

Outcomes of Meeting –Key Points

- LHMCG has accepted NEW terms of reference and will now attend the stakeholder group and as such will receive further updates and results through this group.
- Another Griffith Report updated with Phoslock Trial Results released soon.
- Next stakeholder group meeting is August 5th where Griffith will present their findings of their report in more readable format.
- Methodologies and proposed aerator solutions will be forwarded to Griffith and analysed for their feasibility and discussed in stakeholder meeting in August.
- Phoslock results and analysis will be a main focus of Griffith's new report.
- Aerators were not presented as a solution in Griffith's report. Issues with implementing aerators when algae is not controlled.
- Key Griffith recommendation Hydrogen Peroxide not Approved.
- Disagreement over the impact of salt water on the lake from canal. Whether it is beneficial or harmful to lake overall.
- Disagreement over value of lake. Council view as borrow pit for storm water, Care Group views as unique valuable community asset.

Lake Hugh Muntz Care Group Meeting with Steven McVeigh and Darren Ford. Meeting Notes.

Lake Hugh Muntz Stakeholder Group

- Council's Intent was not to exclude.
- Intent was for LHMCC to play important part of the stakeholder group
- Council tried to be inclusive as they could.

Terms of Reference

- Council needs to include the perspective of the city. Concern over the accuracy of information being sent out
- New draft was written up. Allowed for LHMCG to distribute information providing it was an accurate representation of the meeting and stakeholders discussion.
- Draft copy approved by LHMCG and will be supplied to stakeholder group. Continued attendance based on ability to maintain free speech.
- Out of scope- the overall management of the lake- this needs to be included in discussions.
- Council are sending terms of reference and agenda out with the next email to the stakeholder group
- Care group will now be a part of the stakeholder group
- 4 weeks prior to meeting, council will send out agenda for perusal. Questions can be added to agenda and will be discussed in the meeting.
- Waiting on report from Griffith. Expected completion at the Start of July and should be publicly available in start of July. Council is working close with Griffith so that the timeframes and work are achievable.
- Have brought forward a special meeting of LHMSG for early August. Griffith uni will come along to show their results and give a presentation to stakeholders.

New Study of Management Options Report.

- Care Group: Why is there another report in eight months? What has come to surface to make a whole new report.
- Council: Phoslock trial and increase in data collection has brought more info to light that can be used in the model to tell us what options there are available.

Progress of Phoslock

- Council: Phoslock results are wrapped up in Griffith's research now.
- Griffith are modelling the results in terms of dynamics of lake and any changes.
- Phoslock results are all part of Griffith's report.
- Are not able to assume the difference by observables. We need to wait for Griffith's report to determine whether how much change it made.
- Increased monitoring to weekly and took samples for every metre and done for 8 weeks and fortnightly for survey runs. This data was all fed into Griffith's model and will be a major part of Griffith's report.
- They will address whether Phoslock will work as a mitigation measure every year or every few years.

Aeration

- Council and Griffith: Aeration may work but will not at this time with the algal blooms.
- Council has to be very cautious around proprietary products. Aerator logistics need to come from specialists.
- SEQ water and Griffith have investigated feasibility of aerators. Need to be robust in analysing the impacts of putting in aerators. Do not want it make a worse impact on the lake.
- Care Group: The front lake where majority of people use and half the residents live does not have high nutrient levels at depth. Why have aerators not been considered in front lake?
 - o Council: Data shows that Oxygen is all the way down to bottom in the front lake.
 - o Aeration can only be implemented when algae is controlled. Aeration will only cause further algal problems.
- Care Group: Why do other lakes have aerators fitted?
 - o Council: Those aerators are not constantly running. There are reports that show that aeration have not worked and can cause more issues.

Aeration Methods.

- Care Group: We have a massive amount of water stored in lake in periods of high rainfall. Aerator installed near lake overflow pipe can mix bottom nutrients and salt water increasing transport to canal thereby reducing salt and nutrient levels overall.
- Care Group proposed the solution of a suspended aerator. This will allow aeration in deep west side of lake without stirring up nutrients.
- Council will pass on the methodology of this to Griffith for it to be evaluated, discussed at next meeting.

Removal of High Nutrient Water to Canal.

- Care Group: Pumping of high nutrient bottom waters. Why not implemented?
- Council: It is an environmental concern. Cannot just pump it into the canal and have it removed. There are issues with the state legislation in that they cannot pump low quality water without treating it. Getting in and disturbing it will cause further environmental problems.
- Care Group: Evandale lake. Why was pumping allowed here into the river?
- Council: The lake was not pumped because it had poor quality water, it was emptied to remove the stonefish. This was only considered after several other attempts to remove it.

Hydrogen Peroxide – Not Approved.

- Care Group: It was a key action of Griffith's report.
- Council said that from an authority standpoint we weren't allowed to use it. For each chemical contained within it, we can't use it as an algaecide legally. Using hydrogen peroxide in South Australia. Has been performed in a lab but has not worked in stream. Also being used on a much smaller section of water.
- Question: Is it worthwhile trialling in small area of lake? (Hydrogen peroxide)
 - o Trial would require a wall that separates lake and creates a barrier. Very costly.
- Question: Griffith provided a variety of chemical options such as Chitosan to treat algae. Are any being considered?
 - o Council stressed that what happens in a laboratory is often not viable to be applied to a real world situation.
 - o They are focusing on trying to treat the sources of where algae get the food sources.

Update on Underwater Aquatic Plant Loss.

- Care Group concern: Effect of salt water on aquatic plants. Loss of all underwater aquatic plant around shoreline. We need underwater aquatic plants for lake recovery.
- Council: Loss of freshwater plants occurred in 2009 during droughts that corresponded with increasing salt water. Saltwater intrusion into lake has been increasing since 2009/2010.
- Griffith report said that they didn't know enough about groundwater.
- Council- There is aquatic plants all around the bank but not as in the deep sections.

- Care Group: As the salt water increases, we are getting the transition from freshwater plants to saltwater adapted plants such as prickly water nymph.
- Concern over Prickly Water Nymph - forms in clumps growing to the surface and far from ideal for swimming. Original freshwater plants more efficient at recycling nutrients.
- Focus of Griffith report is managing the algal blooms and looking into initiatives. Anything else they are not tasked with specifically.
- Disagreement with the impact of salt water on lake. Will be clarified in the stakeholder meeting by Griffith.
- PhD student doing report on bores of groundwater in lake.

Canal Salt Water Testing.

- Council: Started testing samples of the water when tide was at 1.6m
- One issue. Council have to take samples between office hours.
- Recently reduced it from 1.6 to 1.4 to allow more sampling hours
- The PhD student is looking at getting a flow meter to go into pipe so that flow rates can be calculated.
- If we don't have the data we can't get accurate interpretation of results and decide what bets management should be implemented.

Flow Control – One Way Valve on Canal Pipe – Salt Reduction

- The Griffith report shows that salt water can reduce the intensity of algae, but the threshold in which the algae can live in is still unknown.
- Griffith is looking into the limits of the algae. Council want to get advice of professionals.
- Council stated that the lake is evolving. Going through a change and we're trying to manage through that change.
- Griffith has recommended that the pipe remain open/unobstructed to allow for inflow of water to create water movement.
- Care Group concerns over rubbish, dirty nutrient rich water, and salt-water intrusion entering lake.
- Council is adamant that they need to take Griffith's advice. Pipe has always done this even when the lake was in good health.

Lake Water Quality Updates

- Care Group: Request regular updates. LHMCG has not received an update since March last year. Receive weekly algae updates but not lake water quality.
- Care Group requested long term results. We want to see what's happening in the bottom of lake and top.
- Council: Monitoring has been increased so that we can see clearer trends in water quality. Griffith is producing monthly updates. Given historical data and well as algae and info from profiler. All the information is with Griffith and they will release it in report in July.
- LHMCG will wait for stakeholder meeting to have access to these recent water quality results.

Mowing of parks.

- Council has instructed contractors to mow leasing up to face.
- Did enquire of using the catches. Was \$2.50 per metre extra to mow with catchers which was way too expensive.
- Council stated that it is the design of borrow pit which we inherited from the developers. Only responsible for ensuring it's maintained for stormwater standards.
- Need to be realistic about what we can and cannot do and ensure the level of service is adequate considering the 139 lakes that need to be managed.

- Care Groups view. This is a valuable community asset that needs to be maintained to the best of Councils ability.

Initiatives.

- Council have implemented Reed beds, gully baskets, monitoring.
- Council says that even though they have not worked in some cases they are initiatives and council has made efforts in improving lake health. Design constraints and History as a borrow pit make complicated initiatives.