

Submission to Northland Regional Council re Aupouri Aquifer Water User Group - 24 Resource Consent Applications for Groundwater Takes from the Aupouri Aquifer for Horticultural Irrigation.

Hearing Date: 2nd September 2020.

It was not possible to analyse 24 applications in the short response time last year so I have focussed on the Applications closest to my bore.

Nevertheless, I **oppose** the combined application

WATER IS ESSENTIAL FOR LIFE.

1. This application has the potential to adversely affect my water supply and increase costs for me – I object to this. Refer Figure 4 on map provided – worst case scenario.

My artesian bore draws water from the deep shellbed aquifer which is the same aquifer from which the proposed abstractions will take place.

The applications represent commercial enterprises and I do not consider transfer of costs to me (and other people in the district) to be reasonable. Northland is constantly referred to as a region of poverty so it does not add up that the average citizen should have expenses increased by having to install a pump with ongoing associated electricity costs or having to put down a replacement bore with considerable cost or having to buy a tank which costs to collect water off their homes if the current water supply is affected by the proposed abstractions and then maybe having to buy extra water should there be a lengthy drought.. In this area the water collected off houses is subject to the pollutant effects of birds and opossums which also may carry disease. This means water collected in tanks would be of a lesser quality and more hazardous to health than groundwater and is not a suitable substitute for the groundwater currently in use. Would the NRC assist with costs to Ratepayers affected?

2. People need water to survive and **PEOPLE ARE MORE IMPORTANT THAN AVOCADO TREES.**

People who use the water from the aquifer require it for personal use and /or their own livelihoods and they need to be considered as they have contributed to this community for years.

To eliminate effects on other users of the aquifer maybe the applicants
a) need to invest in tanks themselves to collect water for irrigation instead of expecting other people to do this. OR they
b) could build dams for this purpose . OR they
c) should reduce the size of the project so that the abstraction of the smaller amount of water required does not affect the bores of neighbours and reduces the risk of saline intrusion.

3. There is a risk of saline intrusion from the East – this is not even considered in this application.

The aquifer lies in a narrow strip of land which means there are risks from both East and West coasts.

My bore will be affected before the applicants' bores if saline intrusion occurs because of its proximity to the coast.

The Regional Council has a responsibility to me as a Ratepayer (and to every other bore owner in the district) to ensure that our water supply is not affected by salt.

The application states the potential for saline solution is a significant constraint on allocation.

Regular testing and analysis of tests is needed to ensure that consents allocated are not causing problems.

At this point when considering these applications the possibility of saline intrusion should be of prime concern.

The focus should be on PREVENTION of saline intrusion and in my opinion this should be linked with a limit on size of allocations.

Desalination or pumping fresh water into the aquifer to reverse the situation would hardly be viable options.

Artesians are useful indicators of the state of the aquifer.

If all artesian failed would this be sufficient to cause salt to enter the resource?

I feel it is worth mentioning that The Environmental Studies of 1991 and 1995 both state that the resource is **DECLINING**.

This needs to be considered when making the decision to allocate such a huge amount of water from this aquifer as it may suggest that the optimal percentage from the resource had already been exceeded when those Studies were written.

If we wish to have fresh water for future generations we need to conserve water rather than abstract more and more from the aquifer.

4. All effects are considered to be MINOR but how many minor effects become a MAJOR. effect ie the cumulative effect of all 24 minor effects..

What is a minor effect? The 24 applications vary in request for amounts of water so one might expect that the minor effects also have varying sizes too.

Add them all together and what is the actual effect on the aquifer.

In an earlier document dated 2010 there were 105 artesian bores shown on a map of the area close to my bore and if new bores were required the cost would be approximately 105 x \$11000 ie \$1,155,000. Is this a minor effect?

People who have artesian bores are RATEPAYERS and the Regional Council has an obligation to them as well as those who are applying for the large amounts of water. These same ratepayers have contributed to the district over many years as well.

5. Recharge is claimed to be relatively large yet apparently there is a lignite layer in this area which would contradict this.

It is stated in Applicant 24's document that the majority of recharge occurs in Winter and is likely to range between 10% and 43% of the annual rainfall and is significantly influenced by landcover particularly plantation forestry which reduces recharge due to canopy interception.

Later an estimate of 35% is given. Proof needs to be given for this percentage. This suggests that the 10% figure relates to the influence of landcover but could it also be appropriate for the area with the lignite layer? It would also be interesting to know how long it takes for rain to reach the shellbed aquifer. When the avocado trees reach optimum height how will this affect recharge? Will they intercept a significant amount of the rainfall? Will recharge in the huge area of land covered by trees be 10% in the not too distant future? Has a predictive model for the state of the aquifer in future years been established and allowance made for this?

When the pines that were planted in earlier years along the West Coast matured, the streams that flowed to the coast reduced considerably and the thinking was that the pines had intercepted the rainfall to cause this. Pines are eventually logged for timber when they are mature which then reduces the interception of rainfall for some years until replacements grow. Avocado trees will not be culled in this way so interception will continue indefinitely so a predictive model should be established now.

Will recharge in the area of the trees also be contaminated by the sprays applied to the trees?

6. Monitoring is a two pronged process

- a) monitoring by consent holder simply confirms correct amount abstracted and
- b) monitoring by NRC would check correct amounts taken by individual users but also check the overall effect of the amount taken by all of them ie **someone needs to be reviewing the state of the aquifer and responding to a RED ALERT if a problem arises. This would require a plan of action to avert a crisis ie a Risk Management Plan.**
Does one exist?

The NRC has a great responsibility to all of us to ensure that no crisis situation arises. This would require constant regular monitoring and review of same and the plan of action would need to ensure that everyone complied with directions to either reduce or stop abstraction.

The focus should be on PREVENTION

It is too late if peoples' bores are affected.

Already there are people who have lost their water supply because of current allocations and this does not please anyone. It appears from information given that only a fraction of consented amounts are being abstracted at present so it can be expected that more people will have problems with water supply when amounts already allocated are in use..

It is TOO LATE if saline intrusion has occurred.

Neither people nor animals nor plant life can exist on salt water.

The worst case scenario would result in a "ghost county" – no life at all.

There is no room for error.

An apology or someone resigning will not solve a problem like saline intrusion or loss of current water supply should either of these arise.

Finding errors in data in the model once the hearing process was in progress raises serious concerns about reviewing processes. As well, the replacement

document was written with the advantage of knowing the issues raised in submissions.

**Were these errors present in the model when previous consents were debated?
Are there more errors that have not been identified that are relevant?**

In 2020 there has been a parallel Red Alert situation to deal with Covid-19 which we are all aware of. It required a plan of action which we all had to follow and only essential services were operating. Water supply for people would certainly come into the “essential” category.

Water supply for orchards would not.

What guarantee would we have that the abstractions would stop if this was directed?

7. In the Aupouri – Sweetwater zone the percentage of the allocation limit is currently 88%. With the proposed takes (ie both Sweetwater Farms and Elbury Farms) this would rise to 97% which would leave little room for any future development.

Although the aquifer has been zoned it is worth remembering that all 24 applications are requesting water from the SAME aquifer.

Sideways transmission of water to deal with abstractions could eventually cross all zones.

There is no endless supply of groundwater and with changing climatic conditions recharge is uncertain.

The effects of applications are not limited to the zone in which they have been listed – there are no solid boundaries between zones – so sideways transmission will occur. Each abstraction will reduce the level of groundwater in the aquifer not just the zone. Boreholders therefore have the chance to have water in their area being transmitted sideways in several directions due to the number of proposed abstractions and the large number of already consented abstractions which increases the possibility of adverse effects.

8. In 2011 Applicant 24 applied for 31,000cu.m/day of groundwater and 10,000cu.m/day of river water for irrigation purposes.

The amount of groundwater granted was half the amount requested.

Only a fraction of this has been used as stated in details given for 2017/18 for two bores and the table suggests that only one bore was operating before this which means even less was being used then.

The full amount of river water was granted.

This suggests a) the need for so much water was not there

and b) that we have no real indication of the effect on the aquifer and other people’s water supplies from taking such an amount which is a huge disadvantage now.

It is of concern that the applicant again wants a huge extra amount of water.

Even without using the full consented amount and without the Far North District Council using their consented amount there are concerns from people who have had adverse affects on their bores locally and further North.

If the true effect of earlier consents was available, the decision on whether to grant more would be more accurate and would not just be reliant on theory.

9. Notification documents were sent to 4000 people – some have no bores, some have no computers, some do not realise the gravity of the situation, some find the short response period inadequate.

Potentially all users are at risk.

It is therefore extremely important that the decisions made re the 24 applications also consider the other members of the community and their needs.

The decision needs to be made without discrimination – larger consumers of water should not be considered more important than those who have smaller takes.

2020 has seen a lengthy severe drought affect the water in the district. Lake Ngatu had a sandy beach on the southern side and my own supply which I monitor the head of weekly had the lowest readings for twenty years.

Decisions made must make allowance for a repeat of 2020 in the future so as not to completely exhaust the storage levels of the aquifer.

As mentioned above, it was difficult to analyse 24 applications in the short response time given so I have mainly commented on application 24 the closest to my bore.

However:

I oppose the combined application for the 24 applicants

I feel that the effect of the combined abstractions which total such a huge amount of water is detrimental to the aquifer and ultimately to all who currently use it..

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