Lake Hugh Muntz Care Group

Hi Pauline,
Thank you for your reply to our open letter.
Given the relaxation of COVID restrictions we so no barrier in a face to face meeting at the required 1.5 m social distancing guidelines. The Care Group would again like to request a meeting to discuss your letter of reply and your commitment to the rectification of Lake Hugh Muntz.

Regarding Your Letter of Reply;

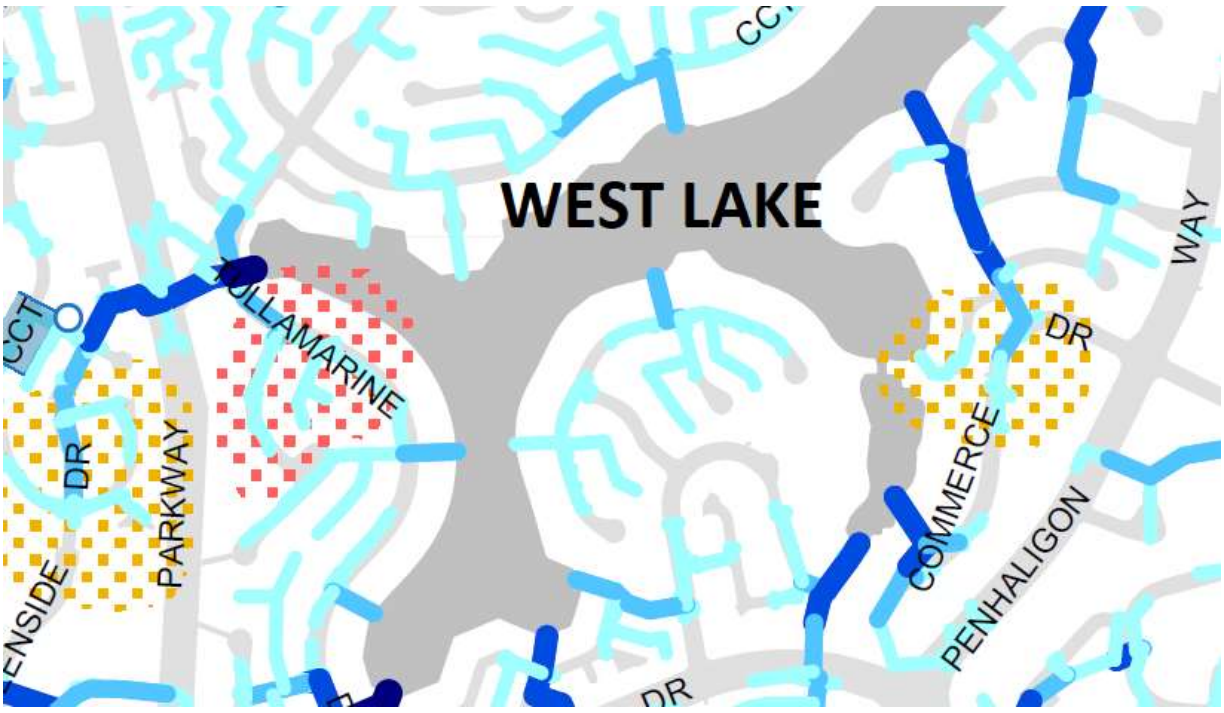
The Care Group objectives are made to address key issues effecting not just algae but the long-term health and recovery of the lake. Key issues that Council and Griffith have failed to address or even acknowledge. We also support evidence-based approach and expect that key issues, including our suggestions receive the appropriate scientific research that they deserve.
We have no issues with Council rejecting our suggestions provided they have better solution!

Regarding your statement;

"***Numerous factors exist that can impact the water quality within LHM. These include; the age and size of the lake; the fact it is fed by 16 stormwater outlets; groundwater inflows; exposure to nutrient loads during heavy rainfall events***"

The Care Group would like to clarify;

The fact that it is fed by Stormwater Outlets. Numerous "healthy" lakes exist with stormwater inflows. West Lake not 10 minutes' drive from LHM has extensive stormwater inputs including major roads yet does not suffer the severe degradation during rain events.



The photos below taken on THE SAME DAY after the recent rainfall event show West Lake hardly effected while LHM has been devastated.

Clearly stormwater outlets are not the main issue - a healthy lake without unknown inputs from the canal has a far greater capacity to cope with stormwater inputs.
Why is something as important as lake health not an objective?

***Groundwater Inflows*.** Council have NOT provided any evidence-based information that confirms significant groundwater intrusion into LHM. The groundwater bores do not measure flow, so the claims are unsubstantiated – the minimal 5cm change in water height on only one of the bores does not indicate any significant saltwater intrusion into the lake. Key observations also do not support significant groundwater intrusion – despite regular lake top-ups through the canal pipe, the lake water level still lowers considerably during dry periods. This significant drop in level would not occur with major groundwater inflows.


Exposure to Nutrient Loads During Heavy Rainfall Events – Catchment Management issues.
The 2008 Management Plan highlighted the importance to reduce nutrient loads recommending a comprehensive 2.8 Million Dollar Plan – Griffith Uni Experts recommended "*catchment management actions should be adopted concurrently with other actions",* also stating that '*'directly reducing nutrient loads from catchment sources is always the foundation of a sound lake restoration program*".

Unfortunately, the minimal effort that has been put in over the last 12 years has fallen far short of what was recommended in the Management Plan.
The commitment from Parks to improve 2 areas does not address the many other issues.

With the unanimous support from experts, we look forward to hearing the plan honouring your election commitment to address the long outstanding catchment issues including grass clippings entering the lake.
The basis of any plan should include an audit of all issues with a priority and a timetable.

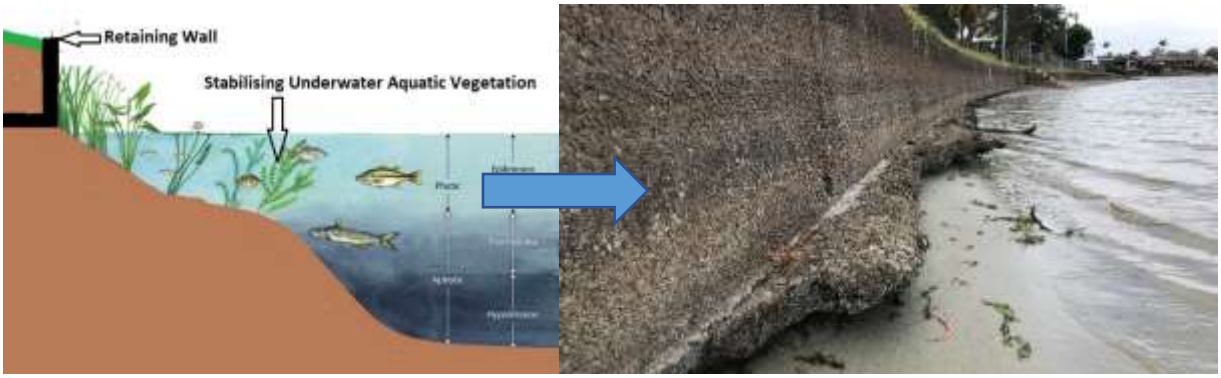
With reference to your points;

1-Phoslock Top Up. **Being considered in the scope of Griffith Uni's current study.**
With no action last year we have seen a worsening of conditions now with record algae levels. Leading on from the information from Griffith, record algae levels with a subsequent increase in resting cysts have setup next summer for an even worse outbreak. The LHM Post in March 2020 indicated that the initial treatment did not release the full potential of this product and requested an urgent top-up. With no plan, no timetable and no implementation this summer, the Care Group request that Clr Young fast track a decision to take action to reduce further decline this summer.

2- Installation of A One-Way Valve At The Lake Outlet
Your letter advised that Griffith have already investigated and dismissed a trial of a one-way valve.
One of the main concerns is the input from the canal in flood events and the detrimental effect on the lake.
How can an evidence-based decision be made without even testing input from the canal in rainfall events?
The recent inundation of canal water is an ideal opportunity to investigate but despite several requests for a evidence based report, no detailed information has been received.
We would expect an evidence-based approach to include water tests on canal input including volume, nutrients, salt and the clarity of water in normal and flood events.
Assessment of all negative aspects not just for algae but for the long-term health of the lake.
The assessments should include;

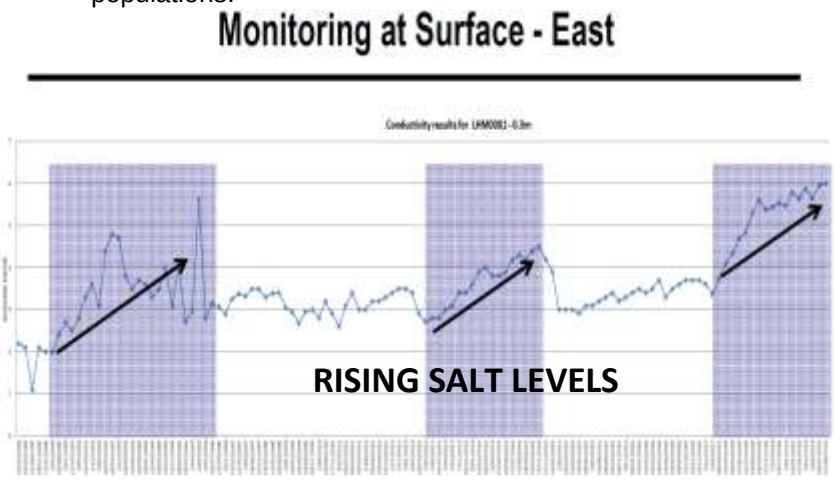
- Effects of flushing of the lake with saltwater and perceived positive effects – for 11 months of the year, the lake level is below overflow. The saltwater entering the lake provides no flushing during this time.

- Effects of nutrients adding to the already high lake levels and effecting goals on reaching the water quality objectives for LHM.
- Effects of pollution/rubbish – the pipe inlet is positioned at the very end of the canal system where rubbish gathers and is forced into the lake.
- Effects of increasing salt on underwater aquatic vegetation. A significant ongoing loss of vegetation has occurred over many years as a direct result of increasing salt levels.
- Effects of increased erosion of sand from the shoreline due to loss of underwater aquatic vegetation. This vegetation played a critical role in stabilising the sand in the transition zone between the shallow and deep water that supports the 3.3km of retaining walls. The outcome is increased frequency of sand replenishment at a significant cost.



- Effects of dirty water adding to the poor clarity of LHM and further limiting the growth of underwater aquatic plants.

- Effects of saltwater adding to the critical stratification, further enforcing the “dead oxygen depleted zone” and reduction in the surface freshwater zone.
- Effects of rising salt levels on environmental conditions including the freshwater fish and turtle populations.



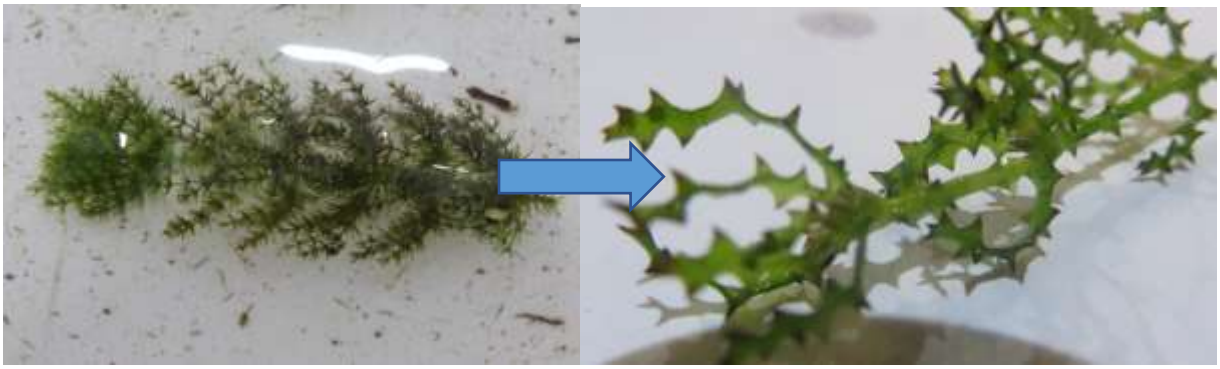
3- Aquatic Vegetation

Underwater Aquatic Vegetation. “There can be no lake recovery without significant underwater aquatic vegetation”

This statement echo’s the importance of aquatic vegetation. It is no coincidence that the loss of vegetation has coincided with reduction in water quality.

There has been a long history of loss with Council asked to investigate a complete loss of vegetation in 2013 with no action. Vegetation slowly returned over the years but struggled to grow. Only the very shallow water in the transition zone between the shallow/deep water had very limited growth and only in late spring when water clarity improved.

Councils unsubstantiated claims that the Prickly Water Nymph, a highly undesirable plant in a swimming lake, would eventually replace the original vegetation. For the best part of a decade, with the declining growth of original vegetation, the prickly water Nymph has had the opportunity to take-over, but this has not occurred!



Increase in saltwater concentration has been determined as the cause.

- We would expect a fact-based assessment to include a survey confirming the loss and baselining the current condition.
- We would expect reduction in salt levels, to improve vegetation be given a priority.
- We would expect a plan to restore vegetation as a primary objective.

Shoreline Aquatic Vegetation.

Regarding your statement;

“City officers advised me that they have investigated planting aquatic vegetation along the edge of the lake to improve water quality, but it can be difficult to find plants that thrive in the brackish water of the lake”.

Despite the increase in salt levels, various species of plants have continued to grow and thrive in these conditions. Both on the shoreline and plantings in reed beds as seen below.

Clearly these native plants have continued to grow and suitable for replanting so why no replanting?

There would be no objection to planting adjacent to park lands, for example in the area below where the public do not access the lake.

Originally there were plants located in this area that council removed, adding to the issues of runoff in this area.

- We expect a plan to restore removed shoreline vegetation and replanting of other areas not used for public access. Why has there been no action in replacing these removed plants or any other shoreline replanting?

6. AERATION OF THE LAKE

While Griffith are keen to point out the negatives of aeration, the cold hard facts are that without addressing the critical stratification, the outcome is clearly a worsening of conditions.
The continual build-up of organic matter including leaves, lawn clippings plus ongoing fallout of dead algae to the lake floor, will continue to add to the problems of stratification.


This lake will still be here in 10,20,100 years so what is the outcome long term?

We would expect an evidence-based approach to include:

- An analysis, projection and a public report on the negative effects on the lake for example in 10 years if stratification is not resolved.
- Analysis of current modelling to be extended over a longer period, for example 3-4 years to determine possible mid-term benefits of aeration on the breakdown of organic matter and reduction in algae.

Considering the ongoing decline over 20 years, more recently 4 consecutive years of algal blooms, the Card Group expect Council to do everything possible to reverse the decline.

We look forward to discussing in person, our expectations, the clear inadequacies of the current objectives and the lack of action on key issues to improve long term lake health.

Lake Hugh Muntz Care Group

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