

Essential Services Commission

Level 37/2 Lonsdale St

Melbourne Victoria 3000

28/03/2017

Re ESC draft decision on MW tariff Patterson Lakes

Thank you for the opportunity to comment on your decision.

I am pleased that the bore will run. The following is my attempts to correct some of the errors in the draft report.

I have an issue with a number of areas in your draft decision

1. Bore flush during the period 2000 to 2010 (1.3) page 3.
2. Statement regarding increase in BGA during the trial period.
3. Finding that it would be prudent for MW to stop the bore flushing should two consecutive increases of BGA occur.

1. Bore flushing to dilute the BGA during the period 2000 to 2010 **did not take place** and could not because in 1992 MW forfeited the bore licence they held of 750 Mega Litres per year and only applied and got a bore licence for 30 Mega litres per year to top up an ornamental lake. During this period the lakes experienced a number of BGA outbreaks which MW could do nothing about, except post warning signs, because they did not have a bore licence with a significant volume of water.
Only in 2012 did MW have a licence for 400 mega litres which enabled them to carry out the trials.
2. Page 14 it is stated that instances of BGA exceeded 10mm³ during each of the summer trial periods, **this statement is incorrect** as supported by the graphs and Design flow MW own consultants on Page 4 detailed the levels of BGA over the 3 year trial period as being year 1 decreased, year 2 notably lower, year 3 notably lower. At no time during the trial period did the BGA in Legana and Illawong rise to even close to the 10mm³ level. During the same period Lake Carramar had significant levels and out breaks of BGA with MW posting warning signs. Lake Carramar did not have the benefit of bore flushing. On page 14 it is stated that evidence indicates that overall the levels of BGA was generally low (despite at least one bloom during each summer trial period) where does this observation come from. I am not aware of any BGA blooms, the graphs in the draft decision covers the 2012/2015 period do not show a bloom of BGA, in fact in comparison to previous years it indicate that the bore flushing was controlling the levels of BGA and doing an excellent job as required.

The trials ran from October 2012 to end of March 2015 (3 years in total) and bore flush is still ongoing, we are now at the end of five year of bore flush and getting excellent results. I am puzzled by the ESC consultants comment and finding.

For the 2013 period in the graph there is a significant improvement in comparison to previous years and extremely low levels of BGA in Legana and Illawong however in does show considerable issues in Carramar. The graphs cover the period 2011 to 2015.

On further thought about this statement I wonder if the consultant in referring to blooms is confusing Lake Carramar with the other two lakes.

A number of questions arise from this consultant statement.

The bore water enters Lake Legana. The two lakes are separate bodies of water only connected by an underground viaduct where the water can only flow from Lake Legana into Illawong and not the other way.

Each lake has a separate and very different means of controlling and receiving storm water.

Lake Legana has a two flush system where storm water only discharges into the lake under torrential storm conditions and the rain water is clean of most pollutants. This two flush system only operates once or twice a year.

Lake Illawong is completely different with this lake all of the rain water run of from the back of the resident goes into the lake and therefore considerable more contaminated. Because of the connection with Lake Carramar, when it rains Illawong can receive discharge from the highly contaminated Lake Carramar water.

Regardless of this unsatisfactory situation with Illawong BGA levels in the water remained low and suitable for recreational purposes. The bore flushing did the job required.

The questions that come to mind are

- (a) Did the consultant actually visit the lakes and understand the individual operation and differences of the three lakes.
- (b) Where did the reported on blooms come from as they do not show in the graphs?
- (c) Was this consultants reported bloom in both lakes or just in one and which one.
- (d) Was the consultants reported BGA bloom significant?
- (e) How long did the bloom last?
- (f) Why there is a difference between the ESC expert and the Design flow report.
- (g) Who did the ESC expert consult/communicate with about this issue?
- (h) A bloom would seem to indicate a significant increase in BGA. The 2011 to 2015 graph covering the trial period does not appear to indicate what the consultant calls a BGA bloom.

The independent review took place in 2012 soon after the trials began for three years. In the 2013 graph it clearly shows a marked and significant improvement in BGA levels. As far as I am aware the results achieved in the first year of trials were only improved on, in the following years.

Design flows original report, prior to the trial period, stated that at least 8-10 mega litres of water per day was required to flush the lakes. After the trials with 1.5 Mega Litres per day Design Flow had to retract this statement and make the best of the positive results with words like theory indicates unique characteristics and unexpected outcome etc.

This shows just how wrong the expert consultants can be if we had listened to design flow the trials would not have taken place.

On page 13 under the heading of effectiveness of the bore flushing.

We have nearly two pages of the ESC consultant and design flow collaboration justification on what was previously reported by Design Flow...

These two pages can be summarised as follow.

The bore flushing program is an ongoing success but we don't know why. Therefore we don't know what will happen in the future.

At the end of this part of the draft report MW make a statement about bore flushing does not guarantee increased water quality or the absence of BGA.

Despite there remains strong support for the bore flushing to continue.

Given the past history and the excellent results of the trials and alternatives available of course the residents want the flushing to continue.

As a lake resident I accept that primary contact water is not achievable without considerable effort and cost, however a very high level of secondary grade water is achievable and acceptable, as demonstrated with the trials.

This high level of secondary grade quality water is suitable for the residents to enjoy the recreations aspects that the lakes were designed for.

3. Finding that in the event of prolonged outbreaks of BGA during any summer period it would be prudent for MW to stop the bore flushing after two consecutive increases of BGA.

I note that the ESC requested further information from MW.

MW reply was a review would commence in the event that two bloom events occur in the same lake with levels of BGA above 10mm³ per litre for five weeks or longer during the summer.

The bore water enters Lake Legana and flows into Lake Illawong and cannot flow the opposite way. If anything Lake Illawong is more open to contamination than Lake Legana why stop the bore flushing in both lakes.

The ESC state that it would be prudent for MW to stop the bore flushes etc.

There is nothing prudent about stopping the bore flushing. We have twenty five year of experience and history and at least five years of trials.

For the period 1992 to 2012 we had no bore flushing which resulted in numerous outbreaks of BGA and warning signs erected on the beaches, we had cloudy, smelly water and a very unpalatable situation year after year with no action from MW. After five years of bore flushing this situation has been completely reversed, we have lakes that all the residents can enjoy.

Over the trial period we had a comparison to Lake Legana and Illawong with Lake Carramar where the bore flush did not occur. The two lakes where bore flush occurred had excellent quality water in comparison to Lake Carramar which had a high levels of BGA and even warning signs erected by MW.

To consider it prudent for MW to stop the bore is a formula to revert back to the period prior to 2012 or to the conditions experienced with Lake Carramar it would be a step back to the disaster of the past. MW review process has proven to be flawed what would change with another of their reviews.

I can understand the hesency and reluctant of the experts and consultant employed by MW and the commissions to whole heartily support the bore flushing particularly when the results appear to contravene what they would expect but the evidence cannot be ignored. The before and after results and the comparison between the lakes that had bore flushing and the lake which did not clearly demonstrate the success of the bore flushing program..

I put it to the ESC it would be prudent at the first sign of an increase of BGA levels that the bore flushing be increase and only go back to 1.5 ML per day when it is under control.

Under no sucumstances should the bore flushing be stop as outline by MW.

Experiencing MW distortion and interpretations of past finding and actions this PRUDENT statement offered a chink which MW at some time in the future can exploit. I request that the bore not be stopped, to do so would only facilitate the spread of BGA. The ESC will be considering the continuation of the bore flushing tariff as part of the next MW price review in 2021. This is only 4 years away I submit this would be the appropriate time to consider the success of the bore flushing. By this date there would be 9 to 10 years of bore flushing history and the appropriate time to ascertain the success or other wise of the exercise. Until this time the bore should not be stopped.

The ESC writes. Noting our concerns regarding evidence for the effectiveness of the bore flushing in controlling BGA the commission considers that MW proposed approach to review the bore flushing in the event of sustained blooms events is prudent.

In my comments I have clearly shown that some parts of the information supplied to the ESC are wrong and misleading. Hopefully they will alleviate ESC concerns about the effectiveness of the bore flushing program.

In 1974 when the lakes were being planned and constructed we had involved Springvale Council, the Developer, Dandenong Waster Authority and the state government of the time all were proud to be associated with this project. The Paterson Lakes were and still are unique as a residential development in Victoria with large lakes, beaches all developed for recreational purposes.

In the 1980s the water authorities were amalgamated likewise the councils resulting in MW owning the lakes and Kingston council managing Paterson lakes district.

Up to this time the water quality and services for the lakes were very good. From this time forward we had MW owning and managing the lakes with their own unique management style.

Where in 1992 MW forfeit the bore licences of 750 Mega litres per year and got a licence for 30 Mega litres to top up an ornamental lake.

Later in the 1990s MW as part of their aquatic plant control pulled the lake plants out by the roots releasing the nutrients contained in the sediment causing BGA booms and had no bore licence to flush the lakes.

During this time the lakes were more and more becoming fresh water.

Warning signs were a regular event during summer periods and the water quality water extremely poor.

A few years later MW decided to re-establish the aquatic plants in the lakes and planted hundreds of plants in the water at the edge of the lakes, then they allowed the water levels in the lakes to drop exposing the plants and of course most of them died.

Next they carried out a sand retrieval program from sand within the lakes which destroyed any surviving plants.

Late MW decided to appease the residents and held meeting presenting multimillion dollar projects to clean up the fresh water lakes all to be paid for by the residents and in their own words did not know where and how to implement these projects.

Later again we had MW projections of the precept rate rising from about \$650 per year to \$2000 per year per residence which did not include running the bore.

On page 16 the ESC state that the bore flushing operated for over 40 years the cost of which had been recovered from quiet lakes residents through council and precept rates.

This statement is wrong

- (1) No flushing took place from 1992 to 2011 (19 years)
- (2) No council money went to cover the bore costs.
- (3) The council levied the precept rate and gave it to MW however the precept rate did not include the cost of running the bore.

All through this period we had poor quality water and warning signs erected.

The lake resident's representatives went to the state government of the time and finally got the independent review.

As you can see from above MW management decision making process and history of water quality in the lakes for the past twenty years has been a complete disaster, why would it be prudent to go back to them for a review or even let them stop the bore flushing program?

It would be even more prudent for MW at the first sign of a BGA bloom to increase the bore flushing volume and fix the flow through and BGA issue in Lake Carramar, MW know what needs to be done, so that this source of possible contamination in Lake Illawong can be eliminated.

On page 23 where the trials of the 2 Mega litres a day were covered where Design Flow stated that significant loss of the surrounding beach area and overflow onto a nearby road bridge. Let me point out that I live on Lake Legana and walk my dog around the lake almost daily, so have firsthand experience in this area.

Firstly the beach loss was more a result of MW not carrying out their recovery program of sand from the lakes, however a higher level of water occurred but at no time did it hamper me in my daily walk. Secondly where is this bridge, the only bridge I know of is the one running to Iluka island. This bridge is at least two metres above the water level and had it experienced overflow all of Patterson Lakes would have been flooded (it simply did not happen).

I offer the thoughts of a layman as to why the bore flushing has been such a success and must not be stopped.

The bore water has a very high level of salt, about 6000 parts per million (maybe higher) and therefore unsuitable for any commercial use, nobody wants it.

I put it to the experts that they have been looking at the lakes as being mainly fresh water which they were up to the time the bore flushing commenced, but now they are very salty. This could explain why the flushing with a comparative low volume of bore salt water and the containment of BGA during the winter months has been so successful. Over the same period Lake Carramar's water had a comparably low level of salt (fresh water) and had and still has significant BGA issues.

History supports this.

In 1974 when the lakes were constructed they were filled with salt water from the bay via a pumping system and pipe line running alongside the Patterson river, this pipe line was decommissioned when the entrance to the canals were being built.

Following the initial salt water fill of the lakes the bore was used. At this time MW had a bore licence for 750 mega litres per year. Therefore the lakes water was very salty almost at sea water salt level.

Up to 1992 there were no water quality issues (for about 18 years) then MW in their wisdom applied for a bore licence for only 30 mega litres per year and the bore flushing stopped.

After 1992 without the bore water the lakes slowly converted to fresh water via rain and storm water run off.

This is when all the problems with BGA started to emerge and MW did not have a bore licence with sufficient volume, in any case they were very reluctant to do anything coming up with very expensive solutions. This unsatisfactory situation continued up to 2012 when at the resident's insistence MW reluctantly applied and got a bore licence for 400 mega litres per year. Not as much as the original 750 Mega litres but probably Enough.

Then the salt water bore flushing trials began and much to design flow and MW surprise the water quality improved and turned out to be an unqualified success.

You can see this in the progressive three year report submitted by Design Flow.

The water quality in Lake Legana and Lake Illawong after five years of bore flushing continues to be very good and suitable for the residents to use for recreational purposes.

At the same time the water quality issues in Lake Carramar continue.

With benefit of knowing the above history I ask what was removed or change and has been re-established, the answer is bore flushing with salt water.

Similar to when the lakes were first conceived and build the government, developers, council and water authority were proud of this unique development in Victoria which remains such up to present day. The lakes were developed for recreational purposes and recognised as this. Water quality standards such as Primary grade and secondary grade do not cater for this one of unique lakes water environment. To continue pigeon holing the lakes water quality into theses catagories simply does not work, the closes we can get is a very high level of secondary water which is where we are with the bore flushing with salt water.

The Patterson Lakes are unique and when constructed were the foundation of a complete suburb they are unique and warrant special consideration and must not be allowed to fail.

I realise much of what I has written is outside of the ESC authority however it puts some structure around the resident views on this issue.

On page 26 the ESC, under the heading of other Issues raise in Submissions.

The report comments on MW obligations relating to Lake Carramar following the independent review final report.

MW conducted a review of the quiet lakes head water infrastructure which confirming that nothing had been altered from the original engineering design. A further investigation determined that water flow through from Lake Carramar is not feasible. This statement is MW version of the situation. This is another of MW great management decisions and statements.

MW is correct nothing has changed from the original design. In fact the original structures to accommodate flow though are still in place and Carramar at one time had flow through. However MW or the council or maybe both allowed later developers to install a storm water system one metre higher than the Carramar flow though designs. Now we have flow though from Carramar blocked by a one metre dyke. MW could easily correct this situation which would be a one off effort instead they op to post warning signs ever summer.

The erecting of warning signs may well cover MW obligations under the regulations however this is a cop out to avoid doing the right thing.

With Lake Carramar someone in the government world needs to emphasise to MW that putting Warning signs up and allowing Carramar to degenerate further simply does not meet "the pub test" particularly when MW know what has to be done and it is comparably inexpensive and simple. It will remain blight on MW reputation until fixed

I suggest that MW could well capitalise on the lakes , with very little effort, by changing their narrow management approach, Fix the issues, and consider the lakes as a unique asset which can be used as a MW show case of achievements and cooperation with the residents.

I invite and encourage ESC staff to visit the lakes and get a firsthand picture of this unique area.

Thank you for the opportunity to comment.

Have a great day

Graham Tonta