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29th October 2021

Western Davenport Water Allocation Plan Review

The Arid Lands Environment Centre (ALEC) is Central Australia's peak environment organisation that has been advocating for the protection of nature and growing sustainable communities in the arid lands since 1980. ALEC actively contributes to the development of water policy and planning through written submissions and active participation with water advisory committees. Our advocacy in water policy is focused on ensuring the equitable and sustainable use of water resources to maintain full ecological function and protect cultural values. ALEC was also a member of the previous Western Davenport Water Advisory Committee 2017-2018 (WDWAC) in the development of the Western Davenport Water Allocation Plan 2018-2021.

ALEC welcomes the opportunity to contribute to the WDWAP Review (the Review). ALEC notes that the Department has completed a significant amount of work in developing the WDWAP compared to the previous WAP (2011-2018). Nonetheless, considerably more work is required to ensure that the extraction of the water resource is completed sustainably, and lawfully.

Our submission focuses on four key themes: 1) uncertainty; 2) protection of groundwater dependent ecosystems (GDEs); 3) adaptive management; and, 4) water mining. These themes emphasise ALEC's concern that the WDWAP is not fit for purpose and has failed to meet its own objectives. In response to these concerns, ALEC also provides recommendations on how future WAPs and water advisory committees (WACs) can be improved.

It is important to note that ALEC with the assistance of the Environmental Defenders Office has completed considerable work in relation to the WDWAP and the Fortune Agribusiness water licence approval at Singleton Station. These documents are attached as Annex A, B and C.

It is worth reiterating the objectives of the WAP, as whether these objectives have been met should be central to a WAP review.[1]

1. Meet the environmental water requirements of water dependent ecosystems.
2. Protect Aboriginal cultural values associated with water and provide access to water resources to support local Aboriginal economic development.
3. Allocate water for future public water supply and rural stock and domestic purposes.

[1] Western Davenport Water Allocation Plan 2018-21, p.6.

4. Provide equitable access to water to support ecologically sustainable regional economic development

ALEC also notes that the Have Your Say website states “we recognise that stakeholders have already provided feedback on some aspects of the water allocation plan through submissions about the Singleton Station water licence. All such existing feedback will be considered in this review.” ALEC would like to be notified by the Department what it means that this information will be ‘considered’.

1. Uncertainty

The Western Davenport Water Allocation Plan is a document dominated by uncertainty. Unfortunately, core areas central to any WAP are not well understood, namely: water quantity; water quality; cultural values; terrestrial and aquatic GDEs. The severe level of uncertainty has been central to ALEC referring the Fortune Agribusiness water licence approval at Singleton Station to the Water Resource Review Panel (WRRP) (see Section 24-40 Annex B).

It is important to note that the level of uncertainty abundant in the WDWAP, in addition to other conditions attached to the approval of the Singleton Station water licence, formed a basis for ALEC’s claim that the decision to grant the licence was both unlawful and unreasonable.[2] Unreasonableness is a ground of review that is reserved for the most egregious of administrative decisions.

The uncertainty demonstrated in the WDWAP does not provide a sound basis for establishing the Western Davenport Water Control District as a major strategic agricultural precinct. The scale demonstrated in the plan is unsustainable and not supported by best scientific information. In fact the current plan leaves the Northern Territory Government vulnerable to over-allocation which has significant economic costs attached, in addition to substantial environmental harms.

Issues with the WDWAP have intensified due to limited opportunities for stakeholders outside of Government to be kept informed and be actively engaged in the WAP process. ALEC provides some recommendations that may improve relations between government and non-government stakeholders that could produce beneficial outcomes for all involved.

a. Modelling

The modelling underlying the WDWAP is deficient. This uncertainty around the modelling is stated in the WDWAP, and reinforced by the International Association of Hydrogeologists Australia, Northern Territory Branch (IAHANT) in their submission to the Department, as well as by independent hydrogeologist Ryan Vogwill contracted by Central Land Council in their submission to the WRRP (we refer the Department to these previous submissions for more detailed analysis).

[2] Arid Lands Environment Centre and Environment Centre Northern Territory submission to the Water Resources Review Panel, September 2021.

These documents both question the validity of the claim that the Knapton (2017) model is deemed Class 2 when considered in relation to the WDWAP. Instead they suggest that in parts of the WAP (particularly around the Singleton Station development site), it is better considered a Class 1 Model. The Australian Groundwater Modelling Guidelines are clear that "if a model falls into a Class 1 classification for either the data, calibration or prediction sectors, it should be given a Class 1 model, irrespective of all other ratings."[3] This is important to consider as instead of responding to the Class 1 model claims, the Department in its response has chosen to emphasise that "the DEPWS-WD model meets a number of Class 3 criteria".[4]

Due to the significance of this WDWAP review, a few key points are emphasised to reiterate the severity of uncertainty that exists.

The WDWAP summarises its deficiencies clearly, stating:

> "It is noted that the WAP is based on limited information. Further research, particularly in regard to accessibility of groundwater stored in the regolith and the location and individual requirements of GDEs is recommended to occur within the term of the WAP. Due to these data limitations, there is a significant risk that the consumptive pool could be reduced in future WAPs."[5]

IAHANT in their submission around Singleton Station stated:

> "in contrast at Singleton, only the CLOUDGMS modelling data, which is presumably based on the NT-DENR Class 2 model by Knapton (2017), is offered as proof of the viability of the proposal. Although this model is calibrated and deemed a Class 2 Model; in the Wiso Basin where this Singleton proposal is located there are no relevant monitoring bores and very little exploratory groundwater drilling data, hence the model is probably better considered a Class 1 in the vicinity of this proposal. Thus this application of hundreds of GL of groundwater in arid central Australia has very little data and virtually no bore infrastructure with which to assess this claim by Fortune.[6]

Furthermore, Ryan Vogwill, an independent hydrogeologist contracted by the Central Land Council, made it clear:

> "Water Allocation planning and model development for the Western Davenport Central Plains has been hampered (in terms of rigor) by a lack of spatially distributed data on aquifer geometry, lithology, hydraulic properties (particularly storage properties), water levels and water quality. Water level data with any useful time series (in the context of long-term predictive modelling) is lacking over much of the model domain, particularly in the regolith which is only an inferred (i.e. not based on any measured data) groundwater resource. Aquifer testing data is sparse and is typically restricted to short duration, single borehole tests which cannot determine

[3] Barnett, B., Townley, L., Post, V., Evans, R., Hunt, R., Peeters, L., Richardson, S., Werner, A., Knapton, A. and Boronkay, A., 2012. Australian groundwater modelling guidelines, p.19.
[4] Department of Environment, Parks and Water Security submission to the Water Resources Review Panel, September 2021.
[5] Western Davenport Water Allocation Plan, p.10.
[6] International Association of Hydreologists, Northern Territory Branch Submission to Singleton Station Water Licence.

storage properties. Storage properties are a key control on the relationship between abstraction and groundwater level change (drawdown) which is the key focus of the modelling and allocation planning."

As previously stated in ALEC's Grounds for Review submission, the Australian Groundwater Modelling Guidelines (Australian Modelling Guidelines). The Australian Modelling Guidelines state that:

> "A Class 1 model, for example, has relatively low confidence associated with any predictions and is therefore best suited for managing low value resources (i.e. few groundwater users with few or low-value groundwater dependent ecosystems) for assessing impacts of low-risk developments or when the modelling objectives are relatively modest."40

It is clear that there is incongruence between the rigour of the modelling supporting the WDWAP, and the aspiration to develop the water control district as a significant agricultural precinct. The scale of water for extraction is not supported by science and a regulatory system that is fit for purpose.[7]

It is unclear whether further work has been undertaken by the Department to improve the rigour of the model. This was outlined as necessary in the current WAP. If this work has not been completed, the ESY needs to be substantially reduced to account for the lack of understanding of this groundwater resource. If this work has been completed, ALEC requests an update by the Department on the type of work that has been completed and the confidence and precision that the model produces.

The lack of baseline understanding of the groundwater system displayed in the WDWAP ensures that the objectives of the WDWAP are unable to be met. The objectives are instead speculatory.

Recommendation 1: The Department update the public and WAC on whether further work has been completed on the Knapton (2017) model and detailing the changes that have occurred.

Recommendation 2: Further work is completed to ensure that the future WAP is underlined by at a minimum a Class 2 model, but ideally a Class 3 model, considering the complexity of the region and the aspirational consumptive uses.

Recommendation 3: If models are updated, present this new research directly to the responsible water advisory committee.

b. The regolith and the Estimated Sustainable Yield

The regolith resource accounts for 34.4GL of the estimated sustainable yield (ESY) and 89% of the regolith resource is located in the Central Plains Management Zone (Central Plains). The regolith lies between 0-15m below ground level.

[7] Arid Lands Environment Centre and Environment Centre Northern Territory submission to the Water Resources Review Panel, September 2021.

This resource was not included in the model that underpins the ESY and has much lower confidence in its viability. In fact, the Department does not know the nature in which the resource exists and thus what kind of connectivity there is between the surface and groundwater (i.e. the thickness of the regolith; where the regolith is present and where it is absent). This uncertainty is communicated in the WAP:

> "Water storage in the regolith is not defined with the same precision as the modelled aquifer recharge"[8]
>
> "To better define the regolith resource the following additional work is recommended...The outcomes of this work could lead to a change in the estimation of the volume of the regolith resource in the ESY or even the exclusion of this resource from the ESY allocation for consumptive beneficial uses"[9]
>
> "There are limitations to the available data, notably the small number of bores, regolith resource is not included in the model and the aquifer and GDE response to pumping is largely inferred"[10]
>
> "An information gathering program to investigate the size and nature of the regolith resource is included in the implementation plan"[11]

The risk rating from this uncertainty across a number of different areas including around 'model assumptions and interpretations' and 'environmentally sustainable economic development' is rated as 'extreme'.[12] The plan states that it is likely that the regolith resource is downgraded in future WAPs, which will have a major consequence and an extreme risk rating.[13]

It is poor practice to include a resource such as the regolith as part of the ESY with poor confidence that it is a viable resource. Independent hydrogeologist Ryan Vogwill made this clear, stating the "[regolith aquifer] is based on no data as this has not been investigated directly. It is difficult to see how incorporating this in the available water resources for allocation is justified".[14]

If the regolith is removed and the ESY is downgraded it means parts of the WDWAP are close to overallocation. The regolith accounts for 27% of the ESY of the Central Plains Management Zone. The removal of the regolith from this zone would reduce the general pool for agriculture, industry, aquaculture, cultural beneficial uses from 61GL to 45GL. With the 40GL approval of the Fortune Agribusiness development at Singleton Station ensuring this resource is nearly at full allocation without the regolith resource (although we note that a final decision rests with the Minister Eva Lawler, due to referrals of the licence to the Water

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[8] Ibid*, p.38.*
[9] Ibid
[10] Ibid, p55.
[11] Ibid, p.56
[12] Ibid, p.55-57
[13] Ibid. p.56.
[14] Western Davenport Plan, Associated Documents and Groundwater Model Review, p. 6. Hydro Geo Enviro.

Resources Review Panel). With a number of additional water licences scheduled for that region, overallocation is a serious threat.

There is no scientific basis for the inclusion of the regolith resource as part of the WAP. It is imperative that the regolith resource is removed from any future WAPs.

ALEC supports the assertions made by independent hydrogeologist Dr Ryan Vogwill that it is "misleading" to use total storage instead of accessible storage (water that is economically viable to extract) when determining the ESY for a WDWAP. The WDWAP states that "to ensure continued ecosystem access to groundwater, consumptive use extraction should not cause a reduction of more than 3.9% in groundwater in storage, based upon modelling 100 years of extraction at the full consumptive use allocation".[15] Independent hydrogeologist Dr Ryan Vogwill has stated that using accessible storage, in the Central Plains under the current WAP, depletion would be closer to 15% instead of the outlined limit of 3.9%.[16]

Recommendation 4: The regolith is excluded from any future WAPs until further research verifies its quantity and quality with confidence.

Recommendation 5: The regolith is not considered when granting new licences after the 6th December 2021, even if the current WDWAP is extended beyond that current timeframe.

Recommendation 6: Use accessible storage, not total storage when determining the ESY for future WAPs.

Recommendation 7: Future WAPs are based solely on recharge (with the exclusion of the regolith) to ensure a precautionary approach.

c. GDEs

The WDWAP expresses considerable uncertainty relating to GDEs, namely:[17]

> "GDE locations have been inferred from remote sensing and groundwater depth data. Further work is required to refine the location of GDEs. This should include improved depth to groundwater mapping, field verification of GDEs and research into GDE interactions with and dependencies upon groundwater"
>
> "There are no published experimental data available for Australian species that examine the impact of different rates of increase in depth-to-groundwater. Further research into the requirements and vulnerabilities of GDEs to change in access to groundwater as well as definition of priorities for GDE conservation are also required."
>
> "There is uncertainty regarding groundwater dependent ecosystems – their distribution and significance, environmental water requirements and response to increased extraction."

[15] Western Davenport Water Allocation Plan 2018-21, p.39.
[16] Western Davenport Plan, Associated Documents and Groundwater Model Review, p. 6. Hydro Geo Enviro.
[17] Western Davenport Water Allocation Plan 2018-21, p.35-36, 60.

In addition,the WDWAP states that understanding of how the groundwater system will respond to pumping is “largely inferred”.[18]

These are major omissions to a plan that is supporting the extraction of more than 138GL of water for consumptive uses. It appears that the Department does not know the extent of GDEs across the WDWAP, as well as how extraction will impact the health of GDEs. Instead, the Department relies on adaptive management to quell this uncertainty (see Section 3 - Adaptive Management).

Recommendation 8: Further comprehensive work is completed to identify GDE distribution and significance, environmental water requirements and responses to increased extraction prior to the granting of any new water licences

d. Cultural values

The WAP states that there is “uncertainty regarding cultural values - the full extent of cultural values and practices and their water requirements and responses to increased extraction”.

It appears that the Department has not completed further work to identify cultural values across the WDWAP. In relation to the Singleton Station water licence approval, the Central Land Council had to complete their own Cultural Assessment for the impacted area to demonstrate that there are 29 groundwater dependent sacred sites that may be impacted from that approval.[19] ALEC refers the Department to this document for further information and the Central Land Council’s submission to the Water Resources Review Panel.

The Department through the Singleton Station water licence approval displayed that they failed to consider the protection of cultural values, undermining the WDWAP’s objective to “protect Aboriginal cultural values associated with water”.

Recommendation 9: Further work is completed to understand the full extent of cultural values and practices (where appropriate) and their water requirements and responses to increased extraction.

e. Mitigating risk: implementation plan and reporting

The Department has provided limited information publicly on how they have mitigated risk associated with the WDWAP. This is despite monitoring and reporting being central to the WDWAP and its adaptive management approach:

> “To adequately implement an adaptive management approach it is necessary to monitor and evaluate the WDWAP. An integrated annual report of monitoring and compliance outcomes will report allocations, water use, water development, condition of water dependent ecosystems and cultural values, changes in water quality, changes in depth to groundwater and recent climatic conditions. This information will be used to ensure action is taken to address undesirable outcomes in accordance with Table 16 and to document achievement of desired outcomes.”[20]

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[18] Ibid

[19] Singleton Water Licence Aboriginal Cultural Values Assessment : PRELIMINARY OVERVIEW REPORT TO THE CENTRAL LAND COUNCIL

[20] Western Davenport Water Allocation Plan 2018-21, p.60

It is unclear how this risk has been reduced, as key mitigating strategies such as the 'integrated annual report on monitoring and compliance' appear to have not been completed. This monitoring and compliance is central to build rigour around water quantity, quality, cultural values, GDEs and responses to climatic conditions. In addition, it is unclear whether an evaluation report has been completed which was due to be completed in December 2020 to assess the "impact, appropriateness, effectiveness and outputs of the WAP".[21]

Independent oversight has also been excluded, where the Western Davenport Water Advisory Committee (WDWAC) meetings have not occurred. This is despite the plan stating that "the WDWAC should meet at least twice a year to provide external oversight of implementation".[22]

The lack of reporting and oversight are critical failures in the current WDWAP. In a plan that is governed by uncertainty, failures to report monitoring and compliance, as well as conduct independent oversight, completely undermines the public's confidence in the WDWAP. The plan without these measures in place is instead shaped by 'extreme' risk.

This failure to mitigate key risks in the WDWAP, whilst continuing to allocate large volumes of water, fuels a perception that water resources are being mismanaged. It escalates even further that what is happening in the WDWAP can be considered both unlawful and unreasonable.[23]

Nonetheless, in the development of a new plan there are a number of opportunities to improve reporting, as well as recognising the important role of water advisory committees. This requires a change in approach from the Department which should produce beneficial outcomes for both Government and non-government stakeholders.

Recommendation 10: Publicly publish the integrated annual reports on monitoring and compliance prior to the development of the new plan.

Recommendation 11: Publish the evaluation report of WAP implementation that was meant to be completed by December 2020.

Recommendation 12: Provide the new water advisory committee the evaluation report prior to their first meeting.

Recommendation 13: Provide a public update on what work the Department has completed in mitigating risks associated with the current WDWAP.

Recommendation 14: For future WACs, new scientific research is reported directly to the WAC to create a consensus of understanding.

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[21] Ibid, p.65
[22] Ibid, p.65.
[23] Arid Lands Environment Centre and Environment Centre Northern Territory submission to the Water Resources Review Panel, September 2021.

Recommendation 15: Water advisory committees should not be closed while a WAP is operating.

Recommendation 16: Water advisory committees should have a draft of the WAP presented by the Department prior to its finalisation.

Recommendation 17: WACs should meet at least twice a year for the duration of the plan.

Recommendation 18: WACs are transparent, accountable and that community and stakeholder input is appropriately obtained.

2. Protection of groundwater dependent ecosystems

The WDWAP is quite clear in the importance that GDEs need to be protected.[24] Central to the WDWAP is the protection of GDEs. It is one of the four key objectives of the WDWAP, and the 'limit to change in groundwater conditions' (limit to change rule) provides key parameters for GDE protection. The limit to change rules as set out in 8.2.1 states that:[25]

- The maximum depth to groundwater does not exceed 15 metres.
- The magnitude of change in the depth to groundwater is not more than 50%.
- The rate of change of the groundwater table is not more than 0.2 metres per year

However the WDWAP has been completely undermined by the *Guideline: limits of acceptable change to groundwater-dependent vegetation in the Western Davenport Water Control District*' (Guideline) which was approved in early 2020. This set aside the evidence-based rules outlined by the 'limits to change rules'. This was done with no public consultation, the 'closed' water advisory committee was not notified and there was no new scientific evidence that was publicly available to justify the change.

Instead of making a decision 'in accordance with the WAP' as required by s.22B(4) of the *Water Act* 1992,[26] the Guideline has overruled the WDWAP in the approval of the Singleton Station water licence. This has set a precedent that WAPs can be undermined by the Department without notice or justification, even when new scientific evidence has not been produced. The Department in their submission to the WRRP made this clear that the Guideline was not based on new scientific evidence.[27] As stated in their submission in response to the work conducted by independent hydrogeologist Ryan Vogwill, the Department stated that the "70% protection of GDEs established in the Guideline is a policy position of the Department".[28] The use of the Guideline in the WDWAP undermines future WACs and WAPs.

ALEC has challenged the role of the Guideline repeatedly; in Annex A it is Ground 3 of our Grounds for Review (s22-42); in Annex B (s25-27, 52); and, Annex C (s15-25). We consider the application of the Guideline to be unlawful, as well as unreasonable. The application of

[24] Western Davenport Water Allocation Plan 2018-21, p.27.
[25] Ibid. p.8
[26] *Water Act* 1992, p.20.
[27] Department of Environment, Parks and Water Security submission to the Water Resources Review Panel, September 2021, p.6.

[28] Department of Environment, Parks and Water Security response to Dr Vogwill, p.7.

the Guideline has undermined the Department's relationship with key stakeholders. In doing so it appears that there is conflict of interest in the role the Department is playing to support the Fortune Agribusiness' development, and thus the destruction of 30% of GDEs.

As the WDWAP articulates and as we have outlined above (Section 1- Uncertainty), the Department lacks the baseline knowledge to ensure that GDEs can be protected, due to the considerable uncertainty around GDE mapping, in addition to the groundwater resource and how it will respond to water mining and extraction.

ALEC considers it that the 'limits to change rule' should be adopted for all future WAPs as a guide. As the Guideline states, the 'limits to change rule' still has the potential for negative impacts to occur. In particular, for areas where groundwater levels are less than 5 metres, GDEs (terrestrial and aquatic) are even more highly dependent on groundwater. Similarly rules needs to be considered for groundwater levels between 15-20 metres as GDEs can access water this deep.

The current WDWAP fails to protect aquatic GDEs such as stygofauna. Future WAPs need to address this shortcoming. ALEC suggests that future WAPs should create a framework for the mapping of aquatic GDEs and that investigation of the presence of aquatic GDEs is mandatory before a new plan is developed.

Refer to recommendation 14 above about the role of new scientific evidence and WACs.

Recommendation 19: The Guideline is abandoned as policy by the Department

Recommendation 20: The 'limits to change rule' becomes a guide that is adhered to for all future WAPs

Recommendation 21: Due to limitations of the 'limits to change rule' an additional guideline is developed to address negative impacts, particularly for groundwater depths less than 5 metres, and consideration for above 15 metres.

Recommendation 22: The presence/ absence of aquatic GDEs is investigated prior to the development of all new WAPs.

3. Adaptive management

We refer the Department to Annex A s67-71 and Annex C s38-48 for more detailed analysis on the deep problems that exist with the application of adaptive management within the WDWAP.

We state in Annex C that the use of adaptive management in the Singleton Station approval is in contravention of the NT Environment Protection Agency's own guidelines. The way in which adaptive management has been used is another key aspect for why ALEC considers the approval of the Singleton Station water licence to be 'unreasonable'. Its application is incorrect and does not overcome the major issues that exist in the WDWAP around uncertainty.

We acknowledge that adaptive management is an important tool in natural resource management, but we stress that adaptive management should not be used to overcome all forms of uncertainty. Adaptive management should add rigour to natural resource management, not support WAPs and subsequently developments that lack an understanding of their impacts.

4. Water mining: alignment between the WDWAP and the Water Allocation Planning Framework

ALEC strongly opposes the thresholds outlined in the Water Allocation Planning Framework (WAPF). The policy is over 20-years old, is outdated, crude and is not linked to the sustainable use of water resources. There is no scientific justification for the implementation of the WAPF. There should be no alignment between any future WAP with the WAPF. Alignment is vehemently opposed.

The previous WAC was guaranteed that the WDWAP would not mine water. There was strong support from the WAC to not mine the aquifer. Water Planner Dale Cobban was captured in the WAC minutes in November 2017 stating that “mining aquifer storage is off the table and that the recommended approach would not deplete storage in the aquifer”.[29]

Recommendation 23: There is no alignment between future WAPs and the WAPF. WAPF thresholds are not adopted.

Recommendation 24: The Water Allocation Planning Framework is modernised by embedding best practice environmental practices and outcomes.

5. Other comments

a. Aboriginal Strategic Water Reserve

ALEC welcomes the work the Northern Territory Government has done to introduce the Strategic Aboriginal Water Reserve (SAWR) into WAPs. ALEC supports their implementation into all future WAPs as is the Northern Territory Government policy.

ALEC echoes the concerns of the WDWAP that the SAWR may be impacted in the future and downgraded if the ESY is downgraded, which is considered likely and the risks ‘extreme’. The Department should ensure that the SAWR is not impacted due to overallocation of the general pool.

b. Staged allocations

ALEC supports the use of staged allocations in the approvals of water licences. However ALEC holds significant concerns, similarly to the use of ‘adaptive management’, that stage allocations are used as a tool to manage uncertainty, regardless of the level and severity of uncertainty that exists. In addition, staged allocations need to be complimented by a framework that ensures the appropriate monitoring and compliance procedures are in place and are supported by best scientific practice. An ad hoc regime for staged allocations is not supported.

[29] Western Davenport Water Advisory Committee: Meeting Record 2, p.3.

Recommendation 25: Develop a framework for determining when staged allocations are necessary that ensures that monitoring and compliance mechanisms are appropriate and comprehensive.

6. Future opportunities to improve water allocation plans

ALEC strongly supports the development of WAPs across the Territory. However, WAPs are currently weak and highly discretionary.[30]

The Environmental Defenders Office have developed a briefing note *Deficiencies in the existing water law and governance framework in the Northern Territory* which highlights ways in which WAPs can be improved.

There is considerable opportunity for WAPs to be improved in the Northern Territory, this includes by ensuring there is:[31]

- An overarching framework for how WAPs are developed;
- Greater connectivity between WAPs and the *Water Act* 1992;
- An array of binding provisions that govern water sharing and use;
- Lower levels of discretion in the development and management of WAPs;
- A definition for ESY;
- A methodology for ESY;
- A specification that WAPs are based on best-scientific and cultural evidence;
- A statutory instrument that ensures that ESYs are legally enforceable;
- Adaptive management triggers that are legally enforceable;
- Less reliance on the Water Controller to use their discretion to impose appropriate conditions on water licences;
- Statutory timeframes for developing WAPs.

Kind regards,

Alexander Vaughan
Policy Officer

[30] Environmental Defenders Office, Deficiencies in the existing water law and governance framework in the Northern Territory
[31] Ibid.

7. Recommendations

Recommendation 1: The Department update the public and WAC on whether further work has been completed on the Knapton (2017) model and detailing the changes that have occurred.

Recommendation 2: Further work is completed to ensure that the future WAP is underlined by at a minimum a Class 2 model, but ideally a Class 3 model, considering the complexity of the region and the aspirational consumptive uses.

Recommendation 3: If models are updated, present this new research directly to the responsible water advisory committee.

Recommendation 4: The regolith is excluded from any future WAPs until further research verifies its quantity and quality with confidence.

Recommendation 5: The regolith is not considered when granting new licences after the 6th December 2021, even if the current WDWAP is extended beyond that current timeframe.

Recommendation 6: Use accessible storage, not total storage when determining the ESY for future WAPs.

Recommendation 7: Future WAPs are based solely on recharge (with the exclusion of the regolith) to ensure a precautionary approach.

Recommendation 8: Further comprehensive work is completed to identify GDE distribution and significance, environmental water requirements and responses to increased extraction prior to the granting of any new water licences

Recommendation 9: Further work is completed to understand the full extent of cultural values and practices (where appropriate) and their water requirements and responses to increased extraction.

Recommendation 10: Publicly publish the integrated annual reports on monitoring and compliance prior to the development of the new plan.

Recommendation 11: Publish the evaluation report of WAP implementation that was meant to be completed by December 2020.

Recommendation 12: Provide the new water advisory committee the evaluation report prior to their first meeting.

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Recommendation 14: For future WACs, new scientific research is reported directly to the WAC to create a consensus of understanding.

Recommendation 15: Water advisory committees should not be closed while a WAP is operating.

Recommendation 16: Water advisory committees should have a draft of the WAP presented by the Department prior to its finalisation.

Recommendation 17: WACs should meet at least twice a year for the duration of the plan.

Recommendation 18: WACs are transparent, accountable and that community and stakeholder input is appropriately obtained.

Recommendation 19: The Guideline is abandoned as policy by the Department

Recommendation 20: The ‘limits to change rule’ becomes a guide that is adhered to for all future WAPs

Recommendation 21: Due to limitations of the ‘limits to change rule’ an additional guideline is developed to address negative impacts, particularly for groundwater depths less than 5 metres, and consideration for above 15 metres.

Recommendation 22: The presence/ absence of aquatic GDEs is investigated prior to the development of all new WAPs.

Recommendation 23: There is no alignment between future WAPs and the WAPF. WAPF thresholds are not adopted.

Recommendation 24: The Water Allocation Planning Framework is modernised by embedding best practice environmental practices and outcomes.

Recommendation 25: Develop a framework for determining when staged allocations are necessary that ensures that monitoring and compliance mechanisms are appropriate and comprehensive.