SUBMISSION

on the proposed

BIODIVERSITY ACT

Prepared by

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1 March 2024

ABOUT THE AUTHOR

Des Menz is a civil/environmental engineer based in Port Lincoln. He has lived in rural South Australia for 56 years. For the past 40 years he has been a keen observer of the progression of global warming issues, the subsequent transition of climate change awareness, and biodiversity impacts.
His family history in South Australia began in 1865 with the arrival from Prussia of his paternal forebears, who then became involved in what has become one of South Australia's greatest, and perplexing, environmental and biodiversity issues - land clearance for agriculture.

Des has an abiding interest in educating the community about the environment and ecology.

[redacted]

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1 INTRODUCTION

The state government is commended for introducing a proposed Biodiversity Act, but it has been a long long time in coming. Ever since the *Native Vegetation Clearance Inquiry* of the 1970's - 50 years ago now - there has been an ever-rising rate of natural world extinctions in South Australia. But landscape change existed well before Europeans arrived. Aboriginal occupation over many millennia had generated changes and extinctions[1], but never at the scale as when Europeans arrived.
As we know, native vegetation clearance from the 1850's in South Australia decimated terrestrial biological diversity. The landscape that was plundered in the succeeding 130 years since the 1850's, was as a result of colonial government policy.
Since the first *State of Environment* report in 1988, followed thereafter every 5 years, the decline of biodiversity has been recorded. It is indeed a sad tale.

By its own admission in "Developing a Biodiversity Act for South Australia - Discussion Paper" we humans are living in the midst of a biodiversity crisis. It is said that South Australia is home to more than 20,000 marine and terrestrial species, many not found anywhere on planet Earth. We are told that 1,100 of these species are listed as threatened with extinction.
We are told that Australia has one of the highest extinction rates in the world and is "ranked as second worst among 7 countries responsible for 60% of the world's biodiversity loss between 1996 and 2008"[2].
It is an appalling record. But it didn't all start in 1996, it was a couple of centuries in the making. Wilful destruction, exploitation, wilful blindness!

I am sanguine about the absence of a sense of history in all parts of our lives. No one wants to look back in time. We constantly hear that wretched term "going forward", as if we should ignore the past and not learn from it. It is to our peril.

The Discussion Paper and a bit of information at the YourSAy website is what the general public has been given, but there's a lot more to the issue of biological diversity than that. Therefore, the comments in my submission refer to not only the contents in the Discussion Paper, but also involve my training, observations and understandings, readings, and personal experiences and biodiversity undertakings.

Over many years, I have presented submissions on a wide range of issues, and with little exception there has been no feedback. Some might say it is dispiriting. I hope that this latest Biodiversity Act process does not fall into that same category.
There are many informed and well-meaning people in the community who contribute their time to reversing environmental damage. They are a tiny minority. It can be a hard slog. Real community engagement seems to stall when particular topics and development proposals are up for comment and participation. It is as though it all becomes too difficult.

So my first message is this - seek out these voices, fully engage with them, facilitate real empowerment, sponsor community action and citizen science, educate the extractors of resources, reboot the TAFE system delivery of education for all about the environment and biodiversity, create a perpetual fund, elicit change, persist.

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1 Ref. Nance C, Speight D.L., 1986, "A Land Transformed - Environmental Change in South Australia", Ch. 2

2 Discussion paper, pg. 2

I use this icon ◉ to signal a target, and this icon ✤ to frame a question.

2 TWO BIODIVERSITY FORKS

I have already mentioned a trace of history. Today in South Australia, we are left with what remains of biological diversity from nearly two centuries of exploitation. In the first century and a half, biodiversity was not factored into decision-making, and only in the last 50 years has some semblance of consideration been applied.

One fork of the biodiversity problem is about what now exists, and in terms of terrestrial biodiversity it is the remnants of what once was. It is there for all of us to see, but only if we know what came before. And this is the problem. I suspect that humans born in rural landscapes today see their surroundings as the way it always was, and not for the immense change that was wrought through land clearance. The glorification of mallee scrub clearing to 'open up' the land, irrigation development, and the introduction of herd and other animals, supported by government policies and two post-war soldier settlement schemes, are testament to the economic imperative.

Consider the following statement at pg 4 in the Discussion Paper. "The act is intended to support business and the state transition to a more sustainable, productive and healthy future. A new Biodiversity Act could be seen as the state's key piece of environmental legislation with strong influence over actions taken within the state that are likely to have impact on matters involving biodiversity."

I am not critiquing the Discussion Paper, but it seems to me that words like those above are very troubling. How and why should a Biodiversity Act support business? Should it not be about biodiversity and nature? Should there not be a reconciliation with past actions that were about dominating the landscape?
And are these words and others like them in the Discussion Paper an admission of failure to properly apply existing law?

The question that is apparent to me is …
✤ Will the Biodiversity Act just be about conservation of what remains of biodiversity?

The other fork of the biodiversity problem is about the lands and waters that have already suffered transformation, the damaged pieces and the habitats destroyed. History says that the wheat frontier was front and centre in this transformation. Today the remnants of failed cropping ventures and destroyed watercourses abound in the landscape. Disconnections and disruptions to biodiversity continue.
What is to be done about those? Should they be left idle, untouched, unloved?

In past years I have engaged with investigations about many parts of the agricultural landscape, particularly in the region known as the Mid North. Substantial work was committed 20 years ago by the government of the day to understand the condition of those declining natural systems, but because of subsequent erratic funding and altered government policy priorities, that work never transferred into perpetual undertakings.

In 2014 I met with a government Minister[3] and put to him a statewide proposal to resurrect biodiversity and support rural communities by creating a revegetation scheme involving the thousands of kilometres of vacant road reserves and hidden government land (e.g. water reserves), and at the same time participate in the Carbon Farming Initiative program that was around at the time. The Minister's responsibilities included Regional Development, so I presented "Ideas for Change" to him. The project had a significant rural economic uplift, but it did not receive traction. An opportunity lost.

In 2012 I presented a submission to a Select Committee on Sustainable Farming Practices. On retrieving it from my archives, it is a very sad read only because 12 years has now gone and no progress has been made towards landscape reconciliation. It was all about solutions for the next 50 years, and was based on the science at the time. I did not receive an acknowledgement from the Committee. Another opportunity lost.

Solutions are available, commitment is not.

✣ How will the Biodiversity Act address the need to rehabilitate the lands and waters wrought by past actions?

3 WHAT SHOULD A BIODIVERSITY ACT CONVEY?

3.1 Context

We must start with context about WHY a Biodiversity Act is necessary. After all, there are many laws in South Australia and nationally that convey a range of protections, but these laws have continued to fail biodiversity.
Minister Close's message in the Discussion Paper commences with the opening sentence - "Our state's biodiversity is our life support system". It is then followed with "two clear threats … climate change and biodiversity decline", to provide "legislation to secure nature and biodiversity", being a "leader in biodiversity management", "laws do not reflect the modern and significant challenge of biodiversity loss", but then slants the message to "prosperity" and an economic paradigm.
With due respect to the Minister's, it disappoints me in having to expose the Minister's failings in a crucial development proposal that is under assessment right now. This proposal is used as an example later in this submission. The proposal will devastate biodiversity in an area acknowledged as a biological hotspot. The proposal has the financial backing of both state and federal governments past and present, and is being sponsored by the state planning bureaucracy. The Minister's conflicted portfolios are very disturbing. Wilful blindness is all pervasive!

Let's commence with three contexts that are applicable to framing the Biodiversity Act.

Context 1
In the national context, Australia is a party to the UN Convention on Biological Diversity (CBD) and has been since 1993. Australia's obligation as a Contracting Party is to provide a "report every four years on the measures

[3] My local member at the time was Geoff Brock.

taken to implement the Convention's Strategic Plan and Aichi Targets, and implementation of the national Biodiversity Strategy and Action Plan."[4]
The latest and sixth report documented the period 2014 - 2018. The 2018 - 2022 report is not yet available.

- As a state in the Commonwealth, it is implied that South Australia is also a party to the CBD, and therefore it would be prudent for the new Biodiversity Act to complement and reference requisite national actions.

Context 2

Australia's Strategy for Nature 2019-2030[5] which is at Australia's Nature Hub website, "is the overarching framework for all national, state and territory and local strategies, **legislation**, policies and actions that target nature."
The SA Department for Environment and Water (DEW) is a member of Australia's Nature Hub, as is the Australian Local Government Association of which LGASA is also a member, and by implication so too are all local governments in South Australia. In the example below, DEW, commonwealth departments and agencies, and one SA local government authority have completely ignored the implications of state and national biodiversity responsibilities. Siding with the proponent makes a mockery of *Australia's Strategy for Nature 2019-2030*.

- State organisations including local governments should be written into the Biodiversity Act to compel protection and action.
- State approaches must be consistent with national strategies and laws.

Context 3

The International Union for Conservation of Nature (IUCN) vision is "A just world that values and conserves nature"[6]. South Australia's Department for Environment and Water (and all its former entities) has been an IUCN member since 1985[7]. The IUCN operates six Commissions. But DEW, Minister Close's and former Minister Speirs own department, has demonstrably ignored its responsibilities, and once again the example described later will demonstrate this wilful neglect.

- The Biodiversity Act should acknowledge and enshrine South Australia's membership of the IUCN.

Why include context?

As will be described later, it is apparent that a cognitive dissonance prevails within the core of key decision-makers (i.e. government, parliament, Ministers, and bureaucracy) when larger scale or extra-ordinary developments in particular are under consideration. Obligations as described in the afore-mentioned contexts have demonstrably been cast aside. In my view, this very serious matter is rooted in three problems.

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4 Ref. https://www.dcceew.gov.au/environment/biodiversity/international/sixth-national-biological-diversity-report

5 Ref. https://www.australiasnaturehub.gov.au/national-strategy

6 Ref. https://www.iucn.org/about-iucn

7 Ref: https://www.iucn.org/our-union/members/iucn-members/department-environment-water-and-natural-resources-sa

(1) Loss of memory

Institutional amnesia occurs when policy-relevant knowledge is lost over time. It is nothing new and infects both government and corporation. In the examples I describe later, it is apparent that government agencies have either chosen to ignore environmental parameters (i.e. intentional memory loss) or the employees within those agencies have become victims of a 'fool's paradise' where old terms such as "ecologically sustainable development" have become meaningless in terms of the language of the government of the day.

This scenario is given effect by four explanations[8];

- organisational churn
- absorptive capacity
- strategic forgetting
- historic storytelling

In our examples later, 'strategic forgetting' ranks as the most egregious of all the behaviours that emerged in relation to biodiversity protections. It was wilful amnesia that has sullied the performance of and public trust in various public sector agencies.

- In framing the Biodiversity Act, it will be essential to ensure that such behaviours are negated if not annulled entirely. Otherwise, biodiversity protections will fail at the first hurdle.

(2) Community engagement only when it is suited

Modern biodiversity management is about community engagement as is alluded to in Topic 9 in the Discussion Paper. But once again, wilful blindness to the views of local communities can result in a high risk of public distrust and disrespect for projects. Although our democratic principles assert community consultation from the very beginning of any new proposal, too often governments and Ministers fail to understand or even apply their own charters and codes of conduct[9].

One of the failings in the South Australian environmental arena is there is no model or code or "practice direction" about community engagement relating to environmental protection when development proposals, particularly those that are 'declared major developments or projects', are under consideration. There are no checks and balances that reinforce the decision-making system. There are no pre-planning or pre-project requirements that are enforced about community engagement.

This absence of proper community engagement structure imperils biodiversity protections, because what remains of biodiversity in South Australia is left to just a few deeply concerned citizens and committed organisations such as the Biodiversity Council to provide a voice for.

The Department of Premier and Cabinet talks about the *Better Together* principles[10]. But they count for nought when particular proposals come before the government of the day and are so convincing that wilful blindness sets in. This matter is discussed in the next section.

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8 For further understanding, see … https://onlinelibrary.wiley.com/doi/10.1111/gove.12364
Another explanatory article is … https://ojs.victoria.ac.nz/pq/article/view/9046/8029

9 I have first-hand experience with this matter. When discussing major breaches of the law and codes of conduct with my local MP in June 2022 in relation to the proposed Whalers Way orbital Launch Complex, he was dismissive of the necessity for Ministers to abide by their Code of Conduct. I was flabbergasted. He is a Shadow Minister, so what does that say about his allegiance to accountability and to the broad community?

10 Source : https://www.dpc.sa.gov.au/responsibilities/community-engagement

Local governments have their own community engagement policies, but again, they can be easily set aside.

In part 3.2 below I discuss why and how community engagement matters.

- Community engagement in its various forms should be written into the Biodiversity Act because other laws have failed the test.

(3) Absence of education about obligations and the law

This aspect relates in part to loss of memory, but it is also about changing belief systems particularly within the political arena. The wave-effect is prescient. Just think environmental history education, or land use and landscape change education, or how economic development impacts on so many natural systems. The amplitude of that wave might stretch for a decade or so but inevitably the trough arrives and once in there, it requires a lot of inertia to move an great matter of concern out of it. This is what is happening right now with biodiversity.

We have known for decades about the 'biodiversity crisis', but to get traction out of that wave-trough is exceedingly difficult. And the reason why is because of all the other competing interests - e.g. cost of living, mortgage stress, lack of housing, inflation, defence expenditures - that affect decision-making in the political arena and in peoples' lives.

Thus when a tempting new proposal comes along it is seized upon by the key political decision-makers as a path to 'salvation', thereby subverting the right and proper process. Example 1 below illustrates my point.

To turn this around, a sustained and gradual program of education throughout our parliament, bureaucracy, local government, business, and the wider community should be introduced. Why parliament and the bureaucracy? Because both have failed to uphold the law.

I suggest we start at grass roots - local communities and local government - and accordingly a solution is offered at the end of this submission.

- Education should be a key responsibility of a new system of environmental and biodiversity action.

3.2 Will the Biodiversity Act fix existing law?

(1) A glimpse at several key laws

The *Planning, Development and Infrastructure Act 2016* is, or should be, an integral piece of law that relates to biodiversity protection. Sec. 62A of the *PDI Act* is about a "specific state planning (biodiversity) policy that specifies policies and principles that **are to be applied** with respect to enhancing biodiversity and minimising adverse effects of development on biodiversity within the State."

As with all other policies, **State Planning Policy 4 : Biodiversity** is a non-statutory document that does not need to be referred to in development decision-making. The policy has no teeth, and it is doubtful that it is referred to at all. Development proposals of the declared 'major development' kind are able to proceed at the whim of government.

Thus the threats to biodiversity can be ignored if a particular and enticing proposal comes before government. This is exactly what happened in our example described later.

I have already mentioned community engagement, but there's more. Sec. 44 of the *PDI Act 2016* is about a **Community Engagement Charter**. PlanSA developed a "Community Engagement Charter"[11] a few years ago, but it is not mandated that the charter relates "to the assessment of applications for development authorisations" (Sec. 44(8)). As described later, PlanSA or more accurately Planning and Land Use Services (PLUS), chose not to consult with the community about a proposal that will have grave ramifications for biodiversity. Sec. 44 (11) gave PLUS an out clause.
But Sec. 44(12) also allows State Planning Commission to direct an "entity to comply with the charter". That entity could be PLUS. Again in our later example, no such direction was undertaken.

We should be reminded that biodiversity IS the environment and vice versa.

We are advised in the Discussion Paper that seven state laws and the federal *EPBC Act 1999* contain provisions to varying extents about protection of biodiversity. An eighth state law - the *Environment Protection Act 1993* - also contains important environment provisions. For example, **Sec. 10 - Objects** contains principles about 'ecologically sustainable development' and the 'precautionary approach to the assessment of risk of environmental harm and **ensure that all aspects of environmental quality** affected by pollution and waste … are considered in decisions relating to the environment'.
Sec. 25 in the *EP Act* is about a **general environmental duty**, and of course there is the Environment Protection Authority.

Topic 9 in the Discussion Paper discusses a "general duty of care" and enforcement thereto, and then considers a 'biodiversity duty of care'.
It has been demonstrated time and again that a general environmental duty has not been consistently and universally upheld as required in the *Environment Protection Act 1993*.

- A 'biodiversity duty of care' is essential if ever we are to arrest the further decline in biodiversity status, and thus it should be a central plank in the Biodiversity Act.

The *Landscape Act 2016* and *Native Vegetation Act 1991* also contain critical sections of relevance, and we know that there are laws in place for biodiversity and environment protection. So what's the big problem?

(2) Laws are made to be broken

In addressing this matter, I offer examples to illustrate the difficulty that the Biodiversity Act could be confronted with in terms of universal acceptance and application. It is a risk to the implementation of the Act.

A common refrain is that "laws are made to be broken", and so they are. Some of the most invisible law-breakers are the politicians whose job it is to make the law and uphold it. This is a major problem that confronts protections for biodiversity and the environment generally, in addition to undermining our democratic principles.

To illustrate, we now come to that example allude to previously. It was declared a "major development", but it was on land that contains a long-standing Heritage Agreement, is located in a "Conservation Zone" as

11 Source : https://plan.sa.gov.au/__data/assets/pdf_file/0011/492176/Community_Engagement_Charter_Tool_-_Principles_in_action.pdf

described in the *Planning and Design Code*, and importantly it contains state and federally listed endangered and threatened flora and fauna species, and is also in a High Bushfire Risk area with extreme sectors. One would think there were adequate protections under the law to ensure that an incompatible proposal would be rejected at the first instance. Not so.

Example 1

The proposal is an orbital launch facility - i.e. rocket launching. The site is Whalers Way at the bottom of Eyre Peninsula, which is an acknowledged biodiversity hotspot.

The proponent identified this site not on the basis of a rigorous environmental and biodiversity analysis, but on convenience for a range of reasons. The proponent was a commonwealth public service employee at the time, working for Department of Defence, which makes the whole matter even more serious. The employee and Defence ignored all the limitations attendant with the land and the adjoining marine zones. They abrogated their responsibilities under Sec 28 of the *EPBC Act 1999*.

But the idea of a rocket launch complex mesmerised the state government and the Premier of the day (2018), who then without any due diligence of the biodiversity sensitivities of the land, nor of the land use zoning, and without the proposal having any Development Approval, publicly announced Whalers Way Orbital Launch Complex on 4 December 2018. It was contrary to the Ministerial Code of Conduct and to the planning system operable at the time. Three days after this initial announcement, on 7 December 2018 $650,000 was allocated to kick-start the proposal by the state government[12]. No community engagement was undertaken. No biodiversity risks were assessed.

What followed thereafter was a chain of wrongs and unlawful decisions that have involved state and federal Ministers, has resulted in the state's planning organisations becoming deeply compromised, revealed a fabricated planning pathway, and has exposed serious conflicts of interest in the bureaucracy at state and federal levels. State Planning Commission breached its Code of Conduct, and its committee SCAP breached the *Planning, Development and Infrastructure Act 2016* in allowing test rocket launching to proceed without any environmental and biodiversity assessment of the land.

Above all, it has exposed secret deals that have been undertaken between the state government, the proponent, and the federal Department of Defence to advance the proposal at Whalers Way knowing that grave risks would be placed on listed terrestrial and marine endangered species[13].

Five questions arise, all of which are risks to the proper and lawful administration of the proposed Biodiversity Act.

- Behind all the aforementioned matters lies a key question that should resonate in the drafting of the proposed Biodiversity Act and how it would function - will governments bow to the whim of developers and allow biodiversity to be traded-off? Offsets should never be a first option.
- Will the Biodiversity Act succumb to such egregious behaviour? In other words, will the Act be strong enough to resist the overtures from developers who are able to use lobbyists to produce a convincing case to governments?

12 I can provide full verification of all details.

13 As at writing, this case is on-going, and it has only been the unwavering efforts of a group of deeply concerned citizens who are contesting the validity of the proposal, that protection of remaining biodiversity on the land is being elevated to its rightful place.

- How can governments, Ministers, and the bureaucracy[14] be accountable for their actions and decisions prior to elevating a developer's proposal beyond the reach of the ordinary citizen?
- Should the Minister responsible for the Biodiversity Act also have responsibility for a competing portfolio? For example, the present Minister for the Environment (Deputy Premier Close) is also Minister for Defence and Space Industries. Both portfolios are at opposite ends of the spectrum in terms of biodiversity protection, so ostensibly the Minister has a conflict of interest, and this has played out during the Whalers Way Orbital Launch Complex progression through the Ministerial decision-making process. Even the Planning Minister, who is also Minister for Trade and Investment, and in whose department sits the planning organisation Planning and Land Use Services, is compromised.
- If existing laws and the planning system have failed to prevent the progression of the proposal, what chance will the Biodiversity Act have in becoming the first point of reference for development proposals?

When a 'biodiversity duty of care' is factored into a proposal, at what stage should it take precedence? In framing the Biodiversity Act, there should be no doubt about any conflict with other laws such as the *PDI Act 2016*. In my view, they should be made complementary and equal, even cross-referenced, so that developers and the public know precisely the values attributed to terrestrial and marine areas prior to commencing project planning.
But there's another problem, and that lies in the decision-making machine - government and the bureaucracy.

3.3 Decisions and Transparency

(1) The avoidance problem

Example 1 above revealed much about how governments make decisions, preferring economic outcomes above environmental and social outcomes. It is little wonder that the public trust is in a trough today.
Premier Marshall ignored ALL his government's policies, particularly the Biodiversity Policy of the day, and a range of planning and environmental laws and merely accepted without checks and balances, the story from the proponent. No ordinary citizen could do this and get away with it.
There was no transparency, secrets prevailed, and egregious collaboration between state and federal governments was the order of the day. Department of Defence abrogated its responsibilities under Sec. 28 of the *EPBC Act 1999*.
This is a biodiversity protection matter.

Topic 2 in the Discussion paper described "avoiding impacts". In the Whalers Way proposal, although state laws compelled Ministers to "protect the environment", they preferred to make their own rules. It was of no concern to Ministers of the Crown or the proponent that **"Matters of National Environmental Significance"** (MNES) existed at Whalers Way. Once the proponent had secured access to the land, governments orchestrated a pathway to ensure the proposal would happen.
Biodiversity did not get a guernsey. Thus, what is wrong with our laws?

- The application of **avoidance** was absent in the Whalers Way case, so how can the Biodiversity Act prevent this?

[14] Discovered through FOI are many documents implicating state government departments and their senior managers in a disgraceful and clandestine arrangement to compromise the biodiversity values at Whalers Way. I can produce evidence accordingly.

If 'avoidance' is over-ridden because of economic imperatives, what recourse is available to challenge a decision made in favour of a proposal that would impair biodiversity? Under current law it is a judicial review. This process is a poor substitute for proper ministerial and government accountability.
Surely, when a developer comes forward with a proposal that does not align with zonings prescribed in the *Planning and Design Code*, then **refusal should be invoked** as the first step in the mitigation hierarchy.
If the developer is able to provide convincing evidence to proceed, then the next step should be rezoning of the subject land. And that is where biodiversity offsets might play a role. But the bar should be set very high so as to avoid biodiversity loss.

- The opportunity should be taken during drafting of the Biodiversity Act to initiate another discussion about how to avoid the expensive and lengthy judicial review process. Here is one solution[15].

- The scope of South Australian Civil and Administrative Tribunal (SACAT) could be expanded to include planning disputes and environment, biodiversity, and resources decisions by government organisations, similar to how Victorian Civil and Administrative Tribunal (VCAT) resolves such matters.

(2) "Offsets" are no panacea

Aside from MNES, which contains reasonable rules about the process of referral, I am not convinced that "offsets" in the mitigation hierarchy can be applied to the advantage of biodiversity per se.
For example, the SA *"Policy for a Significant Environmental Benefit"* and *"Guide for calculating a Significant Environmental Benefit"* are at risk of maladministration, and once again the Whalers Way Orbital Launch Complex proposal is offered. It is a cautionary note for the proper function of the Biodiversity Act.
The next example illustrates the danger of trade-offs, which should never be countenanced when incompatible land uses are forced by the machinery of government.

Example 2

In the Whalers Way Orbital Launch Complex proposal, the SEB monetary offset as determined by the proponent's consultant for that project was a very poor response to both habitat destruction of an assessed 23.4 ha[16] and imperilling listed endangered species, as all it would do is allow a monetary price to be placed on the development to proceed at the expense of environmental and ecological systems that are already under stress from other influences such as climate change and human pressures.

Clearance of many hectares of coastal vegetation, and with a footprint extending to thousands of hectares that support endangered and threatened species in a highly valued biodiverse system, can not be reconciled by money or an offset at another location that ostensibly is completely different to the one that is destroyed. Indeed that has become the arrangement with a deal between other landowners and the proponent[17].

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15 I presented this idea to the Attorney-General in a letter dated 22 November 2022, but no reply was received.

16 My analysis revealed significantly larger possibility of habitat destruction, conceivably into the hundreds of hectares.

17 Presented in a substantially redacted document in the "Preliminary Documentation" prepared by the proponent for the federal Environmental Assessor. Adjudication will be undertaken following a report from the proponent (possibly in March 2024).

In our example, it is the habitat of the endangered Southern emu-wren and the Western whipbird that will be destroyed, thus placing another risk (totally un-necessary) on the survival of these birds. Late last year I attended a community gathering sponsored by NCSSA about the latest research on the Southern emu-wren. We learnt that following the Wangary wildfire of 2005, the few remaining Southern emu-wren that existed in the Koppio Hills were no longer there. A human-induced stressor event has induced another step to extinction for this rare bird.

What would a large-scale rocket launch facility do to this endangered bird? No industry is permitted in the Conservation Zone at Whalers Way, and yet the government thinks that a rocket launch complex would be compatible. To compound the problem, the proponent is attempting to build environmental credentials by sponsoring two PhD students from Flinders University to study the listed endangered birds at Whalers Way. In effect, the proponent is involved in a fitted-for-purpose project rather than fit-for-purpose.

And then there's the Eastern Osprey, a bird that has re-settled and bred in a nest at Cape Wiles seven years since last occupation. Cape Wiles is a part of the Whalers Way coastline and lies about 3 km from the proposed launch sites. The Eastern Osprey numbers just 50 breeding pairs for all of South Australia. And there is the White-bellied sea eagle that inhabits the coastline around Whalers Way.

Just last year, Environment Minister Close (who is also the Minister for Defence and Space Industries) released *"South Australian Recovery Plan for Eastern Osprey and White-bellied Sea Eagle"* following extensive public consultation commencing in 2021. This was during the time that the rocket launch complex proponent was undertaking "test rocket launching" (all attempts failed to launch a rocket), and yet government leaders had not considered the dire risks confronting the afore-mentioned birds. Wilful blindness!

The proposal has continued on its fabricated planning approval pathway, and the proponent has provided copious volumes of information, much of it flawed, much of it speculative, much of it based on modelling, all in an attempt to convince government planning decision-makers that they can co-exist with all the stressed biodiverse inhabitants at Whalers Way.

It is nonsense. What is the point of a Recovery Plan when it is ignored? And importantly …

- How can offsets be applied to coastal raptors?

The fact that an Eastern Osprey returned to a nest after many years of absence reveals much about how little is known about these protected birds. We humans have no idea how these birds think. They can not be relocated, but they can just be expelled as would be the scenario should Whalers Way Orbital Launch Complex be greenlighted.

Back to the native vegetation issue. The adjudicating body in our example is the Native Vegetation Council, but its record in the past is questionable. Let's consider it further.

Example 3

The NVC SEB system can be easily compromised as is evident in the consultant's appraisal for the proponent developer of Whalers Way Orbital launch Complex. The *Native Vegetation Act 1991* was rendered

meaningless. Consider the following, and I raise this matter because it is about the destruction of biodiversity.

Schedule 1 - Principles of native vegetation clearance in the NV Act says …

"Native vegetation should not be cleared if, in the opinion of the Council—
(a) it comprises a high level of diversity of plant species; or
(b) it has significance as a habitat for wildlife; or
(c) it includes plants of a rare, vulnerable or endangered species; or
(d) the vegetation comprises the whole, or a part, of a plant community that is rare, vulnerable or endangered; or
(e) it is significant as a remnant of vegetation in an area which has been extensively cleared

(k) —
(i) after clearance the land will be used for a particular purpose; and
(ii) the regional landscape board for the landscape management region where the land is situated has, as part of its regional landscape plan under the *Landscape South Australia Act 2019*, assessed—
(A) the capability and preferred uses of the land; and
(B) the condition of the land; and
(iii) according to that assessment the use of the land for that purpose cannot be sustained;

The NVC only needs an opinion but it still must have regard to the principles when determining an application for vegetation clearance (see Sec 3-Interpretation in the Act).

- An "**opinion**" should NOT be written anywhere into the Biodiversity Act because if it is, it would result in a corruption of process and weaken the whole Act.

An "opinion" could result in further biodiversity harm or loss, and therefore it should not be the province of Native Vegetation Council members to be given such power[18].

Now consider principle (k) above, a disjointed and confusing inclusion indeed. Returning to our Whalers Way example again, principle (k) implies that the Landscape Board would become involved in assessing "the capability and preferred uses … and the condition of the land". Whether this would happen pre- or post-clearance is not clear. And the way principle (k) reads is that the NV Council would take that assessment of the intended use (i.e. rocket launching) and assert it "cannot be sustained".
The syntax of principle (k) is very confusing, and open for litigation.

- The *NV Act* is not fit-for-purpose today and consequently the opportunity should be taken during the Biodiversity Act process to make appropriate amendments to the *NV Act* including the SEB Policy.

- Or maybe the *NV Act 1991* should be abolished and be included in an expanded **Biodiversity and Native Vegetation Protection Act**.

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18 I am equally disturbed about how State Planning Commission operates, of the questionable reporting processes and lack of oversight, of conflicts of interest, and of the risk of compromise because of the involvement of Planning and Land Use Services in steering the Commission along a fabricated pathway, such as has prevailed with Whalers Way Orbital Launch Complex.

This issue is expanded in a later part of this submission.

I have undertaken an analysis of the proposed vegetation clearance for the Whalers Way proposal in terms of the 10 guiding principles in the SEB Policy, and not one can be satisfied beyond reasonable doubt. Ultimately, the proponent's assessment has mocked the integrity of the SEB by placing a monetary figure on ecological disruption and extinction risk, so the question becomes;

- How can the integrity of biodiversity offsets be upheld under ALL circumstances in the Biodiversity Act?

In Topic 2 "matters for consideration" in the Discussion Paper, each of the four points is imperative, but the critical matter is about how the Biodiversity Act becomes the FIRST STEP in particular development proposals that are located on land or water with acknowledged and critical biodiverse systems. This aspect takes us to the next discussion.

(3) Planning and land use compatibility

- What is missing in the planning process that allows a proponent to advance many steps, and then the proposal is deemed to be too far advanced to turn back?

Through a constructed planning pathway, this scenario is happening with the Whalers Way Orbital Launch Complex proposal. The proponent knows about the biodiversity risks at Whalers Way and yet has still pressed ahead, with the blessing of the state and federal governments and the state planning system[19]. The proponent refuses to accept relocation to an appropriate site, and the state's planning organs also refuse to assist in finding an alternative site and to zone that site for commercial rocket launching.
Biodiversity is expendable.

- Will the Biodiversity Act contain procedures that over-ride or can be interjected into the planning process before it all becomes too messy and too late?
- Will the Biodiversity Act be part of a planning hierarchy and at the apex of potential land use changes involving known biodiversity hotspots?

Assistance in this arena can be made simpler by identifying every piece of land and marine area in the state containing valued, known, and to-be-identified biodiverse systems[20] and an aggregated register prepared. This includes, but not limited to;

- National Parks
- State conservation parks and reserves
- NGO conservation areas
- Crown lands
- Wilderness protection areas
- Native forest reserves
- Aquatic reserves

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19 Evidence of this matter can be provided.

20 See here for a start … https://en.wikipedia.org/wiki/Protected_areas_of_South_Australia

- Marine parks
- Heritage Agreement land

This requires an audit and inventory process to be undertaken.
For example, local governments contain many areas worthy of biodiversity protection, but they are not registered nor protected in a co-ordinated manner. Many have not been subject to an **environmental and biodiversity audit**.

Example 4

In my own town of Port Lincoln there is a remnant piece of coastal bushland called Murray Point. It sits near the SA wastewater treatment plant and next to the proposed water desalination plant. Adjoining are former industrial land uses. This land at Murray Point is 120 ha in area and is zoned **Deferred Urban**, a land use that was created decades ago but has been carried over into the *Planning and Design Code* without thought for the ecosystem that is presently supported.
It would be a travesty to see this last remaining piece of coastal mallee ecosystem disappear for housing development. How many are like this along the state's coastlines?

Example 5

To make matters worse, the proposed water desalination plant in the Murray Point area could impact irreparably the last remaining intact coastal mallee ecosystem of Port Lincoln. The proponent SA Water has not elevated biodiversity values to their rightful place. In terms of the marine environment, whilst detractors have offered scientific underpinnings, SA Water has relied on modelling. The latest news is that the brine discharge pipe will now be placed further into the ocean to ensure proper mixing occurs.
There is no quarrel with SA Water about its comprehensive community engagement process, but the intransigence about that site and SA Water's refusal to examine other options is disappointing at the least.
The risks to biodiversity have been diminished to such a level that trading-off has become the default position.

Examples 4 and 5 illustrate how little is known of the biodiversity assets lying in our landscapes and waters. In terms of terrestrial ecosystems, it does not matter what size they are - a fraction of a hectare, or a hundred hectares or more. They might be along roadsides, or on lands characterised as "water reserves" in the 19th century, or along old stock routes. These highly valuable areas must be protected from developments and inappropriate land uses that would result in the destruction of critical ecosystems.

- How can a Biodiversity Act project the essences of such land and water types into the *Planning and Design Code*?
- Local government must play a pivotal role in connecting the Biodiversity Act aspirations with a modern-day outlook on the environment via land use audits and inventories, and consequent appropriate zonings.

3.4 Planning and Design Code and Policy

As we know, land use is related to the application of the zone system. Thus it is essential that the Biodiversity Act strengthens the Code and not negates it, and vice versa. They should be complementary because one of the

most significant impacts on biodiversity is the exploitation of natural resources, the terrestrial component of which involves land use and zonings.

The many entries of the word "biodiversity" in the *Planning and Design Code* (at Desired Outcome and Performance Outcome) and the few in the *Planning, Development and Infrastructure Act 2016* are related to **State Planning Policy 4 : Biodiversity**[21].

As we have seen in the Whalers Way examples described previously, there has been an extraordinary breakdown in applying the Code and the Policy by none other than the planning organisations in the state, and this includes the State Planning Commission. There has been surreptitious conduct that has ignored the biodiversity risks at that locality. The Policy was not applied.
Indeed, and in a broad sense, the Biodiversity Policy has become meaningless because there is scant evidence that the eight policy areas were considered in the Whalers Way rocket launch proposal.

Policy 4 states - *"The Planning and Design Code should provide a suite of zones that support the protection of areas of biodiversity value and guide the types of land uses envisaged in these areas"*[22].
The Conservation Zone within which Whalers Way is located, has meant nothing.

If the Biodiversity Act is to become a key component of environmental law in South Australia, it must be more than words and statements. It must be an enforceable and enforced piece of law that integrates with other key laws and codes.
To this end, **Topic 6 - Biodiversity planning and reporting** will be a vital step to an integrated and consistent planning approach. Furthermore, this will require significant reviews of other legislation, changes in methodologies and measurement, and provision of on-going resourcing. But a mandated 'biodiversity plan' will be meaningless unless it is totally integrated into other legislation and becomes a pivotal piece in the planning process.

It is also about transparent and informed decision-making, and therefore a public register is fully supported.

Further to Topic 3 in the Discussion Paper and the reference to **ecologically sustainable development**, I return to my earlier statement about the *Environment Protection Act 1993*. Sec.10-Objects contains a significant description of ESD principles, but for 30 years it has been sub-optimally applied to development decisions.
Similarly, Sec. 7-Objects and principles in the *Landscape Act 2019* contains words about enhancing ESD.

Indeed, Objects of Acts seem to carry little weight in terms of legal argument, so the question for the Biodiversity Act becomes;

- How can ESD principles become primary lawful requisites in decision-making about biodiversity?

Consider the following.

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21 The Policy document was gazetted on 23 May 2019, and is a critical date in terms of the fabricated planning pathway that has been applied to Whalers Way Orbital Launch Complex. Later that year, the proposal was declared a "Major Development".

22 Policy document, pg 37

- The *Landscape Act 2019* has not achieved any semblance of landscape-scale change that is desperately needed. Under-resourcing has condemned the Landscape Board system to under-whelming effect.
- Come and gone is the "No Species Loss - a Nature Conservation Strategy for South Australia 2007-2017", a failure overall.
- We have had the "Prospering in a Changing Climate - A Climate Change Adaptation Framework for South Australia 2012", a document with a passing reference to biodiversity, and overall an abject failure in terms of implementation.
- "South Australia's Climate Change Strategy 2015-2050" has come and gone with scarcely a reference about biodiversity risks attendant with changing climate.
- A number of former NRM Boards prepared their own "adaptation" plans that contained passing references to biodiversity, including "resilience assessments" and "trajectory of landscapes"[23]; these have passed into the ether without much advancement. No action.
- Regional Biodiversity Plans were created 20 years years ago, but have largely been ineffective. "Priority actions" were only targeted spasmodically and action plans not prepared. Whole-of -landscape plans were not undertaken.
- Landscape Plans of recent years are not being resourced appropriately and in terms of the acknowledged biodiversity decline, will never achieve the necessary reversal. Climate change will continue to see more agricultural lands lying outside Goyder's Line, thus condemning impacted properties to further stress.

There are many other examples of strategies and frameworks that have not been implemented. It is as if the passing of government from one political colour to another prevents any action at all.
If I appear sanguine about the Biodiversity Act and all its good intentions, it is because over the passing years I have witnessed much more of the same and "business as usual" and scant little of necessary change.
Thus, points 17 and 18 in "Matters for consideration" in Topic 6 are supported, but the real problem will be whether they have teeth.

✣ Given the failures of the past, why shouldn't "a statewide biodiversity plan … be written into law"?

For decades, State of Environment Reports have been saying the same about the condition of biodiversity which is in almost inexorable decline. Bradshaw[24] displays some optimism for biodiversity improvement by employing "several tractable and affordable actions" that involve (amongst a number of other elements);
- "planning more representative protected-area networks that are managed effectively for conservation outcomes
- fixing broken environmental legislation
- avoiding or severely limiting biodiversity-offset incentives
- expanding conservation covenants on private land
- co-ordinating a state-wide monitoring network
- expanding existing conservation investment
- co-ordinating better communication and interaction among government and non-government environment agencies"

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23 Northern and Yorke NRM Board "Regional Climate Change Action Plan" 2013

24 Bradshaw CJA, 2018, "Better Prospects for the Future of South Australia's Biodiversity", prepared for EPA SA, College of Science and Engineering Flinders University, Adelaide, South Australia, July 2018

This was written in 2018, but as is reported in the SOE 2023 Report, little has changed. Indeed, as I mentioned previously, 2018 was the year that a momentous decision was made by former Premier Marshall to trade-off biodiversity values to insert a rocket launch facility at Whalers Way. Government agencies fell into line and backed the developer. It is suspected that the project was used as the pawn that led to the creation of Lot Fourteen's space industry centres with a huge bag of commonwealth money from former PM Morrison.

What is to be done?

We need a new way.

4 A NEW WAY

Let's take Bradshaw's elements listed above.

Awareness about biodiversity involves education. It is also about identifying alternative land and water uses benign of impact, of community awareness and empowerment, of citizen science programs to assist with assemblage of information, of understanding climate change and its impacts, and of the immediate responses necessary to mitigate ever-rising risks of biodiversity collapse.
Threats to biodiversity can be abated, but it will mean a whole new paradigm about protections and environmental awareness.

It is not just the implementation of a new law that is in focus, but the opportunity that now presents itself to create a new system of environmental and biodiversity resurrection. I hope this opportunity is seized.

Topic 10 in the Discussion Paper canvases a penalty system for harm to biodiversity. The contemporary examples I raised previously demonstrate that governments and their agencies are just as much the perpetrator as is the common citizen. If governments and public service employees are unwilling to uphold laws as they are today, then what hope is there for the Biodiversity Act?
So let's think of a new way of bringing all participants into a consistent approach for biodiversity protection.

Here are a few ideas, several of which have already been mentioned.

1. **Establish a primary "biodiversity trigger"** when development proposals (vis-a-vis "major developments") come before government and the Minister.
   Oversight of development proposals at the pre-planning stage, whether they be on private or government land or Crown land, of if they are unsolicited, should not be the province of Premiers and Ministers, nor the State Planning Commission (it has been an abject failure in the examples revealed earlier), nor the planning bureaucracy (it has been seriously compromised as per the same example). It should not be left to lobbyists with the right connections to advance projects on behalf of self-interested proponents.
   A truly **independent community-based structure** that is able to examine with open eyes the advantages and disadvantages of proposals that may impact biodiversity, and indeed the environment in general, would restore the public trust in government. It will go some way to restoring proper **accountability** and

community engagement in the planning process.

2. **Elevate existing structures.** The above can be achieved by using existing structures, and I refer to Landscape Boards. A new structure or another administrative layer do not need to be created to ensure that biodiversity law, strategies, and policies are upheld, so let's use what is already functioning.
The Landscape Board system needs to be overhauled so that ALL aspects of biodiversity, environment, planning, and community become participants in the resurrection of our environment, and in critical decision-making. But they would need to be appropriately resourced, not the way they are now, scarcely making an impact, but to a vastly increased extent.

3. **Community empowerment**. Offences and penalties (Topic 10, matters 28, 29, 30) should not become the default position for incursions. If a 'tailored response' and 'community empowerment' are key objectives, then a system of community judgment is what is needed. Who best knows the requirements of, and understands, the local environment than local citizens. The greatest failing of the Whalers Way Orbital Launch Complex proposal was that it was undertaken in secret and intentionally excluded the local community. The proponent and the government has no trust from this community.
Here are several options, each of which places community empowerment at the centre.

   a. **Community Panel** - operating in a similar way as Regional Assessment Panels, but under the auspices of Landscape Boards, and drawn from a cross-section of the community. The CP would have the ability to draw on science and law, community perceptions, local "Friends of" groups, business groups, all to provide an advisory framework, decisions, and final recommendations.
   b. **Independent community committee** operating similar to established Community Environment Centres elsewhere. Greater Adelaide hosts 9 environment centres under the "Green Adelaide" banner, but there are none further out in the regions.
   c. **Citizens' Jury** - an under-used method for important decisions (remember the nuclear fuel cycle RC case a few years ago?), it offers significant scope to use community members speaking on behalf of local and regional communities. It might be a cumbersome method, but they would be offset by the outcomes from a community-centred approach, particularly when "major developments" are under consideration.

   Note If Premier Marshall and his Ministers[25] adopted this approach at the beginning - say a Community Panel - with Whalers Way Orbital Launch Complex, the proponent would have been required to seek an alternative site that would be committed to be appropriately zoned.
   The State Planning Commission and SCAP would not have become involved, the federal Environment Minister would not have become involved, the exposure of complicity of governments would not have eventuated, the exposure of Department of Defence would not have happened, the state planning bureaucracy would not have become compromised, breaches of laws and codes of conduct would not have been exposed, and the proponent would have retained the public trust.
   The opposite of all this has happened.

25 Three key Ministers in the WWOLC proposal have now left parliament - Marshall, Knoll, Chapman. Their terrible legacy remains.

4. **Education.** It is said that if the problem is not understood then a solution will not be found. And so it is with biodiversity. For decades, governments have not understood the problem, for if they had then funding of environmental programs would not have declined.
   Where do we start?
   a. Establish rural regional Environment Centres that are independently operated by local community committees, but accountable to Landscape Boards. This is an opportunity to extend the community environment network for the good of biodiversity, including citizen science, monitoring, data collection and sharing, a primary point for environmental information.
   b. Community regional biodiversity events to be held annually and sponsored through a network of Community Environment Centres.
   c. Environmental and biodiversity education can be resurrected through the TAFE system and via VET courses.
   d. Landscape-scale change can be uplifted through the re-establishment of long-forgotten re-vegetation schemes, particularly on farm properties at higher risks from wildfire, soil erosion, and climate change. To this extent, re-configuration of farm paddock fencing following a wildfire event could be subjected to redesign to obtain an optimum layout to arrest embers and reduce wind speeds. Such farm configuration could be supplemented with wide biodiversity corridors that make connections across the landscape.
      Bradshaw mentioned the establishment of a "State Revegetation Council", but few today might remember there used to be a State Revegetation Committee[26]. It was abandoned more than 20 years ago.
   e. The re-introduction of farm extension officers to assist with property planning and establishment of farm forestry systems[27].

5. **Is there a market-based solution?** Yes, I know this submission hasn't prioritised the "prosperity" component of the Minister's message in the Discussion paper, but perhaps there are opportunities that could be parlayed.
   Nature Foundation transfers its income from mining businesses to purchase properties that have failed to survive. The result is a benefit to biodiversity.
   See Attachment 1 for further information.

6. **Funding.** In a 2015 submission[28] I offered perspectives that are still applicable today for implementation of a wholistic biodiversity program. See Attachment 2 for details.

7. Ensure that the administering Minister of the Biodiversity Act is not conflicted by other portfolios.

8. Combine the Native Vegetation Act with the proposed Biodiversity Act to form a ***Biodiversity and Native Vegetation Act***. The two have commonality and should avoid conflicting terms, and also should assist the public about biodiversity interpretations.

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26 In 1998 when living near Clare, I was a recipient of a small grant to assist with the establishment of a direct-seeded biodiversity corridor on cleared and hilly former sheep grazing land. The outcome was incredible. 10,000 trees later in an integrated biodiversity and farm forestry context, that decrepit land has rebounded into an incredible system that supports important components of biodiversity.

27 Farm forestry, or agroforestry, was an important role for PIRSA in the 1990's but like so many waves it is now in a trough. It should be resurrected.

28 Submission on "Developing a New Climate Change Strategy for South Australia", October 2015

9. Avoid the expensive and time-consuming method of judicial review in decisions, by broaden the scope of SA Civil and Administrative Tribunal to include planning and environmental matters.

10. Acknowledge current directions in international law. Introduce "Ecocide"[29] into the Biodiversity Act.

29 See https://www.stopecocide.earth/

ATTACHMENT 1 - an extract from a submission in October 2015, "Developing a New Climate Change Strategy for South Australia"

A 20/40 STRATEGY

I will now focus on the agricultural sector and what I refer to as the "new agri-economy". I say "new", because it means the adoption of a different type of farming and environmental services.

Firstly, it needs to be understood that agricultural output in South Australia is just 4.5% of Gross State Product. The state is dominated by the service sector with 76% contribution to GSP.
South Australia is also the most centralised state in Australia in terms of population, administration, and decision-making.
These factors produce an underlying impediment to investment in the rural sector for very large programs such as reforestation and revegetation. This nexus must be broken.

Secondly, South Australia has not faced up to its historic legacy of land clearance by restoring a sizeable proportion of what was removed. The environmental and ecosystem problems in the regions today are a result of this legacy. Let's correct this now, or be accused by future generations of not caring when we all well knew of the problems.

What is a 20/40 strategy?

20% land re-cover in 40 years, representing the equivalent of 50,000 hectares annually for 40 years, and aligning with the following reports;

1. **"Opportunities and Threats for South Australia's Agricultural Landscapes from Reforestation under a Carbon Market" (CSIRO Sustainable Systems, 2010)**

Carbon sequestration on a large scale is a huge opportunity that should be seized. It could provide an economic uplift to the agricultural sector that could not be contemplated under present dryland cropping arrangements. It could mean an additional $1 billion annually in farm income as stated in the CSIRO report as follows …

> … adoption of carbon plantings and sale of permits could see a boost in income to the State's agricultural sector in the order of 20%, or $1billion annually. This growth includes any economic losses from the conversion of traditional dryland agriculture to permanent reforestation.
> Executive summary, pg. 1

But next is the most compelling statement from the CSIRO report that matches everything that is presently expounded in the new Climate Change Strategy consultation papers.

> **South Australia's annual carbon emissions could be offset by reforestation** under a carbon price of $20/t of CO2-e and this would require less than 20% of existing agricultural lands.
>
> Executive Summary, pg. 1

Need we do any more than this? Of course, and everything described in the ***"Low Carbon Investment Plan"*** strategy paper should be pursued, but so should reforestation and revegetation.

A price on CO2 emissions would provide a significant boost to towns and the rural economy, and it could be transformative in terms of new opportunities in agriculture.

2. "Carbon Sequestration from Revegetation: South Australian Agricultural Regions"

The 2014 DEWNR report provides the blueprint for assessment of large-scale revegetation. The science and the economics are there for all to read and understand. This report is about what I have been advocating for years - a suite of measures involving different planting regimes from simple monoculture woodlots, larger agroforestry plantations, connected revegetation systems, to biodiversity plantings with all their complex fauna and flora associations.

Each of these types of systems can be measured for carbon sequestration, and this is where DEWNR has developed reliable techniques to estimate plant biomass across a range of landscapes and climate conditions.

> Resulting productivity models have been applied to the cleared agricultural regions of the State to estimate their carbon sequestration potential using woodlots and tree-dominated environmental plantings.
>
> Executive summary, pg. iii

These reports and others like them, should be taken very seriously, because what would their point be if they were just ignored?
Too often, these types of studies fade away into oblivion, whereas in reality they present incredible opportunities.

How can Large-Scale Revegetation Be Achieved?

By direct seeding primarily. However, any on-farm revegetation might also include new crops.
This is an example of the new economy. Over many years, government departments and CSIRO, and Land & Water Australia, have examined the potential of new crops, but for reasons unknown there has been almost nil uptake at scale in South Australia. This symbolises opportunities lost or foregone in favour of existing farming systems, which we know many will be under inordinate pressure to survive in decades to come.

In abandoned, semi-arid, cleared, agricultural land there is potential and opportunity to introduce new crops – there just needs to be the will.

I predict right now that the rural sector would resist allocating 20% of land to revegetation and reforestation, but what is happening on the farm is generally not "best practice". I say "generally", knowing that there are some great examples of enlightened farming. But in some areas what has befallen the landscape has been "poor practice". It is all too evident in South Australia's agricultural margins.

A better way of farming in the 21st century in South Australia involves the following, and they are all very simple; there's nothing complicated about them. Natural Resources Management Plans have not adopted these simple remedies.

- vegetation buffers along all paddock fences
- fencing off paddock trees to at least twice the height to allow micro ecosystems to evolve and for tree survival
- establishment of native vegetation corridors linking remnant scrub
- exclude cultivation within a 20 metre zone of watercourses
- exclude cultivation within 10 metres of the edge of woodlands for the establishment of understorey
- revegetate land that has remained idle or abandoned for years
- exclude grazing from existing woodlands to allow understorey to re-emerge
- exclude grazing on hilltops, ridgelines, and fragile hilly zones

Land owners may be surprised at how much can be achieved from these small actions, and the economic benefits that can be derived, and they all provide a buffer to climate change and rising temperatures.

Simple actions such as these would provide the backbone to broader landscape-scale change, so let's now see what some of these are.

THE BIG BENEFITS TO RURAL COMMUNITIES

Some outcomes of landscape-scale revegetation are :

- establishment of new businesses and support services in rural and regional economies in land restoration
- substantial flow-on effects, with jobs and businesses created in site assessment and monitoring, native seed production, direct seeding, native crop products harvesting, establishment of new markets in sustainable products, higher education etc.
- participation in the voluntary carbon market (it exists right now) in the interim whilst the carbon pricing mechanism/ETS issue is evolving at the political level
- farm diversity in seed production and new crops
- provision of a buffer to economic and climatic cycles (drought)
- scope for local government to use its enormous vacant road reserve inventory for revegetation corridors and participation in the carbon market (more on this aspect below)
- participation in the provision of environmental services (see "**Creating Markets for Environmental Goods and Services: A Mechanism Design Approach**" in References)
- bio-energy potential

- improved crop output by reduction in soil moisture loss

These aspects have all been examined by others in the past, so there's nothing new here. But what is needed is an integrated approach and a commitment to a new rural economy embracing these ideas.

The employment effects of such a scale of work would be very substantial, and very long-term, and would conceivably underpin a resurgence in many rural communities in SA.

For example ... on-ground assessors, establishment of seed orchards, seed harvesting, direct seeding, nurseries, TAFE training in all aspects of assessment-orchards-planting-management-measurement, carbon storage assessors, technical capabilities, labourers, off-site managers, carbon traders, biodiversity managers, teachers, program managers, site supervisors ... the list goes on.

Consider the next example.

The opportunities for local Councils

Rural Councils are sitting on one of the largest idle land banks that exist - vacant road reserves!
And then there are the old defunct water reserves and Crown land. The combined area of this land bank is staggering. It is away from the community eye.
The genesis of this land bank occurred in the latter decades of the 1800's when land was opened up for settlement, but in later years became redundant when the means of transport changed from horse-and-cart to rail to motor vehicle.
Also, through aggregation, farm size increased substantially from those early years, thereby resulting in the redundancy of the small farm block that once upon a time had to be fronted by a road.

Today, vacant road reserves lie like ghosts of the past in the landscape. Ribbons of emptiness, some rented for a pittance by local Councils, thereby excluding a higher purpose for the land. Renting is not the best use of this land, nor is it the best use in terms of natural resources management and biodiversity support.

It's now time that this land was given the hand of care, to return its true value, and to restore its "natural capital". Economic advantage can be sourced by participating in carbon farming and biodiversity initiatives.
What an income stream this would be for local Councils and communities in the future. I have yet to see any comprehensive assessment from any rural Council in the state about using vacant road reserves as integrated carbon sequestration and biodiversity corridors, including an assessment for bioenergy purposes.

Vacant road reserves, water reserves, and Crown land could be aggregated amongst a group of neighbouring Councils, a single operating unit then created, and the means to revegetate these areas established. Perhaps a joint venture with the private sector would be the optimum model.
Councils could go it alone and include their other vacant and under-utilised land.
Whichever way it is done, there are enormous opportunities to be had in the carbon market and the firewood market, and local Councils need to participate in this. And of course, farmers also.

The ***Low Carbon Investment Plan*** should include re-purposing of vacant road reserves as a special case.

ATTACHMENT 2 - an extract from a submission in October 2015, "Developing a New Climate Change Strategy for South Australia", but with updated references.

A bold new policy initiative also requires some lateral thinking. And so, here are some more ideas.

- Landscape Board regions to seek partnerships with local authorities about carbon farming and biodiversity projects.
- Forge partnerships with Department of Transport and Infrastructure for the establishment of roadside carbon farming and biodiversity projects on old travelling stock routes and wide road corridors, and defunct railway corridors. There is a very large vacant land bank awaiting revegetation and reforestation.
- Form community co-operatives whose members contribute funds for purchase of shares to create biodiversity and carbon sequestration plantings.
- Introduce a special levy (say $40 per property annually) within the Landscape levy framework. These funds must be used for revegetation work.
- Seek philanthropic funding. This could be done through the auspices of Landscape Boards, and it might be surprising what arises.
- Examine the potential for crowd-funding (it seems to work in some other popular areas).
- Seek joint venture partners with corporations who are willing to participate in a voluntary biodiversity/ carbon market.
- Farmers organisations and farmers themselves must be involved and it would be expected that they would forge joint venture partnerships with community co-operatives, Landscape Boards, or with corporations, with agri-businesses (after all, they would have an important vested interest in the outcomes).

It will be noticed that no reference has been made of federal government involvement, and this is intentional. The present response from past and present federal governments to global climate change responsibilities is insufficient and disappointing. A government that prioritises the provision of the feedstock (coal and gas) to greenhouse gas emissions, further imperiling the human race and biodiversity, that ignores the best available science on climate change scenarios (vis-a-vis IPCC Report 6), also puts at high risk those regions of Australia that are predicted to suffer the most. This includes South Australia.

Thus, this is a state issue, and one that can be addressed by the SA community. This is adaptation and resilience at the core.

There is one further aspect about funding that needs to be countenanced.

Mining royalties

Western Australia has experience with its **Royalties for Regions** program, and I am aware of interest in parliament in 2014 about a similar scheme for SA. To date, it has not gained much traction.
I saw widespread evidence of the benefits of the RFR during travels through WA in 2012.

A scheme similar to this to provide consistent and on-going funding for a landscape repair, revegetation, biodiversity and carbon sequestration program would produce significant economic returns.

SA's estimated mining royalties are $287 million in 2022-23[30]. Previous years' royalty income was around $240 million.
Just 10% of this sum, about $30 million, would be a significant contribution of support funding.

But if mining royalties were increased by a further 10% annually for a special **Biodiversity Levy**, then $60m annually could be directed straight to biodiversity and environmental restitution.

This money should then be mandated and placed into an **Environmental Trust Fund** that must be expended every year.

$60m

30 Source : https://www.energymining.sa.gov.au/industry/minerals-and-mining/mining/regulating-mining-activity/Mineral-resources-regulation-report/resource-royalties