Water Extraction on Tamborine Mountain

While volunteering at the schools tuck-shop my wife was asked by other mums what her husband does for a living. When she answered he is a commercial water truck driver, she found many had no idea of local water suppliers or operations on the Mountain. So I thought I would take the chance of being lynched, and take it a step further with these notes.

We are blessed with an average rain fall of some 1565 mm per year based on the Fern Street records since 1888. The wettest year recorded was in 1974 with a total of 3643 mm, and the driest in 2002 of 756 mm.

While our limited catchment area means we have little surface water resources, we do have a large high quality and sustainable ground water resource in the deep basaltic aquifers.

Ref. Todd A, 2011 Ground Water recharge has been estimated to be on average some 32% of the annual average rainfall. Ground Water extraction has been estimated to be less than 0.3% of recharge for domestic use, less than 2.6% for horticulture use and less than 0.2% for commercial use. Todd concluded that “Total extraction is less than 5% of average annual ground water recharge and is well within sustainable levels”.

Some 1000 bores have been sunk over the last 100 years to support and supplement rain water storage and for irrigation by the farmers and residents of the Mountain. The ground water has been utilised by farmers, orchardists, gardeners, residences and businesses on the Mountain. Usage has changed with population growth and evolution of the community from a small farming and village community, to the current lifestyle residential and tourist orientated community.

The 1000 odd groundwater bores can be loosely grouped as follows:....

- the majority as private bores used for residential, gardens, limited agricultural use, including avocado orchards, kiwi fruit, rhubarb etc. or are no longer in active use.
- 2 bores support local water carriers who supply residential customers and local business requirements
- 10 bores supply both local residences, business and “off Mountain” customers and
- 3 bores supply to “off Mountain” customers.

The fire brigades, both Urban and voluntary Rural, work under State Government legislation that allows them to access water as required in time of need, be it from a creek or dam on private or public land, residential or council water tanks, and local or commercial water storage infrastructure. The 3 commercial extractors between them have several hundred thousand litres of water available for fire emergencies.

Local Water

Pristine Tamborine Mountain local water delivered, costs $190 per 12,000 litre load. This compares with over $300 per 12,000 litre load for chlorinated standpipe water delivered locally to Gold Coast residents by Gold Coast suppliers.

Water at Tamborine Village costs $150 per 10,000 litre.

Of the eight original local water sources on Tamborine Mountain, only three still operate. A subsidised price for locals, rising electricity prices, a Scenic Rim Regional Council substantial rate rise related to water extraction activity, and unpredictable sales in a limited season have been many of the causes for closure.

Of the remaining three sources, local water is subsidised as a community service due to owners having other means of income. All three are within a 500m radius of each other in North Tamborine. One of those sources is the commercial extractor on Cnr Holt and Hartley Rd. Without sales to bottling companies, this extractor would close operation as it would not be viable if it relied on local water sales only.

Council has 155,000 litre of stored water at the sports fields. It is used for watering the playing fields and is potentially available for fire fighting purposes. Council does not offer this water to Mountain residents for local water needs. This storage is filled by three bores for redundancy. I am told they have something in mind, but have not disclosed any plans.

Over summer months commercial water extraction is often blamed by the community for lack of available local water, however it is lack of water truck availability to transport the water that creates waiting periods. It is possible though, that if one of the 3 remaining local water sources ceases trading, an acute lack of water supply, as distinct from transport capacity, could easily see the community experience a real water supply problem.

There are two local water trucks on the mountain. One is subsidised with quarry work out of the water delivery season. The second truck’s owner is retired so he may see his operation as one of community service, just covering costs.

There is one commercial water truck owner who lives on the mountain. This truck plus the two above are available to voluntarily transport emergency water to fire engines in time of need. The local commercial water truck owner enquired about the possibility of setting up a 4th local water source on the South end of the mountain for security of supply. He has a good bore source, drilled many years ago for a nursery with DA from a previous owner. Council showed absolutely no interest or encouragement.

Council asks $35,000 for a water extraction Development Application. On top of that cost there is another $80,000 to $115,000 to set up a “compliant” water extraction facility for local water purposes.

Local water is cheap, and luckily for Mountain people, subsidised by the source owners and operators who have other income. With no encouragement from council for expansion, and no foreseeable plans by council to supply water to locals, yes I would be concerned.

Commercial Water

Two geological studies and two case studies on bores by well regarded authors have been conducted on Tamborine Mountain. These can be found on the Tamborine Mountain Landcare’s web site. All report similar results that Commercial Water for transport off the mountain by tankers is responsible for 0.1 – 0.2% of the mountain’s annual aquifer recharge.

The commercial extractor Cnr of Holt and Hartley Rd has recorded bore levels for the past 25 years since the bores were drilled. Bore levels have remained virtually stable through dry or wet seasons as a result of responsible management. Practices like resting the bores and aquifers for at least 8 hours a day, and accessing only 3/4 of the permissible quota has produced these reliable results. This operator also supports a levy on every litre of water extracted if the State Government ever wished to implement it, then by so doing, all extractors of all commercial activity would pay and have extraction limits imposed.

Contrary to broad community belief, groundwater is not owned by the community. It is a State owned resource just like coal or oil or iron ore or gas etc. However mineral extraction is a once only event, once it’s gone it’s gone, with possible severe environmental consequences such as land degradation, water pollution, and loss of biodiversity. Whereas water extraction is renewed by rainfall. Many mistakenly believe that only water being taken from the mountain in tankers is commercial. Ground water is used for local business on the mountain, the golf course, horticulture, orchards, and farming which are all “commercial” use. Some also think commercial water is only sold to multi-national companies which it is not. It is worth keeping in mind, once the produce from a crop have left the mountain, it too has gone and is a once only event, be it annually, and it to may or may not be sold to a multi-national.

There is also a view that water used for irrigation is all returned to the aquifer. However only 30 – 35 % maximum is returned. The rest is lost to transpiration, evaporation and plant growth.

Ongoing Research

Cnr Holt and Hartley Rd is the only commercial extractor who is still participating in an ongoing University study of ground water. It has run for 11 years. Data loggers have been installed in the bores, one with a trigger point which the university believes indicates the likelihood of aquifer stress. This trigger point has never been reached.
Council has subsidised the supply of several data loggers but essentially consider water level monitoring as a State issue. However the State Department of Natural Resources, Mines and Energy regard Tamborine Mountain as having ample underground water for the 7500 odd people who call it home, even after allowing for water extraction.

**Transport Considerations**

Council has imposed curfews on 2 of the 3 commercial extractors. No trading before 7AM, or after 5PM, with no movements in and out of premises around school curfews from 8 to 9.30AM, and 2.30 to 4PM. This allows safe passage up and down the mountain for the many school bus movements each day. The 3rd extractor has no DA and has no trading curfews, whereas the other 2 have DA’s administered by Scenic Rim Regional Council.

Council has imposed limits on truck numbers, truck size, and truck mix for one commercial extractor, Cnr Holt and Hartley Rd. Another extractor, Curtis Rd, has limits of trucks numbers and no size restrictions. While the other extractor has no limit of trucks and no truck size requirements at all, Hartley Rd.

Regardless, if the community wants less trucks, less noise and less physical presence, bigger trucks that do far fewer movements with a much smaller environmental footprint, and if run at night would solve many issues. Trailers can now also have steerable axles that keep the trailer in the lane and significantly reduce twisting on the road. Most of us are aware that Tamborine Mountain is a ghost town after dark, so night movements would be better and safer for just about everyone. And for what its worth I live on a Main Road, it was my choice to buy there.

**Council Rates**

It is interesting to note that the 3 so called commercial extractors have had special rating categories applied which allows Council to increase annual rates by 50%, yet much larger irrigation water users including the golf course pay far less with no potential increase.

Infra-Red Cameras have been used in the past and perhaps still are by Council and The Progress Association to gather information on water truck movements. I think we can all agree if the water extraction industry is found to be doing wrong then action should be taken against the entity, as like any entity. No other commercial sector or business on the mountain has had such restrictions and conditions imposed on it, despite the business being sustainable when properly managed. Water extraction, responsibly operated and monitored is sustainable as the extracted water is replaced with rainfall.

**Creeks**

As for creeks and commercial extraction, for the most part creeks are filled and fed by surface water. They are also sustained by shallow groundwater draining into them. Water flows fast over roads, drive ways, lawns, and down a creek, where as through a forest or mulched vegetation it drains much more slowly and sustains higher creek levels for longer. Of course no rain and the creeks dry substantially, so catchment area is everything to a creek’s healthy visible flow and sustainability. Though there is some remnant rainforest forest left from mass clearing for dairy farms, after their demise, many lifestyle house lots were created with vast lawns having little or no slow soaking mulched vegetation. So it could be said the community is responsible for healthy flowing creeks.

**Summary**

It's easy to dislike water trucks, however almost everything a human consumes in modern society is delivered via truck. Everyone is a user and no one escapes. Furthermore I can promise you many cars, caravans, buses, and motor bikes cross double white lines going up and down Tamborine Mountain, and there are plenty of slow vehicles beside trucks. However I have never seen an impatient truck risking a suicide overtaking manoeuvre crossing double white lines as many cars and bikes do. It takes a truck 10 minutes to descend the mountain without pulling over via Tamborine Mountain Rd. Why not take a mini break from the hustle of life and enjoy the wonderful part of the world we live in, who knows you may even spot a Koala.

It's also easy to dislike commercial water extraction and plastic bottles. But can you honestly say that you have never accepted or purchased a bottle of water. If you haven’t than good on you! However for the vast majority, if we are honest with ourselves, we have to say yes we have. From my observations the commercial water industry is well aware and concerned about the foot print of plastic bottles. This is why many are moving to bottles being made of 100% recycled plastic. And though it’s cheaper and consumes far less energy to produce and recycle plastic compared to glass or aluminium, perhaps one must ask the question why all States, with the exception of South Australia, have only recently introduced a plastic bottle buy back recycling scheme. And why did Australia happily send all our recycling to China for the past decade, instead of creating an industry here? Why do we have so little manufacturing around plastic recyclables that are usable over and over again? We can sure see the bottles the humans purchased then disposed of irresponsibly because they are lazy litter bugs. However this is not the water extractor or the bottler’s fault.

It also appears from my observations Council is now fearful of a community backlash around any decision to do with water extraction other than saying no.

Over recent years Council has successfully closed one source. It has tried to close another but was not successful. It has had some success closing another source owner, however has apparently made mistakes with other operations of that owner; and now that owner has sold out and moved on, any correction may be impossible. Furthermore it appears Council has no power to do anything in regards to another extractor. So it seems, though Council has done their best, commercial water is here to stay in a limited capacity on Tamborine Mountain.

Personally I tend to think Tamborine Mountain should be proud and thankful that due to the mountain’s volcanic make up, we have access to pristine groundwater and perhaps the best water in the country. And even more proud that none of the sources are owned by distant companies or multinationals; they are locals; who love being local and contributing locally.

The point of these notes is to provide information and some facts about the industry to balance the incorrect hearsay around water extraction from the opposers point of view. I hope it has helped in some way.

*Jason Watson*