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12 November, 2022

To whom it may concern,

Thank you for the opportunity to provide comment on the Draft Biodiversity Offsets Policy and Draft Biodiversity Offsets Technical Guidelines under the Northern Territory Offsets Framework.

I am a researcher with fifteen years' experience in developing, analysing and reviewing biodiversity offset policy across all Australian jurisdictions and internationally. For example, I helped develop the EPBC Act Offsets Assessment Guide, New Zealand's offsets calculator and the IUCN's Biodiversity Offsets Policy. I also provided assistance to the team preparing the NT offsets approach over the past year or so, and so I will keep my comments here brief. However, I am happy to discuss in more detail if that is useful.

- This framework has the important feature of focussing on absolute gains over time at biodiversity offset sites, and not considering 'averted loss' gains. The estimation of averted loss has caused great difficulty under offset policies in other jurisdictions, and cannot be used to achieve the positive targets that the NT has set for its biodiversity. As such, this is a very positive feature of the framework.
- On a related note, the use of an explicit target-based approach, and the setting of net positive targets, is another very strong feature of the framework.
- The principles are good, but lack some important elements. For example, offsets must also be ecologically feasible.
- A fundamental requirement of biodiversity offsetting is that the gains must be at least equivalent to the losses in terms of their type, their amount, and their duration. These points are not enshrined in the principles.
- Because of this there are some shortcomings in the framework which will mean that it will not achieve its intended aim for ecological gains to outweigh losses in the NT. These include:
 - The loose interpretation of like for like is likely to result in net losses accumulating for some values. This will result in equivalence of type being only somewhat achieved.
 - **The most significant issue** in this framework relates to the lack of requirement for equivalence of duration. My understanding of the proposal is that it allows permanent losses to be exchanged for a temporary gain. Gains through land management accrue gradually, and only achieve the levels required after 15-25 years – and then at that point, management (from the offset actions) can cease, meaning the gains will most likely decline again (as we are talking about issues that require ongoing management, such as weed and feral animal control and fire management). This means that the amount of loss over time will never be counterbalanced by the amount of gain over time. Addressing this shortcoming is fundamental for the framework to achieve its aim.
- The requirement for an offsets register and the prominence of the mitigation hierarchy are positive features of this framework.

- The framework would be strengthened by a more explicit statement of the net outcome required as a result of impact-offset exchanges, as well as explicit statement of the values to which it applies.
- The work done to develop the calculation approach is nicely logical and sound. The explanation is clear and consistent.
- The uncertainty multiplier is very small given the genuine ecological uncertainty around these matters.
- The guidance on suitable habitat condition for offset sites is good and logical.

I note that I have not reviewed this policy from a legal perspective or in terms of its scope and ability to require offsets for all impacts. Any impact (of any scale) that occurs and is not offset accumulates, and so if the policy scope is narrow, this would undermine the goal of achieving a net gain outcome for the NT.

Overall, I see many positive elements of this framework and the overall approach is strong. However, without addressing the lack of requirement for equivalence of duration of losses and gains is policy will fail to be effective in achieving a net gain for the Northern Territory, and I suggest that be reconsidered as a priority. I recognise that the context for the NT is different and data availability is generally low, and would hope that this policy can be improved over time as knowledge is improved. Given the uncertainty and the risks around implementation of offsets under even the most logical and well-designed policy, offsets should continue to be a last resort, and avoidance and minimisation of impacts must have primacy.

With best wishes,



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18 November, 2022

RE: Draft Northern Territory Biodiversity Offsets Policy

To Whom it May Concern,

Thank you for the opportunity to comment on this draft policy.

I consider the concept of biodiversity offsets to be fundamentally flawed and unacceptable. Accordingly, I am opposed to this policy in any form. My comments below describe the reasons for my objection.

Ethical Considerations

Individuals and populations are inherently valuable and place-based, with complex, local, regional and national interactions that are not well understood by the NTG or non-Aboriginal and Torres Strait Islander land managers.

This Policy seems to be grounded in reductive materialism in assuming we fully understand the value of ecosystems, and a shallow utilitarian ethical system in considering these tradeable. These is a highly fraught ethical system under which to operate. It is not in keeping with contemporary environmental ethics - this is manifested in broad public opposition to biodiversity offsetting elsewhere in Australia.

The idea of 'everything should be an end to itself and not a means to an end' should fundamentally apply to biodiversity and ecosystems. Off-setting biodiversity fundamentally contradicts this idea.

Policies should be based on more contemporary, viable ethical frameworks. For example, ethics of care are inherently relational and as a consequence of this also place based. Offsetting in any form seems antithetical to an ethics of care.

Public consultation

Given the contentious ethical basis for this policy, proper consultation with the community, not just the policy and scientific community, is paramount.

The public consultation on general approaches to offsets in 2019-20 was not adequate. The community should be given fair opportunity to specifically consider biodiversity offsets now, as part of this process when it's not muddled by the more conceptually acceptable off-setting of GHG emissions.

This stage in the consultation process was difficult to access. It seems highly inappropriate that this consultation was not advertised more broadly nor targeted in culturally appropriate ways. I am very engaged in public consultation processes related to the environment – I keep a very close eye on public engagement platforms (e.g. have your say, NTEPA consultations, development applications online etc) but I was not aware of this opportunity until I came across it by chance (on the due date) when searching for another document on NTG websites.

NT Government capacity

The draft Policy is proposing a novel approach that tries to address threatening processes at a landscape scale rather than individual populations.

While the approach used in other states is problematic, the NTG's capacity to introduce a novel approach is questionable.

The NTG and NT land managers have not demonstrated the capacity to effectively manage country at a landscape level.

Mechanisms for accounting for biodiversity within development activities are not adequate, the level of data required is generally unavailable due to lack of comprehensive, longitudinal baseline data.

Ecosystems are collapsing across the NT¹, key threats such as land clearing, stock, feral animals, invasive weeds, and dangerous fire regimes are escalating. This situation demonstrates:

- the NTG's current capacity for sound legislation, regulation, research, coordination, planning, monitoring and evaluation is inadequate.
- most NT land managers do not have capacity to manage threats / adequately implement threat abatement advice / plans.

Given this situation, destroying relatively intact ecosystems to restore a degraded one is bound to result in greater actual loss than gain.

¹ <https://theconversation.com/existential-threat-to-our-survival-see-the-19-australian-ecosystems-already-collapsing-154077>

Furthermore our ecosystems are in general collapsing, small biodiversity offsets are a waste of time if the NT government doesn't have the policies and commitment to preserve our ecosystems, as the restored ecosystem faces an uncertain future anyway.

Basic requirements

Although I'm fundamentally opposed to biodiversity offsets, for a policy of this type to be tenable the following must be in place:

1. Traditional Owners from both the impacted location and the benefiting location should first agree to the offsets.
2. NT government needs to:
 - Commence comprehensive state of the environment reporting
 - Institute best practice policies/ regulations in place for the threat proposed to be managed (e.g. weed management is not acceptable if the source of the weeds is still being permitted.)
 - Demonstrate the capacity to manage key threats.

Offsets should not obviate the NTGs responsibility to appropriately invest in threat abatement caused by poor legislation, poor application of legislation and poor policy.

3. It appears this policy could allow offsets to be applied on the pastoral estate. This is problematic because the Pastoral Lands Board objectives for management are not aimed at biodiversity protection – pastoral activities are going to be a constant threaten to biodiversity offsets (e.g. weeds, fire, stock etc)

There could be a case for offsets to be applied on pastoral lands used for conservation (e.g. Newhaven), however offsets should not be used to compensate for edge effects from pastoral properties.

4. I am opposed to Pastoral Land Clearing. It is not core to pastoral land use and is always avoidable, so it should never be offset.

5. Any offsets should actually hit the ground, those responsible for implementing offsets should have the capacity to undertake the work required. Training and research should not be counted as offsets.

6. The timeframe is inadequate. Most of the key threats described are interrelated with established pests (weeds and introduced animals). By definition these will not be eliminated in 15 or 25 years, they will require ongoing management in perpetuity.

Thank you for considering my comments.

Jacqueline Arnold

Hello,

For context I am a consultant with relevant field work experience on ecosystem assessment in Cape York Peninsula. More pertinently I have spent some years now assisting with development of a condition assessment technique to generate payments for environmental outcomes associated with savanna burning projects across North Australia. This has required considerable exploration of the theory and literature around condition and reference values, particularly in intact ecosystems (both within Australia and internationally). It has also required substantial review of the impacts of fire on North Australian ecosystems.

I came across this draft for comment late, so the referenced comments in the attached document are brief, and restricted to the technical guidelines. The issues I have identified from a brief reading suggest to me that more consideration might be required of fire regime targets and condition assessments in relation to fire generally.

I also recognize the difficulty of creating such a framework for such an environment and congratulate you on progress made, it contains much policy and mapping information will improve the applicability of our framework to the NT. Our project is close to finalizing fire scar analysis metrics highly relevant to condition using an index based approach (resulting in a simple single value for easy management comparisons). We have also developed a series of site level indicators, that should give a good assessment of environmental condition overall - as you would know, this isn't easy when reference benchmarks are lacking. We are using the Accounting for Nature Framework. Feel free to contact me if you would like more information.

Kind regards,

Gabrielle Davidson

Response to draft Biodiversity Offsets Technical Guidelines

Table 2 Habitat types and priority threats (pg 16)

Threats – inappropriate fire regimes are not identified as threats to riparian or wetland habitat. This is inconsistent with the primary literature, which identifies it as important, fire sensitive habitat (Douglas et al., 2015; Woinarski et al., 2000) that is strongly affected by severe fire regimes (Townsend et al., 2004) should be treated in the same manner as rainforest patches in relation to fire (see e.g. Corey et al., 2020). This information is also relevant to the arid zone, where the importance of riparian habitat, and its sensitivity to fire increase (Woinarski et al., 2000)

Fire is not listed as a threat for wetlands or floodplain wetland either despite suggestions it should be (e.g. Russell-Smith et al., 2017).

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The range values of indicators in intact ecosystems means it is almost impossible for any habitat to become 'ecologically compromised' if the threshold for this value is 10-20%.

Table 2. Priority threat benchmarks (pg 28).

Benchmarks

Rainforest – fire effects in rainforest habitat can be cumulative and severe. The benchmark value of >50% unburnt > 10 years could reflect extreme degradation of the ecosystem (see e.g. (A variety of studies reviewed in tabular form in Corey et al., 2020; also Russell-Smith et al., 2012, 2017).

Forest and woodland habitat - >50% burnt in EDS is a shocking value. Apart from in predator free environments, EDS fire in itself is often as detrimental to threatened mammals as LDS (Andersen, 2021). The evidence that relatively high proportions of EDS fire can increase habitat value is limited, and is only known for values far lower than the given benchmark (i.e. up to 30% see Radford et al., 2020). Other studies have found this relationship is far from clear (Perry et al., 2016). Those studies that have demonstrated this relationship have done so explicitly in relation to a *shift* in fire regimes from LDS to EDS. Mandating a value such as this could result in highly perverse outcomes, encouraging managers to increase the proportion of fire in less flammable landscapes, to the detriment of flora and fauna.

Long unburnt – values are also required for 10 year unburnt habitat (Woinarski & Legge, 2013). The values given for this figure are too low, and higher figures are needed for upland woodland habitats (see e.g. Russell-Smith et al., 2017 for a discussion). Values are also inconsistently applied – e.g. a different figure is used in the final tables on pages 38 on.

Missing metrics –

Riparian vegetation should be included in this section (see my earlier comments).

There are no measures of fire patchiness, which has consistently been shown to be one of the most important characteristics in relation to habitat values for birds (Legge et al., 2011, 2015) and small mammals (Lawes et al., 2015), and is widely used when assessing ecological

characteristics of fire regimes (Evans & Russell-Smith, 2020; Russell-Smith et al., 2017; Wysong et al., 2021).

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Some indicators selected are unsuitable – for example demographic studies suggest recruitment of eucalypts and acacia is not limited by even the most severe fire regimes, while recruitment of non eucalypts are (Russell-Smith et al., 2019). Tree death is also not a particularly suitable indicator of severe fire regimes – many trees are consumed, and unless you are out immediately after a fire the impact is unlikely to be detectable. Fires and termites also interact to decrease tree health.

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