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04 JUL 2007

Alan Sheridan
208 Skyring Creek Road
FEDERAL, Qld, 4568

Sen Hon W Heffernan
ELECTORATE OFFICE

28 June 2007

Senator the Hon. Bill Heffernan
Suite 703
Westfield Towers
100 William Street
Sydney, NSW, 2011

Dear Senator Heffernan,

ALTERNATIVE WATER SUPPLY FOR SEQ

Please find enclosed, a copy of a recent letter to the Minister for Environment and Water Resources regarding a cost effective solution to the water supply problems in SEQ.

The letter is provided to yourself as the Chair of the the Senate Inquiry regarding "Additional Water Supplies for SEQ – Traveston Crossing Dam".

Also attached is a brochure developed by the Save the Mary River Coordinating Group regarding the proposed dam.

Yours Sincerely,



Alan Sheridan
208 Skyring Creek Road
FEDERAL, Qld, 4568

27 June 2007

The Honourable Malcolm Turnbull, MP
Minister for the Environment and Water Resources
PO Box 6022
Parliament House
Canberra, ACT, 2600

Dear Mr Turnbull,

ALTERNATIVE WATER SUPPLY PROPOSAL FOR SEQ

As you are aware, I have written to you previously regarding alternative water supply options for SEQ. I had previously arranged a meeting with yourself and Professor Stuart White from the University of Technology in Sydney. Unfortunately this coincided with your appointment as Minister for the Environment and Water and a meeting in January this year, as originally planned, was not possible.

I am a professional civil engineer with numerous tertiary and post-graduate qualifications. I have worked both in Australia and overseas on engineering and water supply projects including as the City Engineer of the second and third largest Local Governments in Queensland (Ipswich City and Pine Rivers) and have previously lectured at the University of NSW. I am presently the Director of Works at Noosa Council.

I have a simple, cost effective plan to solve the water supply problems in SEQ which will save the people of Queensland at least \$5bn (most likely much more). The problem is getting the truth out to the average person and changing opinion about the current situation.

I am infuriated when I read stories about people dying because they cannot access vital health services in this state. It seems that these stories are in the media just about every day. Surely \$5bn could be better spent on health services than being wasted on unnecessary infrastructure that will not solve the water supply problems of SEQ. My plan is based on desalination, which is a proven, sustainable, cost effective and environmentally responsible method of ensuring water for Australian Cities.

It will be no surprise to yourself, that every other Australian State has finally woken up to the fact that desalination is the answer. Unfortunately, the penny is yet to drop in the "smart state". A quick recap of what is happening around the country:

- On 25 June 2007, the NSW Premier announced the construction of a 90,000 ML/yr desalination plant with construction to begin in July 2007. In making the announcement Mr Iemma said "thanks to falling prices due to new technologies and more competition among tenderers, the Government would commission the plant for \$1.76billion - \$140 million less than originally budgeted for a plant half the size ... I am not prepared to see Sydney held hostage to the next drought".
- The Victorian Government has announced plans to build a 150,000 ML/a desalination plant at a cost of around \$3 bn.
- The WA Government commissioned a 45,000 ML/a desalination plant at Kwinana in November 2006 at a cost of \$387m and is planning to build a second plant by 2009.
- The South Australian Government is considering a 100,000 ML/a desalination plant for Adelaide.

All these developments make Queensland's 45,000 ML/a plant look insignificant by comparison. At a public meeting on 5 July 2006, Premier Beattie said that "the problem with desalination is that it is incredibly expensive ... if you were right about desalination being cheaper we would do it tomorrow ... I just wish you were right and I was wrong". There is now ample evidence that desalination is a cost effective way of ensuring a guaranteed water supply. If that was not enough, a detailed study by the University of Technology Sydney puts the cost of water from a significant desalination plant at \$2.06 / kl and the cost of water from the proposed Traveston Dam at \$4.65/kl. These costs include Capital and ongoing operating costs. How much more evidence is needed! Surely it is time for the Federal Government to step in and put a stop to this nonsense.

The Queensland State Government has got it horribly wrong. They know it and the facts do not lie. If a decision were made now to build a second desalination plant in SEQ, it could be delivered by 2009, three years prior to the proposed dam at Traveston Crossing, which is planned to provide only 70,000 ML/a of water in the year 2012. More importantly, a desalination plant would provide a guaranteed source of water that is independent of highly variable and decreasing levels of rainfall. The Queensland State Government is talking up the fact that it is now spending \$9 bn on its "water grid" - and the cost is going up by the day. The Deputy Premier recently announced another \$600m (project cost now up to \$2.3 bn) to fast track the western corridor recycling line so it can be completed a mere two months ahead of schedule (before SEQ runs out of water). A significant desalination plant on Bribie Island (the same size output as the proposed Traveston dam) could be built for around \$2 bn. This is now an undisputed fact, as the NSW Government has recently proved.

In regard to desalination, I am sure you are aware of the basic facts, but I find the following a useful list of major issues when anyone asks:

- Of all the water on this planet, 98% of it is in the Ocean.
- Desalination is not rainfall dependent - if the worst drought on record gets worse, the desalination plant keeps producing water.
- There are over 11,000 desalination plants in operation around the world.
- The cost of desalination has decreased 10 fold in the last 40 years, 3 fold in the last 10 years and is predicted to halve in the next 3-5 years, making it far more cost effective than dams.
- The major objection is power consumption and greenhouse gas emissions - however this is easily solved. For the Kwinana Plant in Perth, there is a wind farm which totally offsets the power consumption from the desalination plant.
- The second objection is from discharge of brine waste - this is easily dealt with. Raw sea water has a salt content of 3.7% - once it has been through a desalination plant it has a salt content of 6.8%. For the Perth Plant, the salt concentration has to be back to normal levels within 50 metres of the discharge point. The siting of the discharge point and the mechanism used to diffuse the more salty water in the ocean solves these problems.
- It is not expensive - the recent experience in NSW proves this and the work undertaken by the University of Technology Sydney is further proof that it is more cost effective.

The other components of my plan are:

1. Scrap the Proposed Traveston Crossing Dam

- I suspect that the budget for the dam is at least \$4 to \$5bn. I have heard industry rumours but can't get any facts - the State Government is sticking with \$1.7 bn for Stage 1 and \$2.5 bn for Stage 2. These figures are now over 12 months old and are simply not believable.
- Has anyone seen a detailed cost estimate? The State Government has been working on this proposal for at least the last 18 months and claims that they have not completed a more detailed cost estimate are absurd.

- The Federal Government should be demanding to see a detailed cost estimate for the project which includes land acquisition, roads, power substations and transmission lines, treatment plants, pipelines, Telstra and other infrastructure, costs of diverting the existing river etc. Waiting for the EIS to provide these estimates is a non-sense.

2. Scrap the Northern Interconnector Pipeline Project

- The water which is currently available on the Sunshine Coast is needed for future planned growth on the Sunshine Coast. Taking water from this area to send to Brisbane is a short-term fix at best.
- The SEQ water grid simply delays the inevitable so that we all run out of water together. Moving water around in a circle does not create one drop of new water - but it does use vast quantities of power.
- The water grid is dinosaur technology - moving electricity around a grid makes sense because it does not weigh anything. Water is very heavy and the cost in moving it large distances around SEQ is enormous.
- For example, if 25% of the current demand for water is moved around the grid, that equates to 100,000 ML (100 million tons). This will consume vast quantities of power - but it does not produce one drop of extra water.

4. Construct a significant desalination plant on Bribie Island.

- This is the preferred site from the State Government's secret GHD report.
- It could be delivered in two years for a cost of around \$2 bn.
- It is cost effective - the plant in Perth produces water for \$1.16/kl. Modern desalination plants have energy recovery systems which make them very efficient.
- It is a guaranteed source of water which is not dependent on decreasing and highly variable patterns of rainfall
- The technology is identical to recycled waste water (reverse osmosis membrane filtration) - it is recycled sea water.
- You do not need multiple barriers with recycled sea water and you don't have to pump it huge distances to put it into a dam.
- Recycled sea water can be put straight into the water mains and storages in North Brisbane.
- Arguments about it being costly, power hungry and expensive are absolute garbage - it is cheaper than recycled water.
- A new gas fired (green-er) power plant is being built on the Darling Downs. Part of the output from this new power station could power the desalination plant.
- Other green energy sources could be used (as they have done in Perth).

In closing, I appreciate your time in reading this letter and considering its contents. I cannot sit idly by while the Queensland State Government proceeds on a reckless and ill-conceived course of action which does nothing to solve the problem and which wastes billions of dollars; money which would be better spent on Queensland's ailing health system. I would welcome the opportunity to discuss this matter with you in person.

Yours Sincerely,



9 - What About Stage 2 - is it on or off?

The CEO of Queensland Water Infrastructure, Mr Graham Newton, in his referral notice to the Federal Government under the Federal Environment Act said "At this stage it is not considered prudent to seek full approval for Stage 2 as the current planning horizon does not envisage construction for another 28 years. With rapid changes in technology, population projections, climate change and assessment requirements, a different course of action may be considered more appropriate at the time."

However, in February 2007, the Premier of Queensland publicly apologised for wrongly saying during the election Campaign that Stage 2 of Traveston Dam would not be needed if recycled water was given the go ahead. The Premier has stated, "We have to build the dam as it is (ie. Stage 2). I said what I said, but the reality is that the drought is worse and I'm sorry but what I said then was wrong".

So who is right? It would seem that referral of Stage 2 of the proposed Dam to the Federal Environment Minister is now mandatory to comply with the objects and intent of the Federal legislation.

10 - What About Connecting the Sunshine Coast to the Water Grid. Is it a Good Idea?

- The water which is currently available on the Sunshine Coast is needed for future planned growth on the Sunshine Coast. Taking water from this area to send to Brisbane is a short-term fix at best.
- The SEQ water grid simply delays the inevitable so that we all run out of water together. Moving water around in a circle does not create one drop of new water - but it does use vast quantities of power.
- The water grid is dinosaur technology - moving electricity around a grid makes sense because it does not weigh anything. Water is very heavy and the cost in moving it large distances around SEQ is enormous.
- For example, if 25% of the current demand for water is moved around the grid, that equates to 100,000 ML (100 million tons). This will consume vast quantities of power - but it does not produce one drop of extra water.

Quotes

"This thoughtless tampering with nature (ie. building dams) has left a terrible legacy - not least of all in my own region of the world where thousands of acres of fertile land has been lost. We desperately need to recognise that we are the guests, not the masters, of nature and adopt a new paradigm for development, based on the costs and benefits to all people, and bound by the limits of nature herself rather than the limits of technology and consumerism"

Mikhail Gorbachev, Chair of the International Green Cross

"In politics, an absurdity is not a handicap"

Napoleon

Desalination as an Alternative Bulk Water Supply

There is a lot of misinformation about the potential impact of desalination. Much of this is ill-informed. Desalination is a cost effective, sustainable and environmentally responsible alternative to major dams.

Some facts about desalination:

- Of all the water on this planet, 98% of it is in the Ocean. There are over 11,000 desalination plants in operation around the world. Desalination is not rainfall dependent - if the worst drought on record gets worse, the desalination plant keeps producing water.
- The cost of desalination has decreased 10 fold in the last 40 years, 3 fold in the last 10 years and is predicted to halve in the next 3-5 years, making it far more cost effective than dams.
- Where to locate it? - the State Government has already spent \$500,000 looking at potential sites around SEQ. The report has been kept secret. Simply pick the top site from that secret list.
- The major objection is power consumption and greenhouse gas emissions - however this is easily solved. For the recently commissioned Kwinana Plant in Perth, there is a wind farm which totally offsets the power consumption from the desal plant.
- The second main objection is from discharge of brine - again, this is easily dealt with. Raw sea water has a salt content of 3.7% - once it has been through a desal plant it has a salt content of 6.8%. For the Perth Plant, the salt concentration has to be back to normal levels within 50 metres of the discharge point.
- It is not expensive. The Kwinana Plant in WA commenced operation in November 2006 and cost less than \$400 million. It produces 45,000 ML of water per year. They are planning to build at least one more plant in Perth.
- The Victorian Government has just announced plans to build a 150,000 ML desalination plant. This plant will provide more than twice the amount of water that Stage 1 of the proposed Traveston Crossing Dam will provide.
- On 25 June 2007, the NSW Premier announced a 90,000 ML/yr desalination plant with construction to begin in July 2007. Mr Lemma said "thanks to falling prices due to new technologies and more competition among tenderers, the Government would commission the plant for \$1.76 bn - \$140 million less than originally budgeted for a plant half the size ... I am not prepared to see Sydney held hostage to the next drought".
- The Queensland State Govt is spending \$9 bn on its "water grid" - and the cost is going up by the day. In June 2006, the Deputy Premier announced another \$600m to fast track the western corridor recycling line, the cost of which, at \$2.3 bn, is now comparable with the cost of a major desal plant.
- At a public meeting on 5 July 2006, Peter Beattie said that "the problem with desalination is that it is incredibly expensive ... if you were right about desalination being cheaper we would do it tomorrow. I just wish you were right and I was wrong". Well Mr Beattie, you were wrong and your wish has come true. A detailed study by the University of Technology Sydney puts the cost of water from a significant desalination plant at \$2.06 / kl and the cost of water from Traveston Stage 2 at \$4.65/kl.

STMR Info Centre - Ph 07 5484 3639

www.savethemaryriver.com



PROPOSED TRAVESTON CROSSING DAM WHY THIS IS SUCH A BAD IDEA - TOP TEN LIST

1 - What Water Supply Security!

The proposed dam will not help in the current drought. If it does not rain in the major catchments in 2008, Brisbane will be in serious trouble. The proposed dam will not be constructed until 2012.

Will it be the saviour for water supply security for the future?

- Current Demand for water is 400,000 megalitres per annum. 1 megalitre (ML) is 1 million litres - about what an Olympic swimming pool holds
- The Unconstrained Demand for water in the year 2050 is 930,000 megalitres per annum. The constrained/predicted demand in the year 2050 is 750,000 megalitres per annum.
- The Government claims that Traveston Stage 1 will provide 70,000 megalitres per year - which is less than 10 % of demand in the year 2050
- Traveston Stage 2 at 110,000 megalitres per annum is only a marginal improvement.

Proposed Traveston Dam



Other Water Supply Sources

Surely no one believes that this will provide water supply security for SEQ.

2 - How well would it have performed during the current drought?

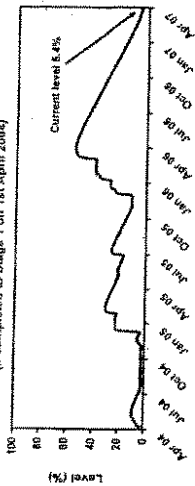
The Deputy Premier, Anna Bligh stated on 30 March that "if the dam has been built two to three years ago it would be close to full now". Three years ago is April 2004.

In response to a Question on Notice regarding this specific statement at the Federal Senate Inquiry on 18 April 2007, the Queensland Government subsequently advised that "if Traveston had been built prior to 2003 ... it would have been at approximately 16% in April 2007".

This response was based on the case of a dam being built in October 2002 and being full in April 2004, which is quite a head start on the case of a dam being built in April 2004 which would have started empty. In fact, the dam would be empty if it was constructed in April 2004.

see over for an actual performance chart for the last three years

Traveston Crossing Dam Levels
(if completed to Stage 1 on 1st April 2004)



In State Parliament on 6 June at 9:36 am, Premier Beattie stated that "the catchment area for the future Traveston Dam recorded falls of up to 70mm. What an ideal place to build a dam". However, this information is not supported by the facts. Bureau of Meteorology rainfall data for the 24 hour period prior to 9 am on 6 June showed an average of about 20 mm of rain at the various monitoring stations around the Traveston Catchment and 45 mm at Maleny. While Maleny is in the Catchment, rain at this location was captured by the Baroon Pocket Dam and would not have provided anything for the Mary River.

3 - How Cost Effective is it Really?

In a full page newspaper advertisement regarding the Traveston Dam on Saturday 22 July, Premier Beattie said that cost effectiveness was one of the factors which the Government based its decision on to proceed with the Traveston Dam option. The State Government has consistently used the Dam Options Report prepared by consulting firm GHD as their justification.

The GHD Dam Options report lists the Traveston Dam with a yield (annual supply) of 215,000 megalitres, a storage volume of 1.1 million megalitres and a cost of \$1bn. The unit cost per megalitre of yield is therefore \$4,695. This puts it fourth on a list of potential dam sites around SEQ.

The truth is that Traveston Stage 1 has a yield of 70,000 megalitres, a storage volume of 157,000 megalitres and a cost of \$1.7bn. The cost per megalitre of yield is therefore \$24,000, making it the most expensive of any option.

An independent report by the University of Technology Sydney puts the cost of water from the Traveston Dam at between \$3.40 and \$4.65 per kilolitre (Stage 1 / Stage 2) and the cost of desalinating sea water at \$2.06 to \$2.55 per kilolitre (depending on the size of the plant). A kilolitre of water is 1,000 litres (about what a house uses in one day).

4 - The Alternatives by a leading Australian University

The University of Technology Sydney has undertaken a report of the water supply needs in SEQ. The report found that the water supply needs could be met by implementing the drought response measures that the Government is currently working on (less the Traveston Dam) and extending the current demand management initiatives with a particular emphasis on water smart new development.

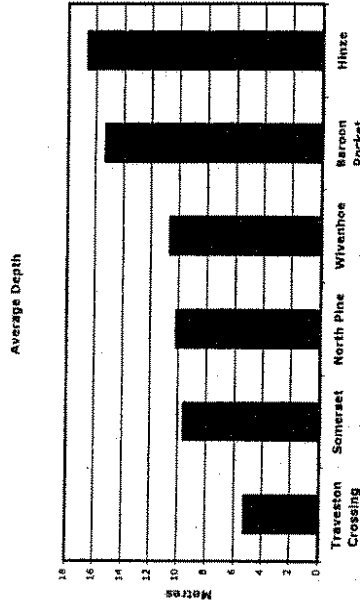
Professor White's report found that Traveston Dam is an expensive and unnecessary component of Queensland's water plans. The Review, based on Qld Government supply and demand projections, analysed options based on their cost for each kilolitre of water gained, their capacity to provide drought relief and their ability to provide longer term water security. The analysis proved that Traveston Dam is expensive, unhelpful for drought relief and not needed for the long term water security of the region.

Needless to say, Professor White's work has been criticised by the State Government in an unprofessional, misleading and technically flawed response. Professor White has challenged the State Government to undertake a proper review of both documents by an independent third party.

5 - Is The Proposed Traveston Crossing Dam Shallow?

The proposed dam is very shallow; however the Queensland Government has gone to extraordinary lengths to prove that it is not by comparing it with a few selected dams in the north of the State where there is heavy tropical rainfall.

Anyway you look at it, Traveston is shallow because it is located on alluvial flood plain, and it will be subject to substantial evaporation and seepage losses, major problems with aquatic weed infestation, and would destroy forever some of the best farming land in Queensland.



6 - What have They Been Doing for the Last 18 Years?

One of the first things that the Qld Labor party did when it won office in 1989 was to scrap the Wolfdene Dam.

Somebody obviously decided that we needed more water 18 years ago. So what happened after Wolfdene was scrapped?

Henry Palaszczuk, Premier Beattie's Water Minister at the time of the Traveston decision said (in 1989) that "the cost of desalination of sea water is continuing to decrease while the cost of acquiring land for dams and the cost of construction is continuing to increase and that all possible dam sites for future urban water supplies should be protected now by Government legislation. Anyone proposing to construct a home in a possible dam area should be informed that the area is such - a possible dam site" (more about desalination as a footnote to this list).

The Queensland State Government therefore set about purchasing the land for four smaller dams around SEQ - Borumba and Aramac Dams in the Mary Catchment, Wyaralong in the Logan River Catchment and Glendower on the Albert River. They spent \$40m acquiring the land for those dams. How many dams did they build - zero! They waited until a water supply crisis to announce a completely new and previously unsupported dam at Traveston.

7 - What About the Track Record of the State Government in Dam Building

The State Government has held up the recently completed Paradise Dam on the Burnett River as the model on which it will deal with environmental issues associated with the proposed dam at Traveston Crossing. But how good is it?

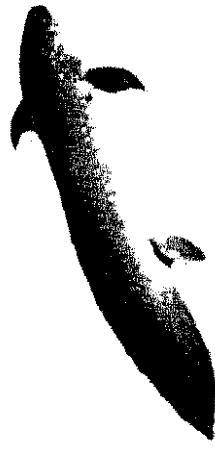
In the late 1990's, the World Bank commissioned an extensive study into the impact of dam construction world wide and established international guidelines for the development of new dams if you had to build them.

Five years on from the World Commission on Dams, the World Wildlife Fund published a report on how countries around the world had fared since 1989. Of all the hundreds of dams constructed around the world since 1989, the report picked out six dams for special mention as examples of what not to do.

One of those was the Paradise Dam, on the Burnett River in Queensland Australia. Is this the level of environmental excellence which the Queensland Government really aspires to? Worse than that, the Paradise Dam is now close to empty. How can we trust the Government to get it right this time?

8 - Do Fish Ladders Really Work?

The way the Queensland Government proposes to protect endangered fish species is through a fish ladder. The only problem is that the fish do not know how to use them and while some fish might survive in a dam, they will not breed or reproduce. The lungfish for example, which can grow up to 1.5 metres in length and live for over 100 years, needs shallow riffles and pools to breed - these don't exist in a dam. But do the ladders actually work?



Neoceratodus forsteri - lungfish - a "living fossil"

In 2002, the Queensland Department of Primary Industries (DPI) conducted an experiment at the Walla Weir on the Burnett River which has a fish ladder. They electronically tagged 1,285 lungfish and monitored their passage through the fishway 24 hours per day, 7 days per week for a whole year. During that time only 7 fish (THE MAGNIFICENT 7) successfully navigated the fish ladder. The comment by DPI at the time was that "the fishlock does not appear to be providing optimal passage for fish".

On the ABC's 7:30 report on 22 June the Premier stated "it (the fish ladder at Paradise Dam which is empty!) seems to be working effectively as far as I am concerned".