

Submission: The Queensland Floods 2011.

Dear Queensland Flood Commission,

Thank you for allowing me, a Queenslander living south of the border, to make a submission about this important topic. I have lived in Brisbane, Chinchilla and Toowoomba, fished in the Condamine and was wiped out by a wavelet in the tiny fishing village of South Port. I have written similar articles about similar topics several times over the years.

A: Executive Summary

i) Preparation. Once it was evident that a flood was looming, then more than enough was done to prepare residents for 'knowable knowns'. The 'unknowable unknowns' that should have been knowable from studying Australian history caused the main problems. Mathematics and history may be worth more than uber-expensive computer systems in certain circumstances.

ii) Private insurers. They do not have an obligation to insure flood-prone properties against flooding. However, having taken the money, it may be in their long term interest to pay up. It may be possible to use mathematics to prove that some estimates were fraudulent.

iii) The response to the 2010/2011 flooding. Some responses were heroic although some organisations started planning to capitalise on such an event several years ago. People responsible for epic achievements will surely be honoured, with the release of water from the Dutch Wives Hoe dam and the saving of a Joey getting special mention.

iv) Measures to manage the supply of essential services. Food, water and electricity were generally made available as quickly as possible, under the circumstances. Detergents and other poisons were also considered 'essential services' and were applied excessively and repeatedly, to the detriment of Queensland's economically valuable bio-infrastructure. There may be fraud associated with the way in which detergents were applied in such large quantities to the benefit of poison-tolerant species such as cane-toads and mosquitoes.

v) Adequacy of forecasts and early warning systems.

v.a) Long-term forecasts were disastrous, predicting continuous droughts that required SE-Queensland to be drought proofed at great expense.

v.b) Short-term forecasts were pretty good although both the scale and the duration of the flooding were underestimated.

v.c) Early warning systems were good to over-done, except for flash-flooding warnings for Toowoomba and the Lockyer Valley. There is much Queenslanders can learn from nature.

vi) Implementation of systems operation plans for dams. This worked out well in the end due to some on-the-spot brilliance, political courage and the setting-aside of Party-politics, although the capacity of the Dutch Wives Hoe Dam may have been grossly oversold.

vii) Land use planning. This has been abysmal in Australia for at least 200 years. Inappropriate crops have been grown in inappropriate places and inappropriate buildings have been built in inappropriate places, costing the Australian economy tens of billions of dollars. We can do better and, as our supply of resources declines and as our land and waters become ever less productive due to the loss of topsoil and increasing amount of pesticides, Queensland may lead the world in switching towards an Indigenous-oriented approach towards agricultural production and a rational approach to mineral exploitation.

Australia's tiny population of 22 million people does not require such massive over-investment. Progress is fine but, but wise Queenslanders will change course when we see disaster looming. Even Einstein, who was not real snaps *mit der Mathematik*, could calculate that land and sea productivity decline as concentrations of pesticides increase.

Water is the substance that links all land-based areas together. An excellent Queensland Government has included in "Water" their Constitution and it should be the centre point of the Australian Constitution.

B; Submission

1. Preparation and planning by federal, state and local governments, emergency services and the community

Once it was evident that a flood was looming, then more than enough was done to prepare residents for 'knowable knowns'. The 'unknowable unknowns' that should have been knowable from studying Australian history caused the main problems. Mathematics and history may be worth more than uber-expensive computer systems in certain circumstances.

The Queensland floods were greeted with a wave of local media hysteria that is unprecedented in Australia. Every Queenslander had seen floods before and towns like Rockhampton are flooded on a regular basis. Several houses appear to be set in lagoons that would have been extremely valuable food sources before European settlement.

NB: The Times in London, by contrast, did not appear to have reported Queensland's floods until they were over, although some media organisations employ people from overseas.

Colonial Authorities were careful to create European settlements on the most fertile land and in the most precarious situations across Australia, with Adelaide and Canberra being possible exceptions.

The warnings that were given and the instructions given to Queenslanders were, in general, clear, timely and (at least) adequate. Many Queenslanders thought the authorities were playing panic-football and did not cooperate until the last minute.

The main exceptions to this general statement occurred in Toowoomba and the Lockyer Valley. Authorities did not anticipate the tragic flash flooding that occurred because modern Australians do not keep records of unusual weather events and all Aboriginal records have been wiped and their books have all been burnt.

Still, books or no books, each Australian valley is potentially exposed to flash-flooding and precautions need to be adequate. We forget previous disasters in our valleys so quickly and people believe that an 1852-type flash-flood will never again wipe out towns like Gundagai. I looked at Lithgow's mountains with renewed interest the other day as storm clouds formed.

Species Homo Sapiens is probably the only species that was caught out in Lockyer's flash-flood. Other species communicate better with nature and with each other and would have attempted to protect themselves prior to the arrival of the raging torrent. Some amateur weather-forecasters apparently predicted the flash flooding but their messages did not get through to either authorities or to local residents until after the event.

As with bushfires and earthquakes, native species (especially noisy birds) provide the best warning of impending disaster. It is not too difficult to construct an early warning system that works every time. Such an early warning system could have saved several lives, despite the suddenness and ferocity of the flash flooding and may even have saved Victorian lives during their bushfires.

In summary, some of the initial warnings may have been a little over-the-top, as media hacks have to sell their stories. The early media hysteria was designed to frighten people although journalists were not able to warn of the actual disasters that eventually unfolded and this is the tragedy of wasted millions of dollars. We can do better next time.

The Brisbane flooding falls into a separate category. Based on the guarantees that engineers had given for the Dutch Wives Hoe dam, authorities initially assumed that Brisbane was not in any great danger. As a result, expensive water-front buildings may have been insured and locals often took me to see where the latest folly was being constructed.

I looked at the Dutch Wives Hoe numbers early in the piece and wrote to Queenslanders, asking if the dam had been mismanaged. They replied that the dam should be fine, just as the gates were being opened wider. Queensland's expert opinion appears to have been based on misinformation.

Once authorities realised that there was a problem, they took the necessary actions and provided the necessary warnings. It was all done very professionally – congratulations to all

involved. I'm sure a film will be made, even if I have to write the script myself. ("But the international speculators are asleep, Premier" / "Release the bloody water now!")

The price that metropolitan people can pay for water is so unrealistically high that it is difficult for Authorities to make intelligent assessments of life-threatening situations.

I hope Sydney and Melbourne do as well when their next big floods come. They will certainly be expensive, as developers ignore Biblical warnings and build on fertile river banks and uber-fertile flood plains after international lobbyists assured Australians that major flooding is impossible.

2 Private Insurers and their responsibilities

I have written to the banks and the Government on this topic. You can see my thoughts as Submission-nr 126 to the Senate Inquiry into Banking Competition. Insurers who took the flood premiums may find it is in their long-term interest to pay the money to minimise the risk of sub-prime events.

Insurers do not have a responsibility to insure property that is at risk of frequent flooding and some insurers were up-front, saying they would not insure certain institutions. Other insurers appear to have given the impression that some properties were insured, despite the small-print clauses that were written into the insurance contracts.

Wealthy people who have strong social, family or religious connections with the insurers may do better when payout deals are finalised. Battlers tend to do less well in their dealings with the insurance companies.

When serious reconstruction work gets under way, it will be private insurers who will influence decisions about which river-flats and flood-plains should be restored to their previous situation.

There is a potential catch-22 here. Normally one builds a home and then asks insurers for quotes. If at that stage the insurers say the house's site is too risky or the construction materials are sub-standard, then the builder has a problem as the money has been spent.

The fact that building permission has been given does not guarantee that houses can be insured. Governments should not insure houses that are in danger of flooding. Aboriginal Australians had Dreamtime-stories, maps and song-lines that showed how the rivers ran and what the dangers were. The Government may do well to restore such knowledge to Queenslanders. An educational system that is based on Rivers-101 from Harvard or Cambridge is of little use to Queenslanders.

3 The response to the 2010/2011 flood events, particularly measures taken to inform the community and protect life, private and public property

Authorities get a big tick on all the items above, with one exception.

On the day, there is little that Authorities could have done to protect Australia's exceptionally valuable native flora and fauna that form the basis for our bio-infrastructure.

However there are some issues.

3.1 Firstly the loss of flora, especially trees, meant that the speed of flood waters was much faster than it would have been even in the 1974 flood. This meant that human and non-human lives were put at heightened levels of risk, despite the purchase of very expensive life-saving equipment such as helicopters.

3.2 Secondly, the enormous benefits that a major flood-event traditionally brings to a region may have been lessened because of the enormous amount of toxicity that the waters contained. This toxic material was spread across areas such as the Lockyer Valley and ended up in rivers, bays and oceans. While crop production may return to normal levels within a few months, some crops may be difficult to sell because of their toxic associations.

This toxic material may have caused significant loss of life for many species. Ironically it did not appear to affect the mosquitoes, which are reportedly breeding profusely. Toxic animals such as cane toads are also breeding quite well, evolving and breeding in Sydney in 2011.

Not only do pesticides kill animals that are valuable in our food-chain, they may also encourage the development of species that are less human-friendly than what is being replaced. Reports, which may be true, indicate that certain species of urban rats have evolved so that they are relatively immune to fairly strong poisons. If such reports are true, then similar evolutionary processes may be happening in our rivers, bays and oceans.

3.3 Thirdly toxic chemicals can put our food chain at risk according to well-researched articles in magazines such as the Scientific American. Australia, according to the Australian Government, spends conservatively \$3.5 billion each year just on pesticides, which possibly do not contribute to the survival of species such as whales and homo sapiens.

3.4 A strong Recovery Response might be based on focusing Australian agriculture on Australian products, rather than on super-sweet sugar and banana-plantations that need to be rebuilt after each major cyclone. It is possible to use mathematics to calculate the difference between growing sugar and bananas and the potential profit from growing Australian products.

3.4a) Cost of sugar and bananas: This includes the cost of soil erosion, the cost of imported machinery, imported fertilisers, pesticides etc, the cost of imported pests such as the cane toad, the cost of the environmental damage to Australia's tourist icon The Great Barrier Reef, the potential cost our food chain in the ocean etc. Then we can add in the cost to health from eating super-sweet cakes and candies and we are probably looking at a 1 billion dollar price tag from growing a product that we could easily and cheaply import. NB: Looking at Australia's enormous health budget, it is possible that over-consumption of

Queensland's sugar could cost the economy as much as five billion dollars per year due to health related issues -- statisticians can provide a more realistic figure.

The benefits are trivial, as too many farmers survive on Government subsidies and their farms need to be reconstructed after each major cyclone.

3.4b) The potential benefits of growing local produce are extensive and increasing as world demand for such products is increasing rapidly. Australia has an abundance of nutritious fruit and vegetables that could be cultivated in a sustainable way, providing healthy food and effective medicines. Some types of fish are in short supply and some types of Australian Native Honey cost more per ounce than gold does. It is quite possible that such products, which are fairly resistant to droughts and cyclones and which provide employment for large numbers of people, could result in a surplus of about one billion dollars per year.

The costs are trivial, as subsidies and insurance costs may be minimal.

NB: Bees are interesting, as we see increased competition from Asian bees and increasing levels of threats to European bees from parasites and diseases. As all farmers in Queensland recognise, pollinating fauna such as bees, birds and bats make enormous economic contributions to Queensland's economy.

4. Measures to manage the supply of essential services

This item is interesting, as the concept 'essential services' is not defined. Food, water, milk, electricity, transport, telecommunications etc were restored with remarkable rapidity, given the scale of the devastation, although some people felt they were disadvantaged.

Media reports focused on the STENCH of affected areas as the flood waters subsided. Consequently the 'essential services' that were brought into places like Emerald included quite unusual amounts (tons) of disinfectants and other poisonous substances.

The smell after such an event is not particularly pleasant, the fungi that grow on walls are not attractive and there is a risk of disease. What is happening is that nature is trying to undo some of the damage that, from its point of view, has been inflicted on the area.

Perhaps we can do better next time. Certainly mosquitoes and toxic species such as cane toads are not complaining as they breed in ever larger numbers.

We may soon be putting cane toads on the barbie and one day they may entertain tourists as they hop down the main streets of Sydney. Queensland's economy could benefit immediately if the amount of pesticides was reduced by 50%.

5 Adequacy of forecasts and early warning systems

This is an exceptionally interesting section.

5.1 Long Term Forecasts

Weather forecasts for all regions in Australia have been haphazard and changing rapidly. For years, Governments were told that "exceptional periods of drought are the new norm" and Governments in all parts of Australia spent untold billions of dollars drought-proofing their region, sometimes using the most expensive, inefficient and inappropriate equipment that money could buy. I made this statement several times in public documents in 2009 / 2010.

Many of the forecasts were done by people who had been in Australia for a relatively short period of time. Consequently they were prepared to believe whatever their specially programmed computer models dished up for them.

I would recommend that, since weather-forecasting is an integral feature of Australia's national security, it should be done by mathematicians who are born in Australia. They will make mistakes on occasions, but it must surely be impossible to do a worse job than professional people with massively expensive computer systems have done over the last two decades. Multi-national organisations reported publicly that they were going to make a killing on "Water" and it was, apparently as easy as taking candy from a baby -- as Lateline reported in a different context a few years ago.

Professional weather forecasts immediately prior to the start of the flooding appeared to have been excessively dramatic. Professional weather forecasts appear to have failed to predict the events that caused the flash flooding in Toowoomba and the Lockyer Valley. Apparently amateurs did better. As indicated earlier, Homo Sapiens would probably have been the only species that would have been unaware that significant flooding was "quite possible" in that region.

We need to develop the humility to accept that other species are far more intelligent than we are in certain circumstances. Other species have more complex genetic structures than we do and they can achieve feats that we can only dream about.

5.2 Short term Forecasts

Short-term forecasts were pretty good although both the scale and the duration of the flooding were underestimated. Computers are very fallible machines and intelligent animals such as birds are much better at forecasting the weather than super-computers are.

5.3 Early Warnings

New technology was used to warn people of impending flood-situations. This worked exceptionally well when waters were rising at a reasonably steady and / or predictable rate. People in areas such as Brisbane appear to have been warned so often that they were getting irritated.

While computers are very interesting machines (I have spent my life working creatively with them), they are quite stupid when compared to any living thing when dealing with rapidly evolving disasters. An over-reliance on computer-based early warning systems may have cost lives in some areas.

I remember one reporting asking "How do you warn people that something like this will happen so quickly?" One answer is, of course, to ask the experts, especially the birds. They can see what is happening and they communicate with each other. An early warning system based on captive birds, or similar creatures, may save lives in future emergencies.

A second possibility is to rely on human calculating-machines. They are far more versatile than computer systems and they can spot potential problems that have not been included in the relevant computer programs. I provided similar recommendations to the Victorian Bushfire Commission.

The important concept to get across is that similar emergencies will certainly happen in the future. They may have their origin in water, fire, ants, hostile human activity or they may come from somewhere we are completely not expecting.

As I wrote in a Water-management micro-tender for a southern council in November 2010, "Water will decide where it will go. We cannot prevent it" and this is something that wise people such as King Canute realised a long time ago. The waters of the Queensland flood completely vindicated these statements. For your information, my tender was unsuccessful.

6 Implementation of systems operation plans for dams

Concrete is perhaps the least intelligent and most oversold technology for managing water flows.

The Scientific American reported more than a decade ago that America had spent more than a trillion dollars on flood mitigation and that the rivers functioned better before the first dime was spent. Now Americans are spending enormous amounts of money on refurbishing their ageing dams – concrete does not last long and it is not stable.

The situation in Australia is roughly equivalent to that in America. The main difference is that we started building our dams a bit later than the Americans did and Americans are more flexible in changing to a more sustainable approach than we are.

America's problems with predicting the weather are similar to, although less drastic than Australia's. If dams are to be built, how big should they be? How long should they last? How much water should they waste to evaporation? How much damage should they do to Australia's valuable aquatic fauna? Can bio-technology provide benefits?

It would appear that Brisbane's Dutch Wives Hoe dam was oversold. Once hydro-engineers realised that a catastrophe was brewing, the decision to change the dam's operating plan

was not taken lightly. The water in that dam was worth billions of dollars to international investors who may well have had the utmost confidence in the dam's construction and in the dam's insurance cover.

It is very difficult to plan dams when the weather forecasts are so unreliable, the technology is so transient as computer systems are continually 'enhanced', the topology of the whole region is being changed by excessive mining and tree clearance and when weak, cancer-prone materials such as concrete are used. Bio-technology is far more robust.

It would appear to be a matter of national urgency to restore tree-populations in strategic areas. This would reduce the amount of topsoil that is lost due to desert-winds and cyclone-floods. It would also reduce the danger to life as flood waters would move more slowly and mud-slides would be less likely.

Restoring selected lagoons would protect areas against both bush-fires and flooding from cyclones. Once appropriate mitigation measures have been taken, it would then be possible to write Queensland's Operational Dam Planning documents.

It would also appear to be a matter of national importance to develop a more economic approach to using massive amounts of valuable water to support the mining of Australia's remaining mineral resources, which are being exploited as rapidly as possible, in the most expensive and risky manner possible and the resulting minerals are being sold for the cheapest possible price. Whenever a major flood occurs, the mining industry suffers substantial damage across the whole state.

As I have reported on a few occasions, it is not even in the interests of the resource-poor countries that do make a profit from exploiting our minerals to keep on exploiting them at the current rate. Australia has a population of a mere 22 million people and a few medium-sized water-efficient mines should be enough to keep us in clover for generations.

7 Land use planning

a/ You can't stop progress

b/ That's a waterfall up ahead

a/ Reverse! Reverse! Reverse!

Land use planning (LuP) is a 200 year old disaster in European Australia. We 'develop' the most fertile and economically valuable regions, turning them into unproductive concrete deserts that are at massive risk of flooding.

We ignore every sensible water-management and land-development policy that documents as old as the Bible contain. On the other hand, we interpret concepts into ancient scripture from the Middle East that were never meant to have been there and we act on these pseudo-concepts as though they were direct commands from God.

As an example, the Old Testament defines a Bad Shepherd as one who allows his flock to defecate in streams. Apparently the bio-products from some domesticated animals are not hazardous for human health, while the bio-products from others cause inches-high media reports of impending E-coli doom. Additionally the Old Testament and traditional Australian Aboriginal legends warn against allowing animals to destroy riverbanks and this is an advice that we ignore with great gusto. Apparently traditional stories do not advise the construction of enormous levies to protect poorly planned cities, as the resulting damage can be greater once the levies are breached and minor flooding has traditionally been very important in re-fertilising land that has been cultivated to death.

There are many activities that we could do to reconstruct a Queensland that is economically more robust than it is now. We could close some super-expensive jails and allow people who really do know how to utilise Queensland's land to teach sustainable farming to more recently arrived groups. We could also use nature's aqua-powers to reduce the effects of greenhouse gas emissions, reducing the effects of climate change. In short, Queensland can become a world leader in increasing the amounts of resources that Planet Earth can provide.

We could perhaps profitably replace all modern Australia's water-oriented policies and legislation with policies that were accepted around the world a thousand years ago. Granted it would not be perfect, but what Europeans have foisted upon us is a disaster.

Christchurch's catastrophe shows the way that reconstruction will probably proceed. Christchurch in our sister-colony was transformed back into a modern, swinging city that hosted tourists and international cruises within weeks of a massive earthquake in 2010.

As I reported in my banking-competition-submission, initial recovery-estimates for the Queensland floods were fairly reasonable. Then, while the floods were still in progress, they went up to \$5 billion, \$10 billion, \$20 billion. Estimates finally peaked at \$30 billion just as a senior international politician arrived. Interestingly the same \$30 billion figure is being used to reconstruct Christchurch.

It is possible to use mathematics to calculate the realistic costs of reconstruction, with anything over two billion dollars being potentially fraudulent.

Commentators from one European country said "The floods are just like they were in our country. The only difference is that much of our country is below sea level. We can help- we know what to do." Differences between severe flooding in Europe and Queensland include:

D1) Queensland floods periodically during the cyclone season, D2) We can use the flood-water profitably if we are wise, D3) Some floods in the Northern Hemisphere killed thousands of people, D4) Some European countries will never be free from the threat of devastation by massive floods, despite the astronomical amounts of our money they spend on sea-defences as sea levels rise.

The prospect that foreign experts may charge a king's ransom to restore Queensland to the fragile situation it was in prior to the 2010/2011 floods is frightening.

As Gundagal showed, it is possible to build homes in a safer way. The construction of even larger concrete monstrosities called dams where the water evaporates during dry seasons and which threaten to annihilate cities during large cyclones might best be avoided.

Queensland's glorious Wild Rivers are wild for a reason. We can learn to gain economic benefit from their ferocity, their beauty and their enormous economic potential in wet seasons and in dry.

We can plan our cities and our agriculture better. Jobs, Jobs, Jobs – let's plan them and make them sustainable.

Even Einstein, who was not real snaps *mit der Mathematik*, could have calculated that, if we keep on putting poisons and pesticides onto our land and into our waters, their agricultural potential must diminish. We might choose to send the Ignorabimus who designed our current systems back home. A toxic environment in which cane toads can flourish is not necessarily the best environment for homo sapiens.

Darwin preached the Gospel of Intelligent Evolution. The Great Omnipotent Digitabulator (God) knows which crops and species flourish in Queensland far better than people in far off Europe do. We can grow crops that are indigenous to Queensland in Queensland.

Crops are available that are fairly resistant to drought and to floods. Why should Queenslanders pay through the nose to reconstruct business and homes that will certainly be wiped out again in the next big cyclone event?

Rather than adopting a model in which a few people become enormously wealthy while others live on subsidies, drought relief and flood relief, why not work with the land to recreate an agricultural system that provides food, employment and a good income for large numbers of people.

8. Recommendations

R1: Use mathematicians to calculate the cost of situations that are potentially fraudulent.

R2: Use mathematicians to calculate the optimum use of land as it is reconstructed.

R3: Work with the natural processes of Queensland, not against them to develop new agricultural processes and early warning systems.

R4: Stop putting pesticides into Queensland's water over a period of time.

R5: Map out Queensland's flood plains.

R6: Use process-flow analysis to determine how reconstruction work can be done.

R8: Evaluate the result – did the Reconstruction deliver the promised benefits?

R9: Restore the use of bio-technology to replace dangerous and very expensive concrete monstrosities called dams.

R10: Restore Queensland's economically valuable indigenous flora and fauna.

R11: Resources of Planet Earth – let's lead the way in Queensland and increase them using local experts rather than professors and experts from far-away lands.

R12: Let's protect "Water", Queensland's most important resource, in a national Constitution.

I am sure the reconstruction will go well and I am happy to assist if requested. Good Luck Queensland.

Yours Sincerely

David Allen

