

Question: How many conditions does it take to make, or break, a dam? Answer: More than 1200!

The Queensland Coordinator General's Evaluation Report for the Traveston Crossing Dam: A real blueprint for saving threatened species, or yet more spin?

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The proposed Traveston Crossing Dam on the Mary River, SE Queensland has been mired in controversy since it was proposed by then Queensland Premier Peter Beattie in 2006. More than three years later, the final decision by Peter Garrett, the Federal Minister for the Environment, Water, Heritage and the Arts, on the fate of the dam now finally approaches. It will be based on an assessment of the Evaluation Report prepared by the Queensland Coordinator General (CG). This report is itself based on the Environmental Impact Statement (EIS) and Supplementary EIS prepared by the development proponent, Queensland Water Infrastructure Pty Ltd (QWI), a company established by the Queensland Government. Minister Garrett's decision will be founded in the federal Environment Protection and Biodiversity Conservation Act (EPBC), in respect of the likely impacts of the dam on so-called Matters of National Environmental Significance. These include a number of threatened endemic species, of which the Queensland Lungfish, Mary River Turtle and Mary River Cod are the most iconic.

So, what is to be made of the CG Evaluation Report? Well, it is a weighty tome – another 300 plus pages on top of the thousands of pages of EIS. On a first read the report appears thorough and focused on explaining why the other alternatives are not as good, and on developing mitigation strategies to conserve the threatened species. Indeed it is stated that the dam will actually improve the lives of these beleaguered animals, and that they will be doomed without it!

But if you actually read the report with a critical eye, then there appears to be a major disconnect between the CG evaluation and reality, both in respect of viable alternatives and recovery of threatened species, at least in my humble opinion. The report appears more and more like the proverbial 'house of cards', or indeed a poorly constructed dam wall for that matter, built on wishful thinking and engineering bravado. It is actually a lot like a Hollywood movie or adventure novel – more like science fiction than fact. If you can suspend disbelief you are in for a great experience, and all ends well with the dam providing oodles of water, lots of new employment and recreational activities, and with the threatened species all happily recovered in their newly repaired homes. And to ensure that all this occurs, the CG has imposed more than 1200 conditions, roughly equivalent to one for every page of the EIS! But can these all be realistically met? A fair question explored below.

Everything now hinges on those crucial Matters of National Environmental Significance upon which Peter Garrett and his federal colleagues will make the final decision. And for these, a raft of proposed mitigation strategies are listed by the CG as conditions for approval. First and foremost, the proponent QWI must install an 'effective' fishway and turtle bypass specifically designed to allow the endemic lungfish, Mary River cod and turtles to move past the dam wall.

This sounds great in theory, nothing to worry about there, these little critters will all have a beautiful new 'swimming pool' to play in, and a free lift to and from the pool to boot. What could be better and fairer than that?

But wait, it seems the turtle bypass system has not yet been developed or trialed, although there were some artist sketches in the EIS. This despite the 3 years and hundreds of millions of taxpayer dollars already spent. Will turtles actually want to take a stroll up some sort of ramped bypass to get into the dam? The CG and his advisers apparently think so, but it is another good question for which no definitive answer presently exists – this will be, after all, a world first! Perhaps we can induce them by offering a free return ride in the fish-lift? It'd certainly be a lot safer than their typical return route of going over the spillway. This is literally 'the trip of a lifetime' for these animals, and has reportedly killed a hundred or more lungfish and turtles this year alone in other SE Queensland dams.

As far as the fishway is concerned, there has already been a substantial trial period, albeit at another dam operated by another company, Burnett Water, also created by the Queensland Government. Paradise Dam is further north on the Burnett River, the other natural home of the Queensland lungfish. That fishway has been the subject of a Commonwealth environmental audit and is now before the Federal Court. Put simply, the fishway does not work consistently. In fact it has barely worked at all. Why? A few reasons – firstly not enough water (what a surprise). Secondly, it seems to have escaped notice that lungfish (and indeed turtles and cod for that matter) are not like spawning salmon with their urgent instinctual need to get to the headwaters of rivers to spawn. Rather they are generally quite happy just staying put in the quiet reedy pools and riffle areas that have characterized their home on this planet for tens of millions of years. It seems that a total of 3 juvenile lungfish have stumbled into the Paradise Dam fishway over the past 3 years – got lost more likely!

But somehow this highly salient fact seems to have conveniently ‘slipped through to the keeper’, as the ‘effective fishway’ stands as a major pillar of the CG Report, or ‘wobbly brick in the dodgy dam wall’, depending on your point of view. Those differing viewpoints may well be characterized as: Is your dam half-empty or half-full?

In fact, the CG acknowledges the difficulties:

“... that the provision of upstream fish passage for large-bodied species (>1m) has been problematic worldwide. However, on balance, I consider that there is a strong likelihood that the proposed fishway will be capable of being designed to enable some of the relatively uncommon larger scale movements undertaken by Lungfish.”

Ah, so the fishway isn’t designed yet either. Who knows what else remains on the drawing board with this project?

But wait, there’s more, a little like those TV ads that keep offering tempting prizes:

“In addition, the Coordinator-General requires one additional fishway and one additional turtle bypass be provided [retrofitted] at another waterway barrier within the Mary River system.”

One wonders what second-prize may be – a retrofit of wings for lungfish perhaps, so that they can join the squadron of pigs regularly seen flying over Parliament House in Brisbane these days? Or an escalator for the turtles, so they can relax on their bypass ride up the dam wall?

And what’s the point in any case? Dams are not good breeding habitat for these species, with little chance of eggs laid there surviving to replenish the populations. And without replenishment, it is a very short ride down the vortex, or should that be ‘fishway’, to extinction.

And so we get to the truly desperate mitigation measures of ‘catch and carry’, relocation of turtle nesting areas, collecting and incubating turtle eggs, etc. Can you suspend disbelief for long enough to believe that these measures will ward off the inevitable population declines that will ultimately follow construction of the dam, with its destruction and fragmentation of critical habitat? I wish I could. And of course, there’s always that old chestnut of more ‘research and monitoring’, as a ‘precaution’ mind you. A precaution implemented along with dam construction however, whatever sort of a precaution that may be?

Sadly it is a lot more realistic to envisage, some decades to a century hence, the last lungfish and Mary River Turtle being carefully researched and monitored before being ‘caught and carried’ out of the river to take their place in the museum, alongside the Thylacine and the increasingly long line of recent vertebrate extinctions for which Australia holds the unenviable title of global leader. And is it any wonder?

These species are already struggling to survive, which is why they are listed as Threatened in the first place, even without the admitted loss of habitat and changes in water quality that would ensue were the dam to be approved. It would be far better to actually do something positive towards restoring their sparse remaining habitat, rather than destroying more of it with a dam. And yes, the CG report has this as one of those 1200 conditions, but it should be undertaken irrespective of the dam. In fact, this has

been quietly happening along the Mary River for more than a decade, as concerned farmers and others have worked hard to protect the threatened species and restore the riparian bank vegetation.

Some of the other mandated conditions are no less praiseworthy, if less believable. The CG also requires the proponent to improve the regularity of downstream flows in low-flow months AND improve water quality in the Mary River. Given the unpredictability and high inter-annual variability on runoff from the Mary River catchment, and the consistent negative effects of dams on water quality world-wide, these would be truly miraculous outcomes.

And did I mention the trial period while the proponent tries to design an effective turtle bypass system for subsequent scrutiny by the CG? But hang on, isn't the proponent a part of the Queensland State Government, or at least a company formed by the government? And doesn't the CG also work for the Queensland Government, and hasn't the Queensland Government been pushing for this project to go ahead since day one.

Where's the real objectivity in all this? Remember the Principle of Open Justice, where justice should not just BE done but also should be SEEN to be done. So far it has all been in the hands of the state government – proponent and arbiter both. Ah, but don't forget there's a Commonwealth – State Bilateral Agreement in place where the Commonwealth allows the State to undertake the main assessment on such Matters. But this Agreement surely was not designed for cases where the proponent of the development is effectively a part of the same State Government that is the primary assessor of the development, with power of approval? Or was it?

So what is actually going on here? We are being told that this dam, unlike other dams, will actually benefit the threatened endemic species. To put this into perspective, dams globally have a consistent, well-deserved reputation for causing massive disruptions to riverine biology and ecology; and for causing major declines and extinctions in endemic species. To somehow conclude that this dam will do the opposite is a remarkable result for the CG report, which manages to state the serious and undeniable risks posed by the project, yet like a circus contortionist, twists and turns and spins (oops, there's that nasty word) clear of admitting this is a silly idea with massive impacts well beyond the scope of practical mitigation. How? By imposing or 'mandating' those 1200 conditions, of course, but at what cost? I may have missed it in my reading of the report, but I could not find any costing, logistic analysis or staffing requirements for compliance with all those conditions. Perhaps these are not yet determined, still sitting on that very cluttered QWI drawing board, but presumably will be if Mr. Garrett gives his approval. I am not an economist, but clearly these costs would be substantial, given that many conditions are to continue for the life of the project.

I do wonder, however, whether these 'condition costs' were included in the cost-benefit analysis that was used to dismiss the alternative of desalination? After all 'fishway and turtle bypass designers' don't come cheap! In respect of desalination, the CG report states a number of negatives, including:

"The quantum of ecological impact footprint is likely to be very site specific" [Whatever that means! It seems like a positive, not a negative, point to me.]

And even more remarkably:

"It is possible that, within decades, all new water supplies will have to be met through desalination as all other supply options are exhausted (i.e. desalination will make up an increasing proportion of total supplies)"

So why not get on with it? Well, because of economics – apparently desalination costs more to run and will also produce more green-house gases. The latter is a real paradox to me, because the very high cost of desalination was based on it operating on green energy – go figure! And I seem to remember that the WA Government built a major desalination plant for Perth with a minimum of fuss some years back, contrary to our beleaguered Tugun Plant here, and significantly cheaper than our proposed dam. According to Water-technology.net, the annual output is 45 (non-rainfall dependent) gigalitres, for a total project cost of AUSD\$387 million, with annual running costs of under \$20 million – less than one dollar per week per household in Perth. How much has the Queensland Government already spent, well if I've got my figures straight, it's somewhere around half a billion. How much water have we got so far? Not a drop!

As is well known, dams are an old and outdated approach to water issues, typically causing as many or more problems than solutions. This is especially true in our current era of rapid climate change. There are better and more reliable solutions to SE Queensland's water woes, and there is simply no valid reason to put threatened species and the internationally renowned Ramsar wetlands of Great Sandy Strait at risk.

Some countries are finally getting the message. In the USA since 1998, for example, more dams have been decommissioned than built, according to the World Commission on Dams. Yet our 'Smart State' doesn't seem to have got the message yet. We're at least a decade behind the times.

And here's the real point, the Mary River is truly remarkable in having an endemic fish that breathes air and endemic turtles that breathe from water passing through the cloaca. If we're prepared to think about this for a minute, rather than trying to engineer our way up the river without the proverbial paddle, then these remarkable adaptations might actually tell us something important about the Mary River. It has a very erratic flow regime that at times runs almost dry and at others floods heavily. The species of the river system have, over incredibly long periods of time, worked this out and learned to live with it. Perhaps we can yet learn something from them, as our Aboriginal forebears on this continent did so well. Certainly the river has been degraded by overuse over the past century. No one disputes that. Equally, there have and continue to be sterling local efforts to rehabilitate. What is disputed is that building a major dam on it will somehow improve it, or foster recovery in its iconic threatened species. By all means the river should continue to be rehabilitated, consistent with our national and international obligations under the EPBC Act, and the United Nations Convention on Biological Diversity. Just don't dam(n) it. Let the Mary flow free!

In closing, and to help Peter Garrett in his deliberations, may I suggest a few changes to the words of 'Beds Are Burning', a true Australian classic by his band Midnight Oil:

Out where the Mary flows
The lungfish and the turtle spoke
Please keep us free, not captives here
We want to live in waters clear

The time has come
To say fair's fair
To stop the dam
To help repair

The time has come
A fact's a fact
The dam won't work
Let's change our tack

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