pollutant loads¹⁵. The plan should respond to the high urban development pressures in the region accordingly, with management actions

¹⁴ The Operational Guidelines for the Implementation of the World Heritage Convention, 2021, p33
<https://whc.unesco.org/en/guidelines/>

¹⁵ HLW report card [https://reportcard.hlw.org.au/results?lat=-28.016667&lng=153.4¤tYear=2022&show=null&action=null&tab=overview®ions\[0\]=region.Pimpama-Coomera](https://reportcard.hlw.org.au/results?lat=-28.016667&lng=153.4¤tYear=2022&show=null&action=null&tab=overview®ions[0]=region.Pimpama-Coomera)

such as: pollution controls, management of water quality via water sensitive urban design, stormwater management and bioretention (eg. rain gardens), sufficient vegetation and green infrastructure, containment within the urban footprint, as well as futures, and adaptive thinking, in planning for urban development.

It is also essential that the plan incorporates specific provisions to ensure the health and quantity of flow regimes required to maintain the productivity of estuaries and marine receiving waters.

Multiple impacts to Coombabah wetland are also of notable concern with the additional pressure noted “as sea levels rise, intertidal wetlands are expected to migrate inland, where this is possible”¹⁶, however development around Coombabah wetland will not enable migration in this case.

Therefore, at a minimum greater protection for water quality, sensitive urban development and freshwater flows into this nationally important wetland should be provided¹⁷.

Transboundary planning

Despite the political complexity, it is critical to establish partnerships across water catchments and flows for best practice management. This should include official communications and partnering on transboundary water management actions between the City of Gold Coast and Scenic Rim, Logan City, and Tweed Shire councils.

Gecko Environment Council also recommends the plan is developed with information sharing and departmental staff collaboration regarding the upcoming SEQ Bioregional plan and considers at a minimum the cumulative impacts and transboundary flows, for congruent and mutually supportive outcomes.

CONSULTATION and public awareness

Gecko Environment Council also supports the recommendation by Queensland Conservation Council and Rosaline Best to establish a stakeholder/community advisory panel consisting of representatives from the community, water users, First Nation peoples, local government, tourism and environment NGOs to provide advice on the development of the replacement water plan.

¹⁶ <https://www.dcceew.gov.au/water/wetlands/climate-change-resources#:~:text=As%20sea%20levels%20rise%2C%20intertidal,wetlands%20including%20valuable%20peat%20systems>

¹⁷ https://ozcoasts.org.au/indicators/biophysical-indicators/changes_wetland_cover/