

Holly Martin

February 6, 2018

## **Submission: Scientific Inquiry into Hydraulic Fracture Stimulation in Western Australia 2017**

My connection to this inquiry is as a citizen scientist (having discovered two new species of spider here in Warradarge) and concerned community member who has ties to agriculture and beekeeping. I am a participating member of the P.O.W.E.R (Protect Our Water, Environment and Rights) Eneabba committee; which was established in 2012 to protect the community and help provide assistance with families being targeted by the gas industry.

I am currently residing in a small farmhouse in Warradarge with my young family.

Upon hearing from friends and locals who are currently being approached (in a process that lacks transparency) by gas companies for exploration and 3D seismic surveying it has become clear that people are feeling that their concerns are being increasingly ignored. These are intelligent, hard working people whom have many stresses to deal with managing their farms. Imagine adding in the mental health pressure of dealing with an industry that lacks credibility and integrity and can potentially negatively impact the economic outcomes for their farms by millions of dollars lost in land value and production due to land loss (not to mention the other incurred losses by attempting to manage a farm whilst dealing with gas well infrastructure).

A CSIRO report from 2016 details that there were farm losses averaging 10.9% totaling between \$1.32m and \$3.29m per property (averaging \$2.17m). (Ref 1.1)

The industry is not insured sufficiently against risk as insurance companies find the industry too risky. Farmers could be liable for contamination and worker injury (despite not even wanting the industry there in the first place) the clear economic disadvantage farmers face. (Ref 1.2)

### **How will farmers and community members be protected from the environmental and financial damages caused by the gas industry if this goes ahead?**

With these questions in mind I've prepared this submission, to reiterate that environmental, economical and social impacts brought on by the industry today will live on beyond this generation.

There were a few key moments in 2012 that have stayed with me during my early days helping P.O.W.E.R Eneabba. AWE a mining company had given P.O.W.E.R Eneabba a tour of their Arrowsmith Site just North of Eneabba. The tour was given in an attempt to show the group how safe the practice was (they were not fracking during our tour). In having a frank discussion with the manager one week before the

tour, I enquired about his level of comfort in the close proximity to the toxic chemicals used in a fracking simulation.

His response was “I honestly don’t know the long term effects and it does make me uncomfortable. I don’t know what the chemicals are and how they could harm my health working so close to it. It does worry me.”

Previous to the tour the group took, the Dept. of Petroleum and Mines, CSIRO, Water Corp and several others on a panel had spoken to the community in an attempt to reassure the community that the industry and practice of fracking was safe. This was despite the numerous reports coming out of NSW and The United States of compromised water and well damage. The room was told that the technology and geology was “not the same as America” and that our aquifers were different.

Part of the tour we noticed much of the equipment was Halliburton (American Company) and several of the dongas that were set up had large satellites attached to them. I enquired about what the satellites were for and the gentleman giving the tour responded “We send all of our collected data to America”.

To argue that the industry does not operate as it does in America demonstrates a clear lack of integrity and puts to question the honesty and transparency in both the Dept. of Mines and Petroleum and the gas industry at large. To further my point on lack of integrity; the 6<sup>th</sup> of January 2018 the Northern Territory fracking Inquiry was told by Lock the Gate alliance that Origin Energy and The Northern Territory Government had provided the Inquiry panel with misleading details regarding deformation at Origin Energy’s Amungee NW-1H gas well. (Ref 1.3)

Within this region I have spent hundreds of hours documenting the significant flora and fauna. This region is rich with incredibly biodiversity. Many foreign visitors tour the region specifically during wildflower season. The local economy depends on the tourism industry.

As the group toured the grounds we overheard about 50 Carnaby cockatoo in the distance. If you’re familiar they are an endangered species (which population has declined by 50% from 2010-2016) that live in limited woodlands in the area. They flew over the mine site directly at dusk. As I was there to photograph the tour I was told explicitly that the images taken were not to be shared outside of the group. Ref (1.4)

There has been no open dialogue or plan that shows where the wastewater from the black plastic lined ponds is disposed of. Not only that, but consider if flash flooding were to wash away the evaporated contents and spill them across the native vegetation? There is significant risk here to the ecology. There is also the simple fact the chemicals could seep back into the subterranean landscape, compromising the water this region relies on. Pumping waste the water back down a frack site is also hazardous considering well integrity is not 100% guaranteed.

In June 2015 a report prepared by the Government of Western Australia Department of Health entitled: Hydraulic fracturing for shale and tight gas in Western Australian drinking water supply areas noted on page 34 -35 it was noted in the findings:

*Exposure risk from contamination of drinking water is dependent on the local environmental conditions, geology, hydrogeology and geographical placement with respect to usable water reserves in general, and more specifically on designated drinking water supplies. Likelihood of a contamination event is largely dependent on failure to follow industry best practice design, construction, maintenance and closure with full implementation of effective management plans and monitoring impacts of any environmental release of chemicals above natural background levels. The overall risk of such an event is categorised by determining the number of people who are likely to be impacted and the severity of these impacts. (Ref 1.5)*

We live in an area that is sparsely populated. Eneabba has 289 residents, many of whom rely on the ground water as a drinking source. There are also numerous documented arguments against fracking (over 900 papers for the Compendium of Scientific, Medical and Media findings Demonstrating Risks and Harms of Fracking) and well integrity causing potential harm to both the human population and environment. (Ref 1.6)

My partner is a beekeeper, and we are slowly working at converting our modest home to be sustainable and have a low impact with regards to water usage. To learn that the property we live on could be subjected to fracking raises many questions as we look to the future.

Across Australia 450 communities have openly opposed this industry. 20 of these lay within Western Australia and that number is continuing to grow as more people are talking and sharing their real life experiences in dealing with these gas companies with one another. (Ref 1.7)

The lack of transparency, divisive tactics and contracts designed to silence and trap landowners are self serving and disruptive to communities sense of connectedness and stability.

While other informed Nations (and other regions throughout Australia) are doing their best to protect their citizens and their most precious resource (water) by imposing full bans; Western Australia (a State that is entirely reliant on water sourced from aquifers) should also consider this action. (Ref 1.8, 1.9)

I do hope with this information and all the other submissions you receive from the general public, concerned scientists, health professionals and farmers will enable your team to remind the government's of it's responsibility to society. Foremost these responsibilities lay within general public's health, wellbeing, food and right to safe water.

Thank you for taking the time to read my submission.

Warmest regards,

Holly Martin

## References:

1.1	2016 A novel model to estimate the impact of CSG extraction on agro-economic returns. Land Use Policy, Volume 59 31 December 2016 Pages 351-365
1.2	NSW Chief Scientist and Engineer 2014: <a href="http://www.chiefscientist.nsw.gov.au/story/3365648/csg-too-riskyfor-insurers">http://www.chiefscientist.nsw.gov.au/story/3365648/csg-too-riskyfor-insurers</a>
1.3	Industry Integrity: <a href="http://www.lockthegate.org.au/nt_fracking_inquiry_cover_up_origin_s_frack_well_casing_deformation_erased_in_draft_final_report">http://www.lockthegate.org.au/nt_fracking_inquiry_cover_up_origin_s_frack_well_casing_deformation_erased_in_draft_final_report</a>
1.4	Numbers of Carnaby Cockatoo in decline: <a href="https://en.wikipedia.org/wiki/Carnaby's_black_cockatoo">https://en.wikipedia.org/wiki/Carnaby's_black_cockatoo</a>
1.5	Dept Health Report: <a href="http://ww2.health.wa.gov.au/~media/Files/Corporate/Reports%20and%20publications/PDF/Hydraulic-Fracturing-HHRA-18June%202015.ashx">http://ww2.health.wa.gov.au/~media/Files/Corporate/Reports%20and%20publications/PDF/Hydraulic-Fracturing-HHRA-18June%202015.ashx</a>
1.6	Concerned Health Professionals of New York & Physicians for Social Responsibility (2016) <a href="http://concernedhealthny.org/wp-content/uploads/2016/12/compendium-4.0_final_11_16Corrected.pdf">http://concernedhealthny.org/wp-content/uploads/2016/12/compendium-4.0_final_11_16Corrected.pdf</a>
1.7	Gasfield Free Surveys: <a href="http://lockthegate.org.au/go_mining_free">http://lockthegate.org.au/go_mining_free</a>
1.8	Places with Fracking bans in place: <a href="http://www.keeptapwatersafe.org/global-bans-on-fracking">www.keeptapwatersafe.org/global-bans-on-fracking</a>
1.9	Fracking bans in Australia Overview: <a href="https://www.theguardian.com/australia-news/2017/oct/03/voters-back-fracking-bans-despite-pressure-on-states-to-ban-them">https://www.theguardian.com/australia-news/2017/oct/03/voters-back-fracking-bans-despite-pressure-on-states-to-ban-them</a>