Questions on Mullumbimby Water Supply Strategy (IWCM)

(Hydrosphere, 2022)

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Abbreviations

IWCM – Integrated Water Cycle Management

MWSS - Mullumbimby Water Supply Strategy

RDMP – Regional Demand Management Plan

RCC – Rous Country Council

BSC – Byron Shire Council

WSAC – Water & Sewer Advisory Committee

LWU – Local Water Utility

DPE – Department of Planning & Environment (Water)

NRW – non-revenue water

General

- Did council receive the report in December 2021?
- How will council engage with the community on this report and our IWCM/water supply strategy?

Integrated Water Cycle Management

- Is the MWSS considered BSC's IWCM strategy?
    - If not, how does this align with our broader IWCM? Do we do a separate Byson Shire IWCM to the Rous FWS?
- Will the BSC recycled water strategy be available for the WSAC to review alongside the MWSS in advance of the workshop?
    - Does BSC have all regulatory approvals (e.g. DPE) in place to operate the existing recycled water scheme?

Context: IWCM considers all aspects of the water management cycle; supply, demand, leakage & NRW, stormwater, wastewater, environmental water and flows, irrigation. The scenarios in this report offer supply options, but all other aspects of IWCM are assumed to be stationary. While there is some information supplied about aspects of demand mgmt., effluent reuse, there are no options given for these aspects, and the analysis seems to consider them separate to the scenario development.

"Common components" between scenarios

- To clarify, do we apply all RDMP actions to the entire Byron Shire including the non-Rous supply areas or is there a separate DMP? The RDMP draft on exhibition defers to the constituent council to develop demand management for their non RCC water supply areas.
    - "The actions will also *support* the constituent councils in the delivery of their local water supplies (Wardell, Mullumbimby, Nimbin and Casino). The constituent councils **will develop IWCM Strategies addressing the water supply and demand management** needs of their local supplies." Pg6 RDMP (emphasis mine)
- How much water do we expect to save from our demand management activities?
    - Have we compared the cost of investing in demand mgmt. vs. the cost of augmenting supply?
    - Why was the Sustainable Water Partner Program not implemented in Mullum? (Table 8 pg 16)
    - The Smart Meter pilot was in 2020; what were the results of this?
- Similarly for pressure mgmt., leakage mgmt. and NRW; what is the return on investment on water loss mgmt. vs. supply augmentation?
- If the recycled water strategy is yet to be confirmed, how can effluent reuse be taken as a given between all scenarios?

<u>Consideration of climate change</u>

- Has BSC or Hydrosphere approached DPE for their updated hydrological & climate models? (i.e. the ones used for the recent Regional Water Strategies)
- How have changing frequency, intensity & duration of extremes like flood and drought been taken into account?

Context: This report adjusts secure yield for climate change using a simplistic and superseded method. The Office of Environment (2013) guideline is what has been historically used by LWUs to estimate the impacts of climate change, but a number of the method's assumptions are demonstrably invalid. For example, the method assumes 1°C of warming in 2030. **We have already exceeded this.** It also assumes a linear decline in yield based on the 1°C scenario to the year 2060. A linear decline in average yield **does not account for changes in extreme weather like drought or flood.** The model also relies only on the historical measurements taken from rain & stream gauges in the last 150 years. This means the estimates of climate extremes due to natural variability is already lacking, let alone the changing frequency, intensity and duration of extremes due to climate change. FYI DPE has indicated they will make the (CSIRO) NarClim modelling used in the regional water strategies available for LWU IWCMs. Have we approached them about this?

<u>Design criteria, coarse screening and scenario comparisons</u>

- Why was direct potable reuse not considered an option?

Context: It's important that IWCM planning consider all reasonable options. PRW is a reasonable option. (This is another example of where "integrated" planning has been overlooked!)

- On what scale were the coarse screening criteria weighted?

Context: Section 11 offers a "good" "partial" and "poor" scale, but does not indicate how each category was scored (common scales include 1,3,5 or 1,5,10) or what the minimum score was for an option to be considered in the scenarios. This is critical in determining which options pass coarse screening.

- Why were different design criteria used for the coarse options assessment vs. scenario comparison?

Context:

Coarse assessment uses: Beneficial, safe/fit-for-purpose, availability/reliability, compatibility, acceptability, timeliness, technical feasibility, environmental sustainability.

Scenario comparison uses: Environmental factors (aquatic, terrestrial, energy) and social factors (security, community acceptance) then divides these by NPV.

By having only one criteria for "environmental sustainability" in coarse assessment we eliminate the most environmentally-favourable options, but then the scenario planning weights environment equally with social factors. It would be a more consistent approach to develop the same set of environmental, social, economic, and technical criteria for use in both levels of assessment to ensure preferred options are not excluded at coarse assessment.

- Is it a reasonable assumption that RCC will proceed with the FWS as-is, i.e. no Dunoon Dam?

Context: It's my understanding that RCC is likely to return to the Dunoon Dam proposal given the change of councillors. If RCC pursues the dam we will end up with an extremely climate dependent supply (it is utter madness to put a second dam in the same catchment and suggest that this offers "security" in a climate crisis) that our community does not accept and which comes with unacceptable environmental and Aboriginal cultural loss. These factors would immediately discount this option at the coarse screening & scenario assessment phase.

- When was the last time acceptability of different supply options was investigated with the Byron Shire community?

Context: There are a lot of assumptions in both the coarse assessment and scenario TBL comparison about community acceptability. What is this based on? I ran a lot of market stalls for Water Northern Rivers during the previous Dunoon Dam debate & my impression of what our community wants is radically different to the assumptions being made in this report. This is why up front community engagement in IWCM is so essential. Options assessment is a great opportunity to engage with community given that their acceptance is a key criteria. FYI you can also disregard 5/10/10 with community support.