

Minutes of Meeting

Lake Hugh Muntz Stakeholder Group

Attendees: City of Gold Coast Councillor Division 12 – Cr Pauline Young (Cr Young)
City of Gold Coast – Chair Darren Ford (DF), Steven McVeigh (SM), Jeremy Wagner (JW), Shannon Hunt (SH)
Griffith University Australian Rivers Institute – Prof Michele Burford (MB), Prof David Hamilton (DH)
Nobby Beach SLSC – Nick Marshall (NM)
Lake Hugh Muntz (LHM) Care Group – Phil Nott (PN)
QLD Triathlon – Matt Sundstrom (MS)

Apologies: Healthy Land & Water – Naomi Soustal
Mermaid Beach SLSC
Surfers Paradise SLSC – David Mackie
Merrimac State High School – Chris Eisenhuth
Watergum – Rosalinde Brinkman

Location: Nerang Customer Building NG-6

Date / Time: Tuesday 10th Nov 2020 – 2pm to 3:40pm

Note: Questions asked throughout the meeting are in Appendix 1.

Item	Discussion	Actions	Date for completion
1	<p>Welcome and apologies Darren Ford (Chair)</p> <p>Welcome to all attendees online and in person</p>	Nil	N/A
2	<p>Adoption of Previous Minutes Adopted with no objections</p>	Nil	N/A
3	<p>Griffith University Report 3 - Professor Michele Burford</p> <ul style="list-style-type: none"> • Effects of salinity and phosphorus on algae species <ul style="list-style-type: none"> ○ Deeper waters within the lake have become more saline (saltier) over the years ○ Laboratory experiments indicate that increasing the salinity doesn't make the Chrysochlorum grow any slower until you have water that is as saline as seawater. Unless the lake was close to the salinity of seawater there is no way you could use salinity to remove the bloom. ○ These species are supremely adapted to phosphorus, they can store significant amounts of phosphorus and will continue to grow for a time even after being starved of phosphorus. • Effectiveness of sand capping <ul style="list-style-type: none"> ○ Need to ensure any sand used in sand capping won't add any further nutrients to the system. ○ It will be very challenging to add a uniform layer of sand to the lakebed through a sand capping project. ○ Controlled sand capping experiments using laboratory equipment indicated that sand should remain on the surface of the bed and not sink through the mud. ○ There was very little sediment disturbance in the controlled experiment but when undertaking a whole of lake application there could be some disturbance of the sediment. This would add complexity to this option if considered feasible. • Sampling of phosphorus levels <ul style="list-style-type: none"> ○ Phoslock application in 2018 did not give 100% coverage of the bed of the lake in the deeper waters, it was very mixed. This suggests there probably wasn't enough Phoslock applied to completely cover the bed of the lake. ○ The large rainfall event in January 2020 may have impacted the effectiveness of the Phoslock application as this brought new sediment into the system and in some samples showed new sediment covering the phoslock. ○ Phoslock is not a silver bullet, depending on the scale and frequency of inflow events these can reduce the efficiency of how Phoslock works and over time and there will be release of nutrients 	Nil	N/A

	<p>again.</p> <p>Prof. David Hamilton</p> <ul style="list-style-type: none"> • The scientific model of the lake has been improved since last year by utilising the extra data collected by the City and there is more confidence in the results. • Reduced rainfall over the last 3 years has increased salinity in the upper levels of the lake and this is linked to groundwater tidal intrusion • Major rainfall in Jan-Feb 2020 saw a reduction in salinity by flushing surface water but had very little impact on the bottom waters of the lake. • At high concentrations the algae tends to be pushed around the surface waters of the lake so you get high variations in concentrations around the lake. • Seven different management scenarios were tested using the model under different amounts of Phoslock. • Sand capping with Phoslock at 90% would have the greatest effect on reducing blooms according to our modelling however it does not eliminate future algal blooms. 		
4	Q&A session – Please refer to Appendix 1.		
5	<p>City of Gold Coast – Anna Hollingsworth – Water quality update</p> <ul style="list-style-type: none"> • The City has been monitoring water quality for over 30 years. LHM is one of many monitoring programs. • The Catchment Management Unit has undertaken opportunistic sampling of Mermaid canal to investigate any impacts from the canal water entering the lake. • A new interactive data view for our water quality monitoring program is now available on the City’s website. The platform will eventually include data from Lake Hugh Muntz. 	Nil	N/A
6	<p>City of Gold Coast – Pete Thornton – Parks update</p> <ul style="list-style-type: none"> • There is 50,000 square metres of parkland across 7 parks around the lake. • We’ve just begun 3 projects around LHM and Lamington Park to improve aesthetics and improve erosion control. • Cr Young has committed \$50,000 in divisional funds to improve the area around the boatshed. 	Nil	N/A
7	<p>City of Gold Coast – Shannon Hunt – Where to from here?</p> <ul style="list-style-type: none"> • Griffith have provided the lake specific model and analysis to understand what’s happening in the lake. • We have commenced the multi-criteria analysis (MCA) with Alluvium which will build on work done by Griffith University. 	PN requested onsite meeting with Alluvium to advise about issues he sees around LHM.	17 December 2020

	<ul style="list-style-type: none"> We'll be moving through the MCA process over the next six months. 		
8	Q&A session – Please refer to Appendix 1.		
9	Closure Darren Ford (Chair)	Nil	N/A

Appendix 1

Question and answer session:

- Q. *PN – Where is the final (Griffith University) report actually going?*
A. DF – It's important to understand the characteristics of the lake in order to make decisions about feasibility of future options for the lake. The work by Griffith has proved to be very important.
- Q. *PN – So the timing is in the ether?*
A. DF – It's important to make the right decision for the community. The intent is to find as much information as we can about a very complex situation.
- Q. *PN – I guess there is no final decision at this stage?*
A. SH – It's important to understand what's driving these algal blooms and what are the feasible management options, the work that Griffith University have done has been excellent because it's given us a way to develop and assess different options. Now we have the science behind what's driving it we've bought on Tony Weber and his team to help us determine how to move forward. They're going to run us through an MCA process.
- Q. *PN – So what is Griffith University doing now?*
A. SH – Alluvium's work is a complementary piece of work to what Griffith is doing.
TW – I've been at Alluvium for five years now, one of my first jobs was to take water samples from Lake Hugh Muntz (LHM) in 1989. I've also been involved in Forest Lake in Brisbane and lakes internationally. Our work is about using the information we have and bringing it altogether. We're setting up a framework to assess all these things equally. Our work will include costs, impacts on community and how practical is it going to be to do these things. What we're trying to do is to set up a framework to evaluate that, what are the higher-ranking options to evaluate further.
- Q. *PN – What is the timeline for workshops available to the public?*
A. DF – We've engaged Alluvium and we may look at options for engaging with the community further in the future in addition to what we are already providing in that space.
- Q. *PN – We're keen to get some action so obviously a timeline is very important to the public.*
A. DF – I agree. There has been a lot of action, in 2018 we trialled Phoslock and the work today highlights why we need solid data to make informed decisions. The Phoslock application cost the City \$100,000 so we need to ensure we are making prudent decisions about future management options.

- Q. *PN – In regard to the Phoslock application, will there be more on the western side. It looks like there should have been more Phoslock applied?*
A. MB – When we looked at the boat GPS mapping of the application it is the deeper muddier areas that hold more phosphorus which is why we focused on those areas. You can't effectively sample the sediment in the sandy areas on the western side without disturbing it.
- Q. *PN – The next application theoretically should be more on the western side?*
A. SM – The Phoslock company informed us that there was more Phoslock applied to the western side than the eastern side due to the sediment load.
DF – If a future Phoslock application was endorsed it wouldn't be restricted to just one part of the lake.
- Q. *PN – When is the algae free to use the phosphorus that flows into the lake after a Phoslock application?*
A. MB – Within a 72-hour window the Phoslock will work on the phosphorus trapped in the water column. But you will not miraculously see the algae disappear in 72 hours, there will still be algae in the water and they will continue growing for a significant period of time until they're starved of nutrients.
- Q. *PN – What about the dirty water flowing into the canal? I'm assuming that's one of the reasons why we've got this through the roof algae level and that's why we're so keen to get a trial of the one-way valve.*
A. DF – That will be included in the MCA that Alluvium Consulting will be progressing with, however we don't have data that indicates that the canal water is having a negative impact on the lake.
- Q. *PN – So roughly 6 months for that (MCA) process?*
A. SH – We want to work through that process and come back with a considered decision.
- Q. *PN – What can be done in the meantime?*
A. DF – The environment is so dynamic and the data shows there is no clear solution to the blooms. We're trying to ensure the management options are guided by science and that the cost is feasible for the community. Investing in something that hasn't been properly investigated isn't sensible. I think there needs to be an appreciation that this is complex to resolve with many various inputs that impact the waterbody. and we have invested time and money into different initiatives over many years. There may not be a quick fix or a fix that is going to completely stop the waterbody entering into future algal blooms.
- Q. *PN – I would like to see an audit of the problem areas. I've got people who want a toilet and a BBQ?*
A. DF – The broader community is just as important to consider when making these types of decisions.
PY – I've had correspondence from people saying that they don't want toilets and BBQs because that will increase people in the area. We have to find the community balance that will work for everyone. There are other users of the area.
- Q. *PN – But catchment management works should take precedence over those issues. Can I get involved in that? I've taken the Parks guys around before but they need to come when it's actually raining.*

- A. DF – Many of the park drains you are referring to are low flow drains not intended to capture all water in high-flow events, this will equate to general park run-off into the lake.
PY – I've allocated \$50,000 to ensure that all the parks maintained in good condition.
- Q. *PN – The problem is it does need funding, the issue with those catchments.*
- A. PY – Every Councillor has the same issue. It all comes back to science-based data supporting justified water quality initiatives.
- Q. *PN – Michele has indicated a 30% reduction in in-flows into the catchment. At the moment there is no plan. We just need to see a plan, a way forward but there is no plan. There's no real direction or plan forward in particular the parks area.*
- A. DF – We can facilitate a Parks officer to contact you about your concerns about what you perceive as not having a plan. We need to ensure that the drainage isn't negatively impacted by any proposed changes.
- Q. *PN – We feel there has been no agenda for lake health. There's a gap in what's been investigated. Griffith haven't gone into the significant loss in aquatic vegetation, into the stratification, if it isn't fixed what is the long-term outcome?*
- A. MB – Looking at the aquatic vegetation wasn't part of our brief.
- Q. *PN – There's been no physical investigations into what is happening.*
- A. SH – Alluvium Consulting have come onboard in conjunction with Griffith and we're looking at all options. We are happy to receive ideas. There's been investigations into the lake and previous work that has been done into the lake.
DF – There's been historical reports that went into the lake and all of that historical information will contribute to the MCA process. I think we'll be very well placed to make future decisions.
- Q. *PN – We see no professional person pulling that information together and looking at that data. Nobody is investigating the aquatic vegetation and the valve. Who has looked at the long-term aspects of the canal pipe and the long-term loss of aquatic vegetation?*
- A. SH – You're asking for information about what Alluvium Consulting will be progressing.
PY – There is a process when it comes to allocating funding. I'm not going to allocate ratepayers funds unless there is data to back this up. What are you expecting of the lake Phil? What would you like to see for the lake going forward?
- Q. *PN – We see this lake as a valuable asset, it's unique. We understand Council can't guarantee water quality, we expect given the minimum effort that Council has put in over the last 20 years that they will investigate and make improvement to the lake.*
- A. PY – Please expand?
- Q. *PN – If the plants have died, we expect them to investigate, if we see there is stratification of the lake. All we want is improvements on lake health and if it becomes swimming then that's great.*
- A. PY – There can be no guarantee that we can swim into the future. There is no guarantee. We can't guarantee that property owners won't use fertilisers that will continue to wash into the lake. We need to get to a stage that meets the requirements of the residents around the lake and the other approximate 130 lakes around the city, we need to find that balance.

DF – We've had many discussions on the historical management initiatives we have implemented and have spoken to you a number of times about why aquatic plants have died off within the lake.