

Water Strategy Team
NSW Department of Planning, Industry & Environment
c/o [REDACTED]

8 November 2021

Dear Sir/Madam

SUBMISSION TO THE GREATER SYDNEY WATER STRATEGY

Thank you for the opportunity to provide input on the Greater Sydney Water Strategy.

The Strategy identified **five key priority areas** where management of water resources in the Greater Sydney region needs to be improved. These are:

1. *We understand how much water we need and when*
2. *Our water systems are sustainable for the long term and resilient to extreme events*
3. *Our city is green and liveable*
4. *Our waterways and landscapes are healthy*
5. *Water management and services meet community needs.*

The priorities in the strategy are underpinned by **18 key actions** for a more sustainable and resilient Greater Sydney.

Overall we support the intent for sustainable future planning including green and liveable places that are well managed.

The draft Strategy has raised focus questions with reference to the details provided under the Priorities and Actions.

We have provided commentary under these focus questions, for your consideration in finalising the water strategy.

1. What do you think our biggest challenge will be to ensure the resilience and sustainability of the water and wastewater systems in Greater Sydney?

Planning for growth and delivering sustainable wastewater and water services in time to meet the demands of the massive population growth already underway over the next 20 years in the Greater Macarthur and Wilton growth areas. There is a disconnect between Department of Planning push for more greenfield land release to meet housing demand, and Sydney Water planning and servicing.

There's also a need for a strategy to **encourage and protect trees** on private property and to monitor the achievement of the Premier's priorities and in the case of Wilton our 40% tree canopy target.

The key challenges in the Greater Sydney Water Strategy should also recognise **'Supporting Sydney's food bowl'** as an additional significant issue or within the existing identified inter-related issues.

The adopted Wollondilly Rural Lands Strategy identifies access to water as one of the key limiting factors for the use of rural lands for primary production in the shire.

The Strategy found that Wollondilly's primary producers suffer from limited access to water for irrigation. This will become more pronounced into the future and will continue to have implications for the productive use of agricultural land including in the context of water required for urban expansion and the location in Sydney's drinking water catchment. Access to water can greatly improve yields regardless of land capability class.

The Water Strategy identifies that Sydney's population is expected to grow with 1 million extra people expected by 2036. Throughout the Water Strategy, the focus of required increases to water supply in response to this population growth seems to be based mainly on demand for drinking water and the availability of water for use in urban environments. A greater focus should be provided on increasing reliable water supplies to support Sydney's Food Bowl for use in agriculture for food production going forward. The Wollondilly Rural Lands Strategy provides the following in respect to future required food production from agriculture in the Sydney basin:

"UTS Institute for Sustainable Futures (2020) modelled future food producing capacity in a scenario where existing production in the Greater Sydney Region is protected and it could continue to produce around half a million tonnes of food a year. However, as Sydney grows so will its food demands. The study surmised that even with the protection of agricultural land, agricultural productivity on rural lands will need to increase. Without these protections, Sydney's growth is predicted to have a significant negative impact on the production of vegetables, eggs, meat and dairy."

The Rural Lands Strategy also provides the following in respect of the need and opportunities for a sustainable water supply in order to ensure an appropriate level of food security in the Sydney Basin going forward:

The Prime Minister's Scientific, Engineering and Innovation Council has identified urban encroachment on Australia's peri urban agricultural lands as one of the top seven emerging and existing food security challenges facing Australia (PMSEIC, 2010). Ensuring an adequate supply of productive agricultural land for Sydney's food security will only continue as our climate continues to change. Meanwhile, high food producing areas such as Murray Darling and Murrumbidgee regions will continue to have significant water availability issues, further exacerbating the issue. Sydney has more reliable rainfall than inland areas and its good quality agricultural land will remain a valuable resource into the future.

Initial consultation with agricultural producers revealed that water availability was one of the main barriers to expanding production. There is a prevailing perception in some parts of the rural community that competition exists between urban and rural water users in regard to water use and management. The agricultural capability of land adjoining the Nepean River increases with the potential for surface water diversion and crop irrigation. The availability of irrigation water opens up a wider range of agricultural types including higher value horticultural commodities such as turf and fruit on better soils. Without irrigation, horticultural crops will be limited to low water using crops such as grapes or olives.

The water levels in the dams that supply Wollondilly and Illawarra got very low in the last drought. This was not picked up on quickly however because the levels are measured based on average dam levels. The Shire was very close to running out of water. The water supply system needs to consider feeding Wollondilly and the Illawarra recognising the individual conditions impacting an area. This is the only way we can plan for true reliance.

Between urban stormwater and wastewater balances there is a surplus of water. However, there are sensitivities around utilising wastewater for purification to supplement the water supply. Studies have shown that there is a direct correlation between water literacy and acceptance of wastewater recycling and reuse. The draft strategy needed to provide more clear information to help with the community's understanding including:

- Clearly present current and future water balances which factor in wastewater
- Clearly identify opportunities including the surplus in demand and ability to drought proof Sydney
- Listing the benefits including wastewater that goes to treatment plants is more than 99% water. This is a sustainable, consistent, safe and reliable source of significant water volumes
- Water reuse and recycling must be included in the documents principles.

Wollondilly Council have clearly outlined the importance of wastewater recycling and reuse not just for a more resilient community but to safe guard our waterways from wastewater discharges. Council worked with wastewater industry expert Professor Stuart Khan from UNSW to develop Council's adopted Integrated Water Management Policy, Strategy and WSUD Guidelines which can be viewed here - <https://www.wollondilly.nsw.gov.au/environment-biodiversity-and-sustainability/water-management/integrated-water-management/>

Council engaged with a wide range of stakeholders including a survey to better understand community perceptions, attitudes, and levels of acceptance regarding the opportunities and issues associated with recycling waste water. Summary of Wollondilly community sentiments are as follows:

Overall, the responses to the survey we received indicated support for recycling wastewater and an interest in the holistic management of water. Specifically, responses showed:

- willingness to explore water management options aside from restrictions
- concern about our water supply with regard to bushfires, drought, increased urban development, and preserving biodiversity
- resistance to ground (bore) water to supplement water supply
- mixed response to using desalination to supplement water supply
- support for use of rainwater tanks in new developments for purposes such as laundry, flushing toilets etc.
- support for implementation of green median strips and more stormwater capture
- strong support for using treated recycled wastewater in industry, agriculture and other irrigation

- interest in the idea of water purification plants providing additional water for all purposes including drinking
- concern about the impacts of mining, urbanisation, inefficient and excessive water use, and runoff concern that Wollondilly waterways will deteriorate if we do not change the way water is managed.

Competition between waste water streams

The use of recycled wastewater for greening Sydney is essentially limited to new areas where entire networks are created with the development. While this is possible, it also competes with the treatment of stormwater in the same area.

Wollondilly is experiencing the limits to waste water treatment where advanced waste water treatment is essentially unviable due to the concentrated brine disposal issue. That has meant that recycled wastewater distribution is proposed in release areas and will compete with stormwater treatment.

Alternative solutions

A potential alternative is for a combined sewer system (including stormwater) that would treat both waste water streams equally under the responsibility of a single entity and provide maximum potential for waste water re-use.

The most efficient use of recycled water would be via the existing distribution system that exists in the developed parts of Sydney. That is by returning waste water into the potable supply system.

2. What do you think your water requirements will look like over the next 40 years? Will they grow or shrink?

The will grow – with new growth areas such as Wilton and Greater Macarthur plus pressures on the existing towns and villages that have no capacity right now.

Wastewater capacity is a significant servicing and infrastructure constraint preventing both local housing growth and economic development in Wollondilly. The current restrictions from the Picton Wastewater Scheme and Water Recycling Plant, which is at capacity, has impacted Picton, Tahmoor, Thirlmere and areas to the south and has prevented further rezoning for at least five years. There is no capacity or solution to meet existing demands in Wollondilly in Picton, Tahmoor, Thirlmere, The Oaks, Silverdale and no solution or commitment on the horizon or timetable. Department of Planning Industry and Environment expect that growth will happen in Wollondilly (in set areas) and currently the pressure remains with no viable service solution.

Wollondilly Council have undertaken water modelling which shows current and future water balances (2036). The water balances clearly show that there is a surplus of water when stormwater and wastewater were accounted for. Pollutant load modelling was also carried out which highlighted the need for an integrated approach to water management which included recycle and reuse of wastewater to protect the condition of the waterways. Council's adopted Integrated Water Management Policy, Strategy and WSUD Guidelines which can be viewed here - <https://www.wollondilly.nsw.gov.au/environment-biodiversity-and-sustainability/water-management/integrated-water-management/>

3. What part of our community do you think will have the greatest change in their water needs in the future?

It will impact on the whole community

Especially water reliant industries and the lower socioeconomic communities

4. What role should water play in delivering a more prosperous and liveable Greater Sydney?

Ideally water would be used and available to all to support greener places.

Maintenance of the greenspaces and tree canopy will be essential to combat climate change and the heat island effect in western Sydney.

Water should ensure a sustainable local food supply for Greater Sydney.

Water is critical for the liability and prosperity of Greater Sydney. Purifying wastewater to supplement the drinking water supply needs to play a stronger role. If wastewater recycling is maximised, this will enable a stronger more resilient community, economy and environment.

5. When you think about it, how big of a role does water play in your day-to-day life?

Essential for life – often taken for granted until there is a drought, flood or fire

Without properly managing the whole of the water cycling (which factors wastewater, stormwater and water conservation), then there will always be limitations to the productivity, liveability and resilience to the community.

6. Where do you think our biggest investment should be to help combat the big water challenges facing Greater Sydney?

Providing greater resilience in water supply to Wollondilly and Illawarra. There is no back-up plan should we experience significant drought again.

Purifying wastewater to supplement the drinking water supply. Extensive community engagement around the benefits. Studies have shown that there is a direct correlation between water literacy and acceptance of wastewater recycling and reuse.

7. How do your water usage habits change when Sydney is in drought?

Restrictions impact everyone.

8. How long do you think you could tolerate severe level water restrictions during a prolonged drought?

Let's not plan for negative outcomes – our focus should be on planning for sustainable solutions to avoid such scenarios.

Such restrictions are frustrating when we do not fully manage the whole of the water cycle. Agencies need to do more to educate and advocate around water reuse and recycling to manage the sensitivities and transition across to purifying wastewater to supplement the potable supply as soon as possible.

9. Do you think these types of extreme weather events will occur more frequently?

Yes.

Wollondilly Council has reviewed future weather predictions and included these in our Integrated Water Management Strategy. More extreme weather events will become increasingly common.

10. During a drought, what do you think is the most beneficial way to conserve water?

Don't wait for the drought – needs to be part of everyday life.

Wastewater recycling and reuse as well as rainwater tanks which offset potable supply by being used for irrigation, toilets, laundry and hot water.

11. Which priority do you think is the most important to improve resilience in the Greater Sydney Water Strategy?

All five are important and need to be considered as an integrated package not in isolation. Also re Priority 1, should be close alignment between DPIE population forecasting and housing targets and Sydney Water planning for delivery. Re Priority 2, can't just have a longterm view, we need solutions now.

If 2 and 5 are undertaken to include purifying wastewater to supplement the drinking water supply, then this will help enable 3 and 4. Therefore, more focus needs to be on purifying wastewater to supplement the drinking water supply.

12. How much would you be willing to pay in addition to your current annual water bill to ensure new water infrastructure is in place to protect Greater Sydney's water supplies from drought?

Applaud the question - it is a discussion we need to be having with the community.

13. How many litres of drinking water do you think you use on average each day?

Wollondilly Council's water balances are included in Council's adopted Integrated Water Management Strategy which can be viewed here - <https://www.wollondilly.nsw.gov.au/environment-biodiversity-and-sustainability/water-management/integrated-water-management/>

14. What is the minimum amount of water you think you would require each day in the event of a severe drought? No comment provided.

15. Where do you think we should focus our efforts to encourage the community to be better at water conservation and efficiency? No comment provided.

16. What new rainfall-independent water supply options do you think would work best in ensuring Greater Sydney's water security?

Purifying wastewater to supplement the drinking water supply.

17. What approach do you think will best help create a cool and green Greater Sydney?

Encourage the community to place greater value on planting, protecting and maintaining trees on private and public land.

Smarter whole of the water cycle management - purifying wastewater to supplement the drinking water supply.

18. What potential initiative do you think would best help Greater Sydney move towards a circular economy?

Smarter whole of the water cycle management - purifying wastewater to supplement the drinking water supply.

19. What do you think will be our greatest challenge when it comes to improving the health of our waterways?

Existing discharges, pollution, ongoing farming and industrial practices, failing onsite sewerage systems across western Sydney.

Managing land use conflicts with mining and the impacts of mining on surface and groundwater including fracturing bedrock. This is a significant concern for our community.

Wollondilly Council has modelled the current and future pollutant loads which can be viewed in **Council's adopted Integrated Water Management Strategy which can be viewed here** - <https://www.wollondilly.nsw.gov.au/environment-biodiversity-and-sustainability/water-management/integrated-water-management/>

Results have showed that in order to fully protect waterways stormwater will have the greatest impact. Therefore, Council has opted for volume reduction targets that reflect natural stormwater volume runoff targets to protect waterways for all new developments in future. However, it is important that wastewater is also recycled and reused to prevent discharges into waterways. Council's Integrated Water Management Policy has the following statement:

To deliver an integrated water solution for Wollondilly that protects the pristine waterways, endangered species, maintains and improves the condition of waterways, in the context of a growing population and changing land use.

- *Ensure stormwater and wastewater from urban development has a zero impact on local waterways*
- *Decrease the use of potable water*
- *Increase the amount of public and private water reuse and recycling*
- *Use all sources of water to support sustainable development including community liveability, biodiversity, local economies including agriculture and climate resilience.*
- *Ensure water sensitive urban design elements are incorporated within public infrastructure and private development*
- *Improve the condition of natural waterways, to remain swimmable, all year round*
- *Ensure that residential, industrial, commercial and agricultural development doesn't affect the tributaries of the Georges and Nepean River within Wollondilly Local Government Area and downstream.*

To support the water quality targets and associated treatment methods of urban water that are located in the Integrated Water Management Strategy.

20. Which potential future approach to wastewater management do you think would be most effective?

Ability to reuse water to support agricultural lands?

The Water Strategy should seek to investigate or look at ways to improve access to water and water efficient for primary production and to protect Sydney's food bowl. The Wollondilly Rural Lands Strategy provides some direction on a potential approach in increasing water access where limited access to irrigation exists:

The volume of stormwater runoff in Wollondilly is significant. This volume of water can provide both an alternative supply for nondrinking purposes and a healthy flow to the waterways. Capturing this water will assist to minimise water price, assist farms to access water and improve the health of waterways. Advocating for a reliable supply of water for agricultural uses, including the potential to use recycled water and wastewater, can provide irrigators with sustainable sources to allow for future expansion. This will also reduce pressure on the Nepean River and the Sydney Water Drinking Catchment.

The Water Strategy should investigate the feasibility of recycled water from urban environmental for use in nearby agricultural uses. This could particularly include recycled water from new growth areas or the airport precinct.

Purifying wastewater to supplement the drinking water supply needs to play a stronger role. If wastewater recycling is maximised, this will enable a stronger more resilient community, economy and environment.

21. Does your community have sufficient stormwater management systems in place?

Council's adopted Integrated Water Management Policy, Strategy and WSUD Guidelines aims to improve the resilience and health of the community and environment. The documents can be viewed here - <https://www.wollondilly.nsw.gov.au/environment-biodiversity-and-sustainability/water-management/integrated-water-management/>

22. What action would you consider the most important when it comes to meeting the needs of customers and the community?

Immediate planning to address the lack of waste water in Wollondilly is needed – now – and investment and delivery.

Purifying wastewater to supplement the drinking water supply needs to play a stronger role. If wastewater recycling is maximised, this will enable a stronger more resilient community, economy and environment.

Delivery of clear community education and awareness around smarter water management.

23. Do you think the price of water is fair when compared to the cost of other utility services like gas, electricity and telephone?

Water is too cheap in reality – it is taken for granted. It is also cheaper for existing industry to use potable water rather than invest in recycled water.

24. Do you agree with the actions and investments identified in the Greater Sydney Water Strategy? If not, what other areas do you think need to be identified?

Immediate investment in servicing solutions needed now at the same time as progressing the strategy. Show more courage at the political level to get on with treated wastewater reuse.

The draft Greater Sydney Water Strategy does not provide clear direction on the actions for its implementation. The introduction establishes that one of the roles of the Strategy is to propose actions and the consultation invites feedback on the actions in the strategy. However the language used throughout the document is inconsistent and it is not clear on what the suite of actions is. For example,

- Figure 1 is provided to summarise the objectives, principles and key priorities underpinning the draft Strategy. It includes 18 actions under the five priorities. However, these actions read more like principle statements,
- Strategic pathways, which appear to be actions, are provided for each of the five priorities,
- Feedback is invited on actions identified to increase rainfall-independent supply capacity (page 69)
- Similarly styled sections throughout the document provide ‘potential actions’ (page 89 and 93), ‘potential initiatives’ (page 95), ‘potential future approaches’ (page 108), reference to actions in the final Strategy and ‘this could include’ (page 112), ‘consider actions in the following areas’ (page 118),

The actions could be strengthened by recognising steps to support industry. In particular, agricultural producers and supporting the Sydney food bowl.

25. What do you think will be the most common form of water source in 40 years—rainfall, desalination, recycled water?

Recycled water

OTHER COMMENTS:

Council welcomes the Strategy’s recognition and support for integrating the blue and green grids, in part, to support diverse recreational activities. Wollondilly 2040, Council’s local strategic planning statement includes a vision for a Wollondilly Trek by establishing a great walk for Wollondilly connecting Katoomba and the Blue Mountains in the north through to Mittagong and Yerranderie in the south taking in the natural areas surrounding water storage areas in Wollondilly (Special Areas). Council is committed to continue working with Water NSW and other stakeholders to develop the Wollondilly Trek and other walks within Wollondilly.

Introductory comment for cover letter could recognise the significance water plays in Wollondilly’s identity. Wollondilly has approximately 8,272 km of waterways, of which 77% are within drinking water catchments of national parks. These waterways help define Wollondilly as a place, emphasising its natural landscapes and rural characteristics.

Planning Priority 12 from Wollondilly 2040 may provide some high level text:

PLANNING PRIORITY 12

VALUING THE ECOLOGICAL HEALTH OF WOLLONDILLY'S WATERWAYS

Wollondilly has approximately 8,272 km of waterways, of which 77% are within drinking water catchments or national parks. These waterways help define Wollondilly as a place, emphasising its natural landscapes and rural characteristics. Values attributed to waterways that need to be protected include:

- the high volume of unmodified waterways with excellent water quality
- biodiversity, including populations of platypus and endangered aquatic fauna like the Macquarie Perch and Sydney Hawk Dragonfly
- amenity and recreation including swimming, kayaking and fishing within waterways as well as walking, running and cycling along its banks
- culturally significant sites and landscapes
- approximately 95% of Sydney's drinking water comes from or through Wollondilly.

Growth will place pressure on these values if not managed appropriately. Development must be smarter to maintain and improve the health and environmental productivity of the landscape and waterways.

The Bargo River is one of the last wild river of Greater Sydney and should be protected for future generations. Establishing a National Park around Bargo and Nepean Gorges would support protection of Bargo River while providing sensitive access for recreation.

Protecting waterways and the environment in the Shire is consistent with the environmental stewardship Traditional Owners have provided for thousands of years. Council and the community must continue to protect the environment in respect of their stewardship. Challenges and threats to Wollondilly's waterways include:

- stormwater pollutants from development including sediment, nutrients and litter
- increased weed and algal growth from sediment and pollutant load in stormwater
- invasive species such as European carp
- increased hard surfaces from development increasing volume and velocity of stormwater runoff causing erosion
- wastewater discharge impacts
- onsite wastewater system overflows

- industry discharges
- impacts of mining on surface and groundwater including fracturing bedrock
- historical agricultural practices
- increased pressure on water supplies
- illegal dumping and litter in or near to waterways

Residents and visitors swim, fish and kayak in Wollondilly's waterways. We will continue to enable these recreational uses without compromising water quality.

Council will:

- Work towards achieving zero impact on local waterways from development
- Use water to support sustainable development including healthy community lifestyles, green neighbourhoods, a rich biodiversity and climate resilience
- Retain and manage waterways in a manner that keeps them natural and unmodified
- Continue to advocate community concerns regarding reductions in the levels of the lakes within the World Heritage-listed Thirlmere Lakes National Park
- Ensure future modifications of waterway catchments do not negatively impact waterways including preserving adequate riparian buffers and implementing smarter water management in new development sites
- Continue to engage with stakeholders, including other councils and State agencies, to achieve better environmental outcomes
- Work with Water NSW, NSW Department of Environment Energy and Science and Greater Sydney Local Services to identify waterways most under risk from urban development and water pollution to prioritise protection efforts
- Promote development that maintains or restores the community's uses and values of waterways
- Engage and consult with the Minerals, Energy Resources, Environment and Waste Community Advisory Committee
- Advocate community concerns regarding the impacts of mining on waterways
- Build on educational programs and create community awareness
- Use technology to monitor water quality



Figure 18: Healthy waterway management measures

Source: Department of Planning, Industry and Environment

ACTION	TIMEFRAME
12.1 Prepare and adopt an integrated water management policy and strategy including the development of water sensitive urban design guidelines	Short
12.2 Review the LEP and DCP to strengthen protection of waterways and riparian areas and to implement the integrated water management policy and strategy	Short
12.3 Analyse and review water quality and modelling data to identify risks and improvement opportunities and to develop priority mapping	Short
12.4 Develop a strategic and science-based water quality monitoring program to evaluate the impacts of land use pressures and a supporting funding mechanisms	Medium/Long
12.5 Continue to undertake compliance action regarding inappropriate onsite wastewater systems and erosion and sediment controls	Ongoing
12.6 Develop the Sensor Network for water quality	Short
12.7 Require developments of a certain scale to provide baseline data for water quality ahead of and during development	Short

If you have any questions regarding this matter please contact Toni Averay, Director Planning, by phone on [REDACTED] or email [REDACTED]

Yours faithfully



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