SUBMISSION TO THE STATE DEVELOPMENT, NATURAL RESOURCES & AGRICULTURAL INDUSTRY DEVELOPMENT COMMITTEE

SUBMISSION TO:

THE VEGETATION MANAGEMENT AND OTHER LEGISLATION AMENDMENT BILL 2018

SUBMISSION COVER SHEET

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INTRODUCTION:

As a rural advocate for Far North Queensland, I provide my submission in support of the continuation of the Current Vegetation Management Act 1999 and rejection of the changes proposed in the Vegetation Management and Other Legislation Amendment Bill 2018 ("the Bill").

The laws we currently have deliver fair balance. Policy settings can be adjusted by Government, without unnecessary changes to the current legislation. As someone who travels regularly around the State, primarily living within the Federal Seat of Leichhardt and observing the degradation and erosion of land supposedly "conserved" within Cape York, I have major concerns with the newest proposed changes to the current act. The future viability of regional and rural Queensland communities will be impacted severely through changes to the legislation, hurting our agriculture sector.

The majority of landowners manage their properties effectively to ensure the long term value and sustainable production of crops and cattle. They respect the need to be environmentally responsible and manage their properties in accordance with the current vegetation management framework which enforces this.

My overriding issue with the Bill is that its introduction in the Queensland Parliament represents yet another variation to the Vegetation Management Framework, which has been amended over 18 times since its introduction in 1999. The future viability of regional and rural Queensland communities will be impacted severely through changes to the legislation, hurting our agriculture sector, in complete contrast to this Government's own Food and Fibre policy.

THE SCIENCE:

This is despite in 2003, Dr. Bill Burrows writing a report for the then Beattie government, when he was a member of the Qld DPI, which was never publicly released by the Beattie government, showing that the banning of broad scale tree clearing, combined with limitations on the control of re-growth, will have a huge detrimental effect on the future carrying capacity of our grazed woodlands, along with many deleterious hydrological and biodiversity impacts. This study also showed that these woodlands, contrary to current government opinion, were a carbon sink, NOT carbon neutral, and that we would have a level of clearing that would be sustainable and still be Kyoto compliant. This report was taken to "Cabinet in confidence" and is apparently NOT to be released for 25 years. Given the far-reaching changes that this government now proposes with this new bill, it is now in the public interest for this report to be released and for Dr. Burrows' evidence to be acknowledged and acted upon.

Dr Rosemary Purdie, [i[1]] a prominent Australian ecologist, was contracted to the Queensland Herbarium when she wrote in a 1986 paper that "as a result of land use the mulga region ecosystems can in no way be described as "pristine" or identical with their pre-aboriginal or pre-european state". Yet the government has got itself into a lather to preserve this self-designated remnant vegetation, not only in the mulga lands, but also elsewhere – so called "remnants" - but our grandfathers & great grandfathers never knew them.

There is one case of thickening that is rarely highlighted. It is the history of brigalow. In 1938 Dr Stan Blake reported that - "brigalow scrub is slowly but surely extending its range, many changes having taken place within the memory of living men. Both grassland and eucalyptus forest have been invaded and replaced. All stages of this invasion can be seen, and in some older scrubs, box (tree) stumps are to be found". More recently Judith Wright inspected the diaries of early settlers in the Dawson river country and in her book "The Cry for the Dead"[2] noted "by 1885 the country of the upper Dawson had changed a great deal since Leichhardt had crossed it. Wattle scrubs (probably lancewood?) were spreading on the sandstone country, while brigalow was invading those open downs which Leichhardt had seen". These observations suggest that the pre-European extent of brigalow ecosystems has probably been grossly overstated, if it was estimated solely on the basis of the area occupied after WWII. I have also observed this in the last 45 years travelling around this state, an observation frequently also noted by my father and uncle from when I accompanied them as a child through trips of western Queensland.

A modern development in reconstructing vegetation history involves the study of stable carbon isotopes in soil organic matter. The ratios of 13C/12C (expressed as □13C) provide diagnos signatures which can be used to differentiate organic carbon derived from trees/shrubs and tropical grasses. Woody plants possess the C3 photosynthetic pathway (-27 to -32‰ (p whereas vegetation of tropical grass dominated zones is characterised by grasses with the C4 pathway (-13 to -17‰). If woody plants have been long term constituents of the landscape the -27 to signature of the s – 32‰ range. However if C3 trees and shrubs had displaced C4 grasses: (i) the soil □13C value wo be less negative than –27 to –32 ‰ (ii) the degree of departure from the expected ratio would decrease as time of site habitation by woody plant increases, and (iii) the soil □13C values would

[1] Purdie, R.W. (1986) Development of a National Park System for Queensland's Mulga Region. In: "The Mulga Lands" (ed P.S. Sattler). (Royal Society of Queensland: Brisbane).pp. 122-127.
[2] Wright, J. (1981) The Cry for the Dead (Oxford UP: Melbourne).

become less negative with depth in the soil profile (i.e. along the chronosequence). [3] A typical tropical or C4 grass soil for a Mitchell grassland near Barcaldine displays values closely in line with the theoretical, as one would expect for a stable grassland which has maintained its structure for millennia. Thus contradicting the government case that woody plants have been the long term constituents of that region. Similarly, a typical soil woodland long occupied by trees near Atherton also contradicts the government position.

It is well known that prickly acacia (Acacia nilotica) has invaded areas long occupied by Mitchell grass (Astrebla spp.) since the 1950's. So the "woody" while at depth the soil profiles from Brigalow Research Station, Theodore, where the "open" brigalow scrub was pulled and burnt and replaced by buffel grass (Cenchrus ciliaris) about 40 years ago. The upper soil 13C profile under the buffel reflects the tropical grass signature while at depth the long term profile established by the brigalow scrub is mirrored. Thus demonstrating that this scrub from the Theodore region is presenting a carbon ratio signal that indicates it is a "mixture" of woody plants and grass components. In fact in this area of central Queensland the scrubs were known as "patchy plain brigalow" – signifying they were in the throes of being invaded by brigalow when Europeans first arrived in the area

Therefore, in the absence of other evidence, stable soil carbon isotope ratio signatures, along with carbon dating, can now tell us whether woody plants or tropical grasses occupied a site and over what timeframe - extending back for hundreds of years. For example, there has been much conjecture about the status of gidgee in areas juxtaposed with Mitchell grassland in western Queensland. The recent" signature on the soil surface of this gidgee (Acacia cambagei) site says it is dominated by trees, while the "older" signature at depth mirrors that of the Mitchell grass (Astrebla spp.) site. Post-bomb carbon dating confirms gidgee has only invaded the grassland in quite recent times (since the 1950's). Before the soil carbon signature technique proved otherwise Environmental Protection Agency staff classified this gidgee regional ecosystem as a remnant of vegetation present before livestock grazing commenced.

Yet it is obvious from the WWF's "Bushland at risk of renewed clearing in Queensland" document that conservationists want to ignore this inconvenient fact. Instead they are essentially demanding that woodlands on agricultural holdings should be seen as a simple extension of the State's National Park and Reserve system. Or, if that demand can't be justified, they argue that the grazed woodlands should be "locked up" for carbon sequestration. However, as noted above, it is now well established via satellite based sensors, that the woodlands already contribute to Queensland and Australia being a net sink for carbon dioxide (after accounting for all the CO2 contributing to the flux in this gas above the nation's land mass).

An overview of tree thickening in the Burdekin-Belyando river catchments was published in 2007. This research also utilised stable carbon isotope signatures and revealed significant tree thickening has occurred in most of the Burdekin-Belyando catchment over the past 150 years – with the

[3] Tieszen & Archer (1990) Ecological Studies 80: 293-321

vegetation shown to be relatively stable in the preceding centuries (Krull et al. 2007[4]), when it was managed by the indigenous people. In other words, the pristine, or 'pre-European" condition of our northern woodlands was far more open than it is today. Because of on-going tree thickening, 'locking up" the remaining woodlands to preserve them will in fact cause them to depart further and further from their pre-European or "original" structure and composition. This is counter to the aims of all tree clearing bans.

The Reef is an outstanding natural asset – nobody can dispute that. Soil management plays a vital role in keeping soils on the paddock, out of waterways and out of the Reef lagoon. Ground cover, not tree cover, determines runoff and erosion risk. This is a well-known soil conservation principle , outlined in the 2015 Soil Conservation Guidelines for Queensland[5] and many other soil conservation studies. Industry is concerned Queensland Government has recently considered woody vegetation management as an erosion issue in Great Barrier Reef catchments. There is generally less ground cover under trees than in cleared areas, due to competition for water and nutrient. Grazing management practices, pasture cover and fire regimes, rather than tree clearing, determine runoff and erosion risk.

Increasing the abundance of deep-rooted perennial grasses will help reduce runoff from hillslopes which in turn helps to reduce gully and bank erosion in lower sections of the landscape. Riparian vegetation including trees, shrubs and grasses is important in maintaining healthy waterways. Roots help stabilise the banks. Vegetation also helps improve water infiltration, slows down water velocity and provides the last barrier for filtering out sediment and nutrients. However, in cropping and pastoral systems, ground cover will determine the erosion and runoff risk.

The science now proves that it is ground cover, through grasses and crop stubble, which determines runoff and erosion risk and protects the soil - not tree cover. What we hear from the Environmental groups saying tree clearing affects water quality on the reef is not backed by science. There is generally less ground cover under trees than in cleared areas due to competition for water and nutrient.

ECONOMIC RAMIFICATIONS:

There is currently a strong focus on developing Northern Australia. A current example of this is the $220 million being spent to upgrade roads to communities across Cape York, but Queensland State Government Vegetation Management Framework is preventing these farmers from developing agriculture projects. The Queensland Government's Queensland food and fibre policy identifies the agricultural sector as the mainstay of the Queensland economy and commits the government to support the growth of the industry. This Bill is a direct contradiction to the Queensland Government's Food and Fibre policy. Queensland landholders want long term certainty to sustainably manage their natural resources. This Bill asks them to retain their land, paying rates and land taxes, with no right to do anything with it. This Bill is about reducing the size of the paddock that farmers are able to use.

[4] Krull et al. (2007) Development of a stable isotope index to assess decadal-scale vegetation change and application to woodlands of the Burdekin catchment, Australia. Global Change Biology 13: 1455-1468
[5] Queensland Government – Soil Conservation Guidelines for Queensland 2015 http://www.qld.gov.au/environment/land/soil/erosion/guidelines/

Food and agriculture is one of the Australian Government's five industry pillars identified as having high potential for growth. The White Paper on Developing Northern Australia predicts a sharp increase in the scale and breadth of activity in the industry as part of sustainable development of the north. Most of the proposed development to new agriculture clearing has NOT been in reef catchments - but in the Gulf Plains.

The result of this Bill for Queensland consumers will be more expensive fresh produce and loss of jobs. This will ruin the productivity of our native rangelands through increased woody tree species, which will increase runoff and be bad for the reef through less groundcover. It is not trees that protect the reef – it is groundcover. This is a well-known soil conservation principle, outlined in the 2015 Soil Conservation Guidelines for Queensland.

Queensland's tree/shrub cover increased its aboveground biomass and carbon content over the 20 year period 1993 – 2012. This is despite the fact that this timeframe coincided with a period of active broad scale tree clearing. Independent sensors on Japan's IBUKI and NASA's OCO-2 satellites now both show Queensland is a net annual sink for CO2. In other words vegetation is currently removing more CO2 from the air (atmosphere) above this State than is being added to it from the combined impacts of land clearing, plant respiration, fire, fossil fuel use, adjacent ocean outgassing etc.

Agricultural production and environment can co-exist. We must move away from approaches that place economic and social development at loggerheads with the environment. They are not diametrically opposed. Farmers must be allowed to manage their vegetation in a practical, environmentally sustainable way, which will be impossible under the proposed Bill.

Additionally, many indigenous and non-indigenous communities, particularly in the Cape and Gulf, aspire for Agricultural development to provide employment and opportunity in what is a low socio-economic area. These opportunities should not just be afforded to southern areas. A one-size fits all approach to vegetation management on a state-wide basis denies the opportunity to parts of north and western Queensland; areas such as Einasleigh Uplands, Gulf Plains, Cape York, Desert Uplands, North-west Highlands, Mulga Lands, Mitchell grass downs and Channel Country. Areas where there is untapped potential for improved productivity through sustainable development of better soils. Many struggling small rural and Indigenous communities, within the State's Far North and Gulf, would stand to benefit greatly from the much needed social and economic opportunities that this suggestion would present, through carefully planned and appropriate agricultural development. This is a region with over 90% remnant vegetation – an intact landscape that can have a sustainable level of development. The changes to the Bill are going to ensure our Indigenous communities are never given the opportunity to the self-sufficient, subjecting them to poverty and low employment rates, ensuring some of their social problems continue.

CONCLUSION:

Science shows thickened tree cover can increase runoff, adversely affect regional ecosystem functioning, and reduce biodiversity. The work conducted by Bill Burrows, over 40 years in DPI, showed that our Eucalypt woodlands are actively thickening. Queensland's tree/shrub cover increased its aboveground biomass and carbon content over the 20 year period 1993 – 2012. This is

despite the fact that this timeframe coincided with a period of active broad scale tree clearing. This conclusion is based on satellite sensor measurements, with the findings strongly supported by a large number of complementary studies employing many different monitoring techniques. The data presented here shows that this State is a net sink for CO2 overall. Queensland is more than pulling its weight today, both nationally and internationally, in ameliorating CO2 build-up in the atmosphere. Restricting tree/shrub clearing to simply further increase carbon sequestration on land assigned for agricultural purposes seems to be an unnecessary impost, devoid of fairness to the landholder.

Regrowth management is an essential component of any previously countenanced woodland clearing program on Queensland's rural land. However, regrowth should not be cleared from land showing signs of active erosion and landscape instability following the initial clearing. Clearing woodland is only effective, and the increased agricultural production and economic benefits from it only certain, when the regrowth, which inevitably follows clearing, is itself controlled. It is illogical in practice and intent for the State to permit tree clearing, and then retrospectively prohibit the control of regrowth from that clearing. Such action will not lead to the restoration of pre-clearing biodiversity, nor restore the structure and composition of the original woodland community.