

Submission from:-

Dilwyn J. Griffiths,



To:

**Chairman,
Agriculture and Environment Committee,
Queensland State Parliament,
aec@parliament.qld.gov.au**

6 October, 2016.

**Re. Environmental Protection (Underground Water Management) and Other Legislation
Amendment Bill 2016.**

I write as the author of a recently published book (Freshwater Resources of the Tropical North of Australia; A hydrobiological Perspective. Nova Science Publishers Inc. New York, 2016). My comments, which I hope will be of some interest to the committee in its deliberations, arise from my research for that book and from my many years' experience as a teacher and researcher at James Cook University of North Queensland, Townsville. They relate specifically to my area of interest (hydrobiology) and to the tropical north, but I have no doubt they will be equally relevant to the groundwater resources of Queensland generally.

1. Groundwater is a vital component of the water resources of vast areas of the state. In the more arid inland areas it can account for as much as 90% of the total available water. Much of the available groundwater is already saline, brackish or marginal. In some areas water allocations have already reached, and in some cases exceeded their desirable maxima, with ground water being extracted faster than the natural replenishment rate. It should be a high priority that rehabilitation programs to repair, plug or replace uncontrolled bores should continue and that management programs for water use be strictly monitored.
Supplementation of natural recharge by constructed recharge mechanisms (with, where appropriate, use of releases from impoundments) should continue and be expanded. The extensive system of stream diversions often associated with mining ventures and the consequent modification of river reaches to produce engineered channels have the potential to interfere, in some cases irreversibly, with natural groundwater recharge systems.
2. The groundwater water-quality implications of any expansion of various forms of mining such as coal or heavy metal extraction, CSG production or hydraulic fracturing will need careful evaluation and management. The full cost of ensuring the availability and quality of groundwater should be included in the development plans and in any post-mining remediation programs. In the use of groundwater for cropping, return flows should be taken into account and users able to improve technical efficiency of their water-use should be encouraged.
3. It is now clear that water licencing regimes that applied during times of relative water abundance are no longer appropriate. There is now a greater appreciation that groundwater (like all water resources) represents a defined pool from which prospective users may apply

for an agreed and costed allocation. Similarly all environmental impacts should be costed and any required remedial measures budgeted for.

4. The increasing cost of providing good quality groundwater for prospective users calls for full transparency of the allocation process, with moves, where possible, towards suitable forms of price signaling to encourage improved water-use efficiency. Groundwater should be recognized as an economic and tradeable asset rather than a subsidized political good.

Dilwyn J. Griffiths.