

## ROYAL COMMISSION INTO NATIONAL NATURAL DISASTER ARRANGEMENTS

### A. Context

This submission concentrates on TOR b) – my core skill set being in natural resources management. At the same time the submission builds on my various experiences including:

- the response to many cyclones in tropical Qld [my farm is on the Eungella Tableland];
- the 2018 Eungella Rainforest wildfire that was halted on my farm;
- the 2019 Shark Creek – Yuraygir wildfire that was halted on the edge of Angourie village, my other residence;
- prior periods as a volunteer in NSW RFS and as a Reservist, RAN;
- a 25+ years interest in native and plantation forestry with an excess of 20 ha of hoop pine plantation on my farm and membership of Australian Forest Growers;
- as a volunteer on various aid projects, multiple observations of forestry as predominantly short term profit taking in our near neighbours including Laos PDR, Vietnam, Solomon Islands, Papua New Guinea and Fiji;
- my science leadership in repairing Australia's estuaries and their productivity; and most importantly
- my track record to perceive points of critical intervention for the benefit of Australia's rural communities and landscapes and to translate these intervention points into major programs of investment to benefit Australia and was basis of why I was awarded in 2018 the Australian Medal.  
[e.g. \$50M National Land and Water Resources Audit, \$1.4B National Action Plan for Salinity and Water Quality; \$360M Reef Rescue I and II; \$12M Climate Adaption for Australian Fisheries and Marine Biodiversity; and \$20M Revitalising Australia's Estuaries.]

### B. Suggested Way Forward

In brief, our management of Australia's natural landscapes does not factor in the increasingly important externalities related to wildfire, drought, flood and cyclone. These externalities are increasingly important because of more people in our rural and peri-urban landscapes, because of a changing climate and because of our inter-dependence on these landscapes for economic prosperity and social wellbeing.

Likewise, our imports of low-priced timber products do not recognise the externalities and impacts in their countries of origin.

Its timely to rethink how we manage the Australian landscape for maximum community benefit and how best to factor in externalities to all our trade arrangements.

Our way forward should include:

- 1 - **rewatering the excessively drained Australian floodplain landscapes** – fire cannot start under water. Repaired floodplain landscapes increase our fisheries productivity - both rural jobs and the healthiest food.
- 2 - **taking a catchment systems approach to all our land uses** – maximising the utility of rainfall and minimising the threat of severe drought.
- 3 - **markedly increasing the price of Australian native hardwoods**, with commensurate increases to the price of any imports to ensure competitiveness – and the higher returns from forest products re-invested in forest management.
- 4 - **actively training our Australian Defence Forces as first responders for Australian emergencies** – supporting Australia and its people first and allowing our competent Defence Forces to further their skills and commitment to Australia.

## C. Response to Terms of Reference

- a. *the responsibilities of, and coordination between, the Commonwealth and State, Territory and local Governments relating to preparedness for, response to, resilience to, and recovery from, natural disasters, and what should be done to improve these arrangements, including with respect to resource sharing;*

This issue of lack of consistent and competent leadership seems to come up whenever we have a natural disaster whether in the short term like flood, cyclone or wildfire or the long term such as continued loss of biodiversity, fisheries productivity or changing climate.

Certainly, my Reserve training as an officer emphasised the importance of leadership and central command. Applying the ADF concepts and probably ADF leadership to short term disaster management is essential.

Rethinking Australia's economic and social trajectory, to benefit its people and its landscapes into the future is also essential for our future. Vision, leadership and community coherence is preferred. Unfortunately, we seem as a nation to suffer from self-interest and short-term profit taking.

I use re-watering Australia's floodplains and restructuring native forest management in response to TOR b) as examples of how Australia can be smarter in its landscape management for maximum community benefit.

- b. *Australia's arrangements for improving resilience and adapting to changing climatic conditions, what actions should be taken to mitigate the impacts of natural disasters, and whether accountability for natural disaster risk management, preparedness, resilience and recovery should be enhanced, including through a nationally consistent accountability and reporting framework and national standards;*

In the wake of catastrophic fires this summer and droughts and floods over recent years, we as Australians needs to re-think how to best manage our landscapes.

There will always be droughts, floods and fires, but with smart land and water management we can manage and minimise the risks. We can take practical action—independent of any specific climate change policy to re-water and safeguard the landscapes where we live.

We can skip the ideological roadblocks that seem to dominate discussions on climate and manage our landscape in ways that preserves its natural beauty and utility and that:

- benefits Australia's social, economic and environmental wellbeing,
- minimises risk of fire, flood and drought and,
- mitigates against a changing climate and the air pollution that causes cancer and early mortality in well over 3000 Australians annually.

We can take practical action on our coasts, in our forests, and for our rivers and soils:

### i) **Rewater our coasts – no wildfires under water!**

It's as simple as it sounds: return the water to our floodplain systems to ramp up seafood productivity, improve flood protection, and minimise fire hazards.

Major NSW fires, including the Port Macquarie – Lake Innes fire and the Shark Creek – Angourie, started in peat. Once it's burning, its nigh impossible to extinguish. Peat naturally occurs in wetlands and is usually covered with tidal and brackish water. This combination is also the powerhouse for fisheries production. The Lake Cathie and Port Macquarie Rural Fire Services spent many days and

many megalitres of water trying to put out that peat fire *well before* it became the koala killing major catastrophe.

Why on the driest inhabited continent, have all states been so focused on draining water out of the landscape? Particularly from water that otherwise would produce the best, and least carbon intensive protein – natural seafood. Rewatered peatlands also won't burn!

As an example of profitability, north coast NSW would produce about \$14,000 to \$25,000 per hectare of school prawn productivity every year once we rewater these peatlands [e.g. *Estimating the Potential Fishery Benefits from Targeted Habitat Repair: a Case Study of School Prawn (*Metapenaeus macleayi*) in the Lower Clarence River Estuary* Matthew D. Taylor & Colin Creighton, WETLANDS 2018].

Yes, there will need to be investment – creating jobs. Smart re-design to maximise floodplain functions for multiple benefits will need to include:

- works programs to relocate levees, enlarge bridges and other causeways that restrict tidal and flood flows, so connectivity and re-watering is permanent;
- initiatives for key swamps, perhaps acquisition and definitely rehabilitation of poorly designed existing drainage schemes re- establishing estuary function and markedly minimising the risk of wildfires forever;
- multi-objective floodplain management and upgrading of flood protection for key assets like urban areas and related infrastructure

Managing our landscape in this way provides obvious environmental benefits, but also economic ones. Expect a 5:1 return on investment just from enhanced seafood production within less than 3 years. And through enhanced *blue carbon*, there is a direct benefit to helping us meet our Paris targets. On top of this, there is benefit of improved urban amenity, agricultural productivity, and the ability to catch a feed of fish.

ii) **Rebuild our upper catchment native forests – with profits returned for smart forest management.**

Perhaps in the context of the recent megafires it seems crazy to re-establish our native forests but think again. We need public policy and management systems that minimise risk. We need well-resourced and managed access to forests, hazard reduction burning, while retaining and repairing our biodiversity. Most importantly in a dry continent, we need certainty of catchment water flows that persist well into dry times.

We need to recognise that our forest hardwoods are a valuable resource. To that end, governments should increase the royalties and stumpage returns of Australia's native forests at least 10-fold, preferably up to 30-fold and reinvest these funds in forest management. It's time we appropriately recognised the multiple values of our wonderful hardwood forests and invested in their ongoing management, accordingly, including planting more native hardwood forests to maximise certainty in water yield on both sides of the Great Dividing Range, where our native forests grow best.

This means managed forestry rather than profits to consolidated revenue. Incidentally forestry is one of our best opportunities for natural resource sustainability and carbon sequestration. The emphasis should include well-planned networks of access roads, mosaic systems of harvesting, regular fuel-load based hazard reduction burning, re-thinking planning approvals for dwellings nestled in high hazard forest areas and well managed buffers to urban areas. It also means increased carbon locked up in timber products or in various reserve areas such as along key waterways.

Investment in improved forest management and increased native hardwood plantation forests means jobs, especially in rural economies suffering from drought and fire. Much can be done by

resourcing existing agencies and the private sector. Importantly, as timber products become more valued over time, the resources returned for forest management ensure reduced risk in perpetuity.

It means less wildfires through more capacity to minimise risk while we also repair our biodiversity. It means more resources for our emergency services, improvements of our catchment water yield for urban and agricultural uses and more locked up carbon. Multiple wins whatever your policy emphasis.

It also means more water. Remember that about 60% of rain that falls on a forest then trickles down branches and slowly infiltrates the soil. More forests mean regular and consistent water flows rather than rapid flood-making runoff, and more certainty in long-term and persistent catchment water yields. This is good for our creeks and rivers. Our downstream water users, including the koalas and birds will thank us for a well-managed landscape!

### iii) **Rivers and Soils – smart management to minimise drought and maximise profitability**

Fire and drought are companions. A well-watered landscape while not fire-proof is less of a fire risk. What can we effectively do to increase water in our Australian rural landscapes?

Australia has lost stream flow persistence and water from across our landscape, our creeks, rivers and wetlands. As with our coastal floodplains, our practices of drainage are counter-intuitive to the needs of a well-functioning and profitable landscape. The flow of water in our creeks and rivers is now peaky when once it was less variable, with water staying in the landscape and continuing to flow into our creeks, wetlands and rivers all year around.

Rain runoff is now rapid. Why? Because under 'traditional' or European agricultural and grazing practices we have compacted our soils, overgrazed our pastures, totally cleared the landscape, drained the wetlands and cleared vegetation up to creek and riverbank. This has markedly reduced our soil's water holding capacity and we've lost soil carbon. The result is less infiltration of rain to soils, less water holding capacity and less water to subsurface flows and groundwater. Creeks and rivers now run dry earlier and more often.

Much of Australia has been in drought for the past two years. But on farms where the needs of the landscape are taken into account, creeks still run, the cattle are still fat, and the crops are still growing. During drought, productivity may be reduced but in these times of commodity scarcity profitability is maintained. It's smart farming and there are many farmers that will never need to access drought subsidies or low interest loans simply because their practices are well aligned to the Australian landscape.

The challenge is to make these smart Australia-aligned practices mainstream. To re-think our agricultural practices towards those that better suit our drying landscape. At the broader scale Australia lacks a systems approach to water use for an entire catchment. This must consider its creeks and rivers and its multiple beneficiaries– urban, irrigation, stock and domestic, instream and wetland waterfowl and biodiversity.

At the farm scale the improved practices are simple to implement. For all cropping systems stubble mulching, controlled traffic and an emphasis on soil health – physical, biological and chemical will maximise in-situ water holding capacity, water across the entire landscape and most importantly farm profitability.

For grazing systems, it is as simple as '*look at your pasture not the beast*'. Practices such as crash or paddock by paddock grazing, land fenced to land type, exclusion of cattle from watercourses,

varying stocking rates reflective of the climate, spelling to maintain palatable and productive pastures, focusing on turnoff rather than total stock numbers have been around forever. Yet many farmers persist in turning their most valuable resource—their pasture—into bare soil and hard pans. The result—dust storms descending on our cities, and loss of key nutritious pasture species, and slow recovery when it does rain.

**iv) Agricultural investment and environmental repair – short term investment for long term gain**

Incentives for smart agricultural practices – expediting the uptake of more profitable cropping systems can be quickly rolled out through producer and natural resources groups. Incentives for grazing systems likewise – fencing by land type, watering points, watercourse protection and enhanced pasture orientated grazing systems. State and Federal Government investments into these incentives for smarter farming and grazing are already in place – field tested and found profitable and easily implementable in the Great Barrier Reef catchments. The logical extension is to extend investment and facilitate change Australia-wide.

Let's hope we can turn the smoke screen and the multiple traumas resulting from recent policy inertia into smart positive actions for the Australian economy, our social well-being and our environment.

- c. *whether changes are needed to Australia's legal framework for the involvement of the Commonwealth in responding to national emergencies, including in relation to the following:*
- i. *thresholds for, and any obstacles to, State or Territory requests for Commonwealth assistance;*
  - ii. *whether the Commonwealth Government should have the power to declare a state of national emergency;*
  - iii. *how any such national declaration would interact with State and Territory emergency management frameworks;*
  - iv. *whether, in the circumstances of such a national declaration, the Commonwealth Government should have clearer authority to take action (including, but without limitation, through the deployment of the Australian Defence Force) in the national interest;*

Vision, leadership and coherent action – a welcome framework for a robust and resilient Australia. The complexities of a federated system of States, Territories and competing agencies and agendas often means that we can lose sight of the common outcomes we seek because we are mired in process. Probably Australia requires an improved legal underpinning. Definitely we need simple easily communicated policies. I make one very basic suggestion – ***if its drought declared it is automatically also a total fire ban.***

Hoping these brief suggestions are useful,

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