

requirements need to be redefined and reframed on a regular basis to adapt to changing conditions and circumstances.

By way of example, some of the observations from the recovery team about potential difficulties in assessing impacts of developments on Red-tailed Black Cockatoos were:

Criterion 1 - Mapping requirements

- **Modelling based mapping includes site-specific or species-specific data.**

The SeRtBC moves freely through their range based on feed availability. They do not have permanent nesting, roosting or drinking sites, as this is determined by the availability of nearby food sources. Habitat values mapping does not recognise the variability of SeRtBC flight paths, and this is not easily captured in existing biodiversity data which is based around sightings information and identifying key habitat and nesting areas, but not the flight paths between

- **We recommend biodiversity mapping remains responsive to the impact of existing and future stressors on species of concern.**

The current available habitat and biodiversity mapping tools are limited by the extent of previous survey and research investment. For this mapping to truly reflect biodiversity risk it must be responsive to incorporate new information. The SeRtBC is a species that is highly responsive to changes in feed availability. Research by Hughes et al. (2017) and Koch (2019a) show that we are aware that the range of the SeRtBC may change to adapt to climate induced impacts of feed availability. Factors such as canopy scorch is documented to reduce seed crop production in stringybarks for up to 10 years. Unplanned bushfires can have significant and long-lasting impacts on stringybark seed crop (Maron 2008) and as climate change makes this region hotter and drier, the frequency, intensity, and extent of wildfires is likely to increase and exacerbate the risk to seed crop availability. This will be reflected in the areas SeRtBC frequent in order access available food crops. Similarly, loss of breeding sites due to the impacts of fire or changes in nearby feed availability are likely to impact our knowledge of the birds' behaviours. It is important that any tools that reflect habitat and biodiversity mapping reflect the changes presented by ongoing cumulative impacts.

- **We recommend spatial mapping include areas prioritised for future recovery actions as high-risk biodiversity areas.**

It is important to again stress the EPBC Act's provision for actual recovery of threatened species, not just their management. Habitat and biodiversity mapping needs to reflect the large volume of work that has been done to identify key areas for targeted recovery actions. The draft guidelines need to reflect not only the current habitat areas for key species of concern but also future lost potential.

Criterion 2 – Proximity to areas of significant conservation value

Wind Farm renewable energy developments have the potential to impact movement of SeRtBC populations between critical habitat through;

- **Disruption of flight paths between nesting and feeding sites.**

SeRtBC are very specific feeders relying mainly upon Desert and Brown stringybark crops, with some reliance upon a significantly reduced Buloke population. Feed availability varies considerably within their range because stringybark trees only generate a new seed crop every 3-4 years. This causes the birds to frequently move around the range to access available feed.

SeRtBC are not known to frequent the same nesting site year after year, it is important to note that pairs will nest in different areas year after year in response to feed availability. Any development within their range may potentially fall within a nesting pair and nearby feeding habitats. This increases the potential for mortality due to collisions and/or nesting failure.

- **Impact breeding success through disrupting access to watering sites.**

During the breeding season pairs are known to frequent a watering site daily. The nomadic nesting behaviour of the birds means it is impossible to predict the impact potential wind farm developments may create through disrupting flight paths between nesting and watering sites.

- **Potential large losses due to known flocking behaviours.**

When they are not breeding it is not uncommon for the birds to be observed in large flocks of up to 200 birds. The nomadic nature of these birds makes it hard to predict flight paths and also significantly increases the risk of large losses if a flock should approach a wind farm development while navigating between feeding, roosting and watering sites.

- **Potential alienation from limited feeding, roosting, watering and nesting sites**

It is well documented that limited availability of nesting and feeding habitat of SeRtBC is leading to their decline. All remaining feeding and nesting habitat is critical to the ongoing survival of this species. Renewable developments pose a high risk of potential alienation. This potential to exacerbate the impacts of declining habitat availability needs to be recorded.

- **Small losses could have potentially significant impacts to the genetic viability of the sub-species**

With such a small number (approx. 1400) of individuals remaining, consideration needs to be given on how the loss of any individual will impact the genetic diversity of the population. With very limited data on the assessment of the genetic health on their small population it difficult to predict the impact of individual or multiple mortalities on the future genetic viability of the species.

I hope these comments are helpful.

Yours sincerely

[Redacted Signature]

Biodiversity Bill - Section by Section Comments from [REDACTED]

Part 1 - Preliminary

3 - Interpretation

p.11 Line 15

animal product ... should this include eggs, sperm, DNA, all life cycle stages (e.g. frogs, fish —> larvae; insects and other invertebrates —> larvae / instars / pupae, etc)

p.13 Line 3

or protected egg ... plus sperm, DNA and any life cycle stages (e.g. larvae, instars, pupae)

p.13 Line 8

degradation, in relation to a stratum of native plants, includes -

(a), (b) and (c) ... except where dominant weedy native species is/are removed (e.g. coastal wattle or *Acacia cycloptera*, etc)

And should degradation also refer to loss/removal of hollows here (with specifics, including hollows in dead trees, included in the Regs)?

p.13 Line 31 & 35

or egg, ... plus sperm, DNA, any life cycle stages, ...

p.14 Line 1,2,3, 31, 32, 36

or egg, ... plus sperm, DNA, any life cycle stages, ...

p.15 Lines 3 - 6

interfering with a protected animal means disrupting, disturbing or intervening in the animal's natural behaviour and includes -

(a) **harassing, molesting, chasing or herding the animal**

(b) causing or permitting any interference with the animal

Comment - Current wildlife legislation does not appear to have legislative or regulatory teeth in addressing these issues. These terms certainly appear to equate to 'harm' and to now be captured now by the 'General Duty' (pp 23/24) of this new bill/act. However, it is unclear how such interference and harm will become a consideration of, and linked to, State Planning Law and Regulations so that it is an issue for consideration in all environmental impact assessments.

The intent of this act to address "General Duty" and the associated intent to have regulations or biodiversity policy that may specify definitions, actions and consequences on such matters appears like a big step forward. However, biodiversity impact assessment in SA still appears to only relate to native vegetation aspects of the natural environment and to be assessed/adjudicated by the Native Vegetation Council (and in future the Native Plants Clearance Assessment Committee and Biodiversity Council). Other non-vegetation habitat elements are occasionally assessed and addressed under Commonwealth EPBC Act referrals only.

How will this new Bill/Act address and formally assess 'interference' and 'harm' to non-vegetation biodiversity and who will have responsibility for adjudicating this? Who (which Council or Committee) will State Planning seek comment/adjudication from? Some matters may be captured indirectly through reference to patches of native vegetation and may be addressed and assessed. However, there are many critical biodiversity habitat elements that do not currently get addressed and assessed as a matter of course in SA.

These include biodiversity in soil, water and air. They also include non-native-vegetation elements of habitats such as:

- Gaps between native vegetated (and other defined habitat) areas where animals have to cross for
 - Dispersal and maintenance of population structures and genetic exchange (e.g. plant pollen and seeds; terrestrial and volant mammals; birds; reptiles; etc)
 - Regular flightpaths between roosts (e.g. trees or caves or islands) and feeding areas (other vegetated habitat patches; other tidal mud flats;

water bodies; etc) or between seasonally-fixed breeding sites (nests, colonies) and feeding and drinking sites

- Migration paths/routes of whales, fish, flying/aerial invertebrates, birds, etc.)

These gaps are most often not considered in environmental impact proposals because they do not get mapped as habitats or important/critical biodiversity hotspots. This leads to an increasing preponderance of 'approved'/'licenced' barriers being constructed in such 'gaps' which then block or limit the natural movement of biodiversity within and across the landscape / seascape and contribute considerably to the ongoing death-by-a-thousand-cuts syndrome for biodiversity. This is a wicked problem which can be difficult to define, not the least because such movements are often variable from week-to-week, season-to-season and year-to-year. Nevertheless it is an issue that needs to have an ongoing flag to ensure that such potential and real barriers are identified and then assessed on a case-by-case basis. This is becoming even more urgent with this State's heating and drying climate acting as a driver of more drought and an increased probability for more frequent and more extensive bushfires which, in turn, necessitate an increased need for animals to be able to move freely across the landscape. Such barriers to movement constitute both interference and harm as defined in the Bill.

Apart from the 'usual' forms of large footprint barriers that might be considered (e.g. roads; or urban, industrial or mining developments; or renewable energy infrastructure developments) there are two other forms of barriers and interference / disturbance / harm that also need to be addressed by planning regulation as captured by this Act. They are (i) light pollution which affects a wide range of taxa and (ii) collisions of wildlife (mainly birds) with reflective surfaces (glass in buildings; liquids in tailings dams). These barriers also constitute both interference and harm as defined in the Bill.

In the absence of legal/regulatory teeth in SA to address impacts of actions/developments on an animal's natural behaviour other than through impacts on vegetation aspects of habitat, these clauses MUST be able to account for disruptions, disturbances, interventions in an animal's natural behaviour caused to and/or through soil, air and water by noise, vibration or

obstruction. (See also p.61 Section 84 with respect to critical habitat which also still seems only to relate to native vegetation as habitat.) Here, I am thinking of:

- (i) acute noise disruptions, disturbances caused by new traffic corridors, airports, rocket launching sites
- (ii) other vibrations caused by seismic exploration (soil and water), blasting, etc

These matters are all over and above any considerations around degradation or removal of native vegetation habitat. Somehow each of these issues/factors needs to have regulatory teeth and be connected to planning regulations and impact assessment processes, so that they are considered and assessed.

Also under this topic of 'interference' and also of 'harm' there should probably be specific reference to excessive disturbances and disruptions caused to breeding animals by 'species twitchers' with cameras and/or call-playback equipment. The key terms here are 'excessive' and 'breeding' owing to the importance of such equipment in legitimate/permitted/licenced monitoring, research and education/learning.

However, further definition should also be given to disturbance of frantically-feeding migratory waders in the weeks leading up to their long-distance seasonal migrations. Too many disturbances, over too many days immediately prior to migration departures could be catastrophic for some flocks, not just individuals, of declining species. This period of increased vulnerability coincides with the migratory species starting to get their colourful northern hemisphere breeding plumages, which then becomes the critical time for bird photo-twitchers to try to take their 'must-have' breeding plumage photos. In this sense the concept of cumulative impacts / cumulative disturbances needs to be considered - a definitional problem because of likely different groups of people interfering at the same locations over different days.

Probably the best strategy would be to close prime feeding locations to human access over several critical weeks each year; but this would need to be backed up by this aspect of interference being described/defined/included in the Act and regulations. Education will have to play a key role in managing this form of disturbance and harm. Most bird watchers and photographers seem to behave well in these situations and I am sure will back up the need to prevent such

disturbances and harm by others who are less aware. They will even assist with moderation of larger group behaviours when present with others.

Nevertheless, something needs to be included under these parts of the Bill. As evidence of the increasing scale of this issue, please refer to last week's article on birdwatching tourism:

<https://www.abc.net.au/news/2025-02-15/tourism-industry-twitchers-birdwatching/104919868.15>

Back to the draft Bill line-by-line

Line 37/38

native plant means - ... I assume the Regs will include (and not exclude) large dead trees with hollows?

p.16 Line 36

poison means ... life or health of an animal [**I assume that only animals can be poisoned; not plants?**] **Is gas a substance? Is a saline slug of liquid a substance?**

p. 17 Line 8

principles of preservation of native plants; is 'preservation' the best/correct word to use here?

p.17 Line 28

protected egg ... should other life-cycle stages be included / defined here too?

p.17 Line 32

... (including its burrows or nests) - should hollows used as shelters, and not necessarily as nests, be included here?

p. 21 Line 5/6

(d) offset - ... any adverse impact on native plants **or animals** or ecosystems (include animals)

Functions of Scientific Committee

p.29 Line 26/27

(b) to ***prepare*** nominations under Part 6 for native species, ecological communities and ecological entities. **This is a huge ask of a committee** and would take several FTEs several years to even get close to getting up-to-date! Clauses (2) (a), (c), (d), (e), (f), (h) and (i) about providing advice on, and undertaking reviews of, nominations, status assessments and plans or policies related to the State's threatened species and ecological communities all seem logical activities for such a committee. But (b) is a very big stretch!

Furthermore, I'm not sure whether this relates to (b) above, but I wonder what needs to be done to manage conflicts of interest, real or perceived, for members of the scientific committee in undertaking status assessments and making recommendations to the Minister. Some recommendations are likely to be contentious or politically controversial and may lead to questions being asked about process and potential bias. While the IUCN criteria define the standards that need to be met for particular levels of listing, or not, there are so few experts on many of the taxonomic groups likely to be considered for listing and much of that expertise for those groups may be represented on the Scientific Committee ... hence potential or perceived biases.

Subdivision 2 - Biodiversity Conservation Fund

p.34 Lines 17, 21, 27 and 29

"... or protected egg" should probably be changed to account for all life cycle stages (egg, sperm, DNA, larvae, pupae, etc.). I don't think these are explicitly covered by 'protected animal products'.

46 - Illegal possession of native plants

p.37 Line 30, 31

A person must not have in their possession or control a native plant that has been illegally taken or acquired.

This could prove to be problematic given the free-for-all that the NP&W Act has allowed in this space (and allowing for NV Act exemptions). Maybe burden-of-proof should rest with members of [REDACTED], that their plants have been obtained legally???? How can this be

done? TfL and many other 'growers' have permits, but many private enthusiasts and members of the former groups almost certainly will not. A concern about some of the plant species of conservation significance grown by enthusiasts is that they mass produce them from a very low genetic base.

52 - Conditions of consent

If this is now a biodiversity act for all biodiversity, then an SEB should be about identification of like-for-like systems with not just the same priority native vegetation types being protected (as per the NVC considerations) but also the same priority animal species being protected.

Division 5 - Miscellaneous

60 - Native plant management plans

p.49 Line16

should clause (b) also include impact-causing native plant species (e.g. coastal wattle or Tasmanian blue gum)??

Part 5 - Protected Animals

p.51 Lines 14, 17 and 18

Replace '... or protected egg' with words referring to sperm and DNA and to all life cycle stages.

p.52 Lines 23, 29

As above

77 - Action Plans

P.59 Line 1, 2

(5) The regulations may prescribe matters ... including ... procedures for developing a plan. I am aware that some submissions are likely to insist that the Minister must prepare action plans for all species. This is not workable, but it may be useful for the Minister via the Council or the Scientific Committee to review priorities for plan preparation **and implementation** on an annual basis.

There's not a lot of point in having **action** plans, if they are not implemented (a la EPBC recovery plans).

[I note that 'reasonable steps' is not a concept defined in the Interpretation section of this Act.]

Sections 85, 86, 87, 88, 89 - Critical habitat; Consent

Pp.61-64

Any consent re habitat degradation or destruction under this act rests with the NPCAC. Yet the NPCAC only has powers that relate to native vegetation; none that relate to other (non-plant) aspects of an animal's critical habitat features. So, for example, who makes decisions or recommendations to the Minister (under what section(s)) about harm, interference, harassment, molestation, chasing, herding and disrupting, disturbing, or intervening with an animal's natural behaviour, through degradation or removal of non-plant aspects of habitat critical? Here I refer to interference of air space / fly-ways; of sound/noise environments, light pollution, building and other infrastructure collisions (wind farms, towers, powerlines, reflective glass), barriers / obstruction for within and between population movements and gene flow caused by road or urban developments, etc.

p.63 Line 17 onwards re: conditions

What compliance conditions will apply to conditions placed on consents? Is there a register of conditions? Who checks on compliance? If monitoring is a compliance condition, who is responsible for (i) monitoring (ii) reporting (iii) to whom (iv) approving the report, or not and (v) ensuring any lessons learnt are adopted/adapted?? This may belong in Regulations, but I mention it here because these matters are extremely weak in aiding conservation in SA.

92 Biodiversity Agreements

p.65 Line 15

(while noting clause (d) in this and Section 94 on conservation agreements) why do biodiversity and conservation agreements state specifically that they relate only to the protection, restoration or enhancement of native plants? I thought this was a biodiversity act. Animals should not be a tack-on, after

thought. Also, agreements to protect wetlands and their fauna, may not be about the native plants.

Part 8 - Enforcement —> etc

The reference to “... or egg ...” needs to account for sperm, DNA, all life cycle stages —> search and replace throughout.

Section 161 - Biodiversity policies

p.114 Line 16

(c) SEB policy - this must include guidance conditions on responsibilities for management, monitoring, analysing, reporting, reviewing and revising actions to ensure compliance, transparency and appropriate ‘ownership’ of these responsibilities throughout the SEB cycle. While probably something for the Regs, this is a critical consideration.

p.116 Lines 5,6

(m) **any** action plan ...

(n) **any** threat abatement plan ...

p.116,117

prescribed area - shouldn't this list include critical habitats?

Part 2 - Clearance of native plants

p.123 Line 38, 39

a 20-year threshold for revegetation of habitat for threatened species, is not good for intentional feeding habitat reveg for SA glossy black cockatoos, which can obtain critical food seed crops on drooping she-oaks from the age of about 6-7 years, or on stringybarks for red-tailed black cockatoos from seedlings that are about 8 years old.

Division 3 - New developments and infrastructure

p.125 Line 31- p.126 Line

9 - Impact assessed development

Line 37—> EIS's are referred to NPCAC for comment and report on matters relating to native vegetation degradation or clearance. Who are matters relating to non-native-vegetation biodiversity referred to for comment? This seems to be a gaping hole in assessment and review processes in SA.

p.134 Lines 7-16 **27 - Maintenance of existing agriculture, forestry or farming**

Clause (1) (a) and (b)

This Clause would exclude any controls over placement of new waters in previously un-grazed, or long-un-grazed, lands on SA pastoral leases, which is a form of vegetation clearance and habitat degradation. It would also allow soil crusts to be disrupted and potentially encourage the ingress and maintenance of higher densities of predators in 'new' areas. I raise this matter especially in the context of this being an identified threat in the EPBC Act conservation advice for the endangered kowari which occurs on stony gibber plains of the NE Pastoral areas of SA. The kowari recovery team (of which I am a member) has been in negotiations with the SA Arid Lands Landscape Board and the SA Pastoral Board to find ways of

- (i) limiting extension of water points into kowari habitats and
- (ii) to define unwatered areas for more formal protection of kowari habitat

See EPBC conservation advice page 12:

<https://www.environment.gov.au/biodiversity/threatened/species/pubs/329-conservation-advice-15112023.pdf>

Such principles will also apply to other threatened species within pastoral leases.