Western Davenport Ti Tree Water Advisory Committee

Minutes - Meeting #04

Meeting date: Thurs 28 July 2022 Start time: 9.15am

Location: Teams meeting (video) and Alice Springs AZRI meeting room

Meeting Summary

The Committee met for three days, with the first two days spent visiting the Plan area to see relevant issues first-hand. The Committee met with Local Authority members at Ali Curung and a representative from the Singleton development proposal. The session with community members and Traditional Owners and Managers was instructive and the Committee was impressed with the extent and scope of interest shown in water matters. The Committee identified that further engagement with the community was necessary. The Committee inspected important groundwater dependent ecosystems (GDEs), a Singleton development site and the Departmental drilling rig which was operating in the area establishing a number of monitoring bores. They also visited Ali Curung public water supply infrastructure, inspected irrigated agriculture and were briefed on water monitoring activities. It was considered that the field visit provided an excellent backdrop for the Committee meeting and helped to crystallise a number of issues.

On third day, the fourth meeting of the Committee considered a number of matters including:

- Consistent with the observations from the field trip the Committee supported the proposal by the
 Department to establish an Aboriginal Reference Group in partnership with CLC. However the
 details of the appropriate approach for the region need to be confirmed and are likely to come out
 of a meeting planned for September.
- Considerable discussion was held on GDEs and the Guideline on limits of acceptable change and implications of adopting it in the WAP.
- The Committee was briefed on two reviews prepared for Central Land Council. The Committee considered that a number of issues relevant to the preparation of advice on a draft WAP were raised during the briefing.
- A major part of the meeting was initial consideration of modelling and suggested policy positions related to Estimated Sustainable Yield (ESY). As part of this discussion concerns were raised by some members of the implications of miscalculations in allocation as well as concern for potential impacts on GDEs especially if full utilisation were to occur. The Department reiterated that modelling of full allocation and utilisation was prepared using the best available information on the location of proposed borefields and provided a generalised view at the regional level for water planning purposes rather than the actual assessment of specific licence applications. The Committee sought additional modelling and agreed to consider the information at a meeting in late August.



Recommendations and Actions

Recommendations from Meeting #04				
4.1	The Committee endorses the minutes of Meeting #03 and recommends they be published on the DEPWS website.			
4.2	The Committee acknowledges the effort involved in and the effectiveness of the site visit to the Western Davenport region prior to the meeting, especially the discussions with the Local Authority members and that a representative from the Singleton development joined the visit.			
	The Department works with CLC to coordinate a consultation on the draft Plan in the region in early September when the draft Plan is expected to be released for public consultation.			
	The Department includes consideration of broader interest groups in the development of the communication plan for the release of the draft WAP.			
4.3	The Plan establishes processes such as active annual reviews, clear review triggers for review, and establishes a conservative ESY, to ensure the resource is not over allocated especially when an area, such as the Western Davenport is in an establishment and development phase.			
4.4	The Department considers the Committee's advice provided during the meeting, as well as from the additional online meeting in August, to inform the ESY and Plan for public consultation in September 2022.			

Action	ns from Meeting #04				
4.1	The Department to continue to work with CLC to set up appropriate mechanisms to improve Aboriginal involvement in water management such as via an Aboriginal Reference Group (which are being established in other plan areas in the NT), or other appropriate ways.				
4.2	The Department to clarify effect of not using the concept of the regolith on the modelling of available water – e.g. does it makes the model more or less accurate?				
4.3	The Department to provide a limits of acceptable change paper summarising previous discussions and outlining: • the level of protection offered to GDEs under the current Guideline				
	proposed refinements				
	The WAC also requested to understand the implications of retaining a stand-alone guideline vs including the limits of acceptable change into the WAP as recommended by the Department.				
4.4	The Department to circulate the slides from Dr Vogwill's presentation – completed 2/8/22				
4.5	The Department to provide an objectives and outcomes paper summarising the development of objectives and associated outcomes.				
4.6	The Department to advise when the Guideline on Establishing an ESY and the GDE monitoring guidelines are publicly available in the coming months.				
	Optional action - ALEC/other members to propose guidance for the Committee to consider regarding minimising degradation to GDEs within the plan area from grazing etc (note this may be outside of the development of the WAP)				
4.7	The Department to provide an ESY paper summarising the presentation on the ESY with maps that describe all scenarios, including the new scenarios discussed at the meeting (for the additional meeting in August).				
4.8	Committee members to reconvene online in about a month to develop clear feedback on the recommended ESY.				

Meeting Record

Item 1 Acknowledgement of country

The Chair provided an acknowledgement of country: "We respectfully acknowledge the past and present Traditional Custodians of the land on which we are meeting today and the land which is to be spoken about during this meeting".

Item 2 Opening and welcome

The Chair opened the meeting and welcomed members, proxies and observers.

Item 3. Attendance

Attendance and apologies were noted. A quorum was reached.

Members present	Method	Apologies	Department staff	Method
Andrew Johnson (Chairperson)	Meeting room	Paul Burke	Amy Dysart	Meeting room
Jade Kudrenko	Meeting room	Michael Liddle	Clare Taylor	Meeting room
Steve Morton	Online	Barbara Shaw	John Wischusen	Meeting room
Nick Ashburner	Meeting room		John Gaynor	Meeting room
Paul McLaughlin	Meeting room		Simon Cruikshank	Online
Roy Chisholm	Meeting room		Adrian Costar (modelling	Online
Annette D'Emden	Online		& ESY sessions)	Online
			Dale Cobban (modelling &	Online
Proxies			ESY sessions)	
Kate Peake (for Paul Burke)	Online			
Observers			Meeting Secretariat	
Alex Vaughan	Meeting room		n/a	

Item 4. Declaration of interests

Jade Kudrenko notified the Committee of her change in employment but that she would continue on the committee.

The Chair noted that the Department would not respond to the modelling presentation by Ryan Vogwilldue to the current legal proceedings.

Item 5. Nominated meeting evaluators

Nick Ashburner volunteered to be the meeting evaluator.

Item 6. Correspondence

No correspondence

Item 7. Endorsement of Meeting #03 minutes

It was noted that the Department had circulated the draft minutes for out-of-session review and incorporated suggested amendments. A member raised concerns about some items in the minutes

including the Aboriginal Reference Group (p8) and the release of the draft NT EPA guidance on cultural heritage (p12). The Chair suggested that the first item be addressed via business arising and that the second item was out of scope of this Committee. On that basis the final draft minutes of Meeting #03 were endorsed.

Recommendation 4.1 The Committee endorses the minutes of Meeting #03 and recommends they be published on the DEPWS website.

Item 8. Actions & business arising

Outsta	nding recommendations and actions from previous meetings	Status	
A2.2	The department will provide members with links to several technical reports when they are published: 1) 2018 Western Davenport model report; 2) Independent model uncertainty analysis report; 3) Western Davenport water quality (salinity) report	Partially complete – the model uncertainty report has not yet been published as a summary is being prepared to release with the report.	
A2.14	All members to consider opportunities for engagement with their sectors and contact the department to discuss.	Ongoing	
R3.2	The Department considers producing a version of the WD water balance paper for the public record that clarifies terms, certainty in water balance volumes and differences in approaches between the current and future water allocation plans.	Agreed and to be undertaken in the context of Department process documentation, such as ESY guideline.	
R3.3	Aboriginal perspectives should inform the measures of success for all proposed objectives, but especially objectives 3 and 4. The Committee considers an Aboriginal Reference Group would be a good forum for this input	Agreed and in progress in partnership with CLC.	
R3.4	Cultural values and significant sites should in some way be considered in the refined limits of acceptable change for the new Western Davenport plan.	Based on advice from CLC it was determined that the WAP should contain guidance indicating each application for a water licence would need to address this issue on a case by case basis as no overarching policy was appropriate.	

Business arising

1. It was noted that the CLC will convene a meeting in September to assist in establishing an Aboriginal Reference Group (ARG) under the water Act to contribute to natural water resource management that has been progressing over the last 12 months. However it was discussed that the issues that Aboriginal people want to discuss are broader than the water allocation plan such as water quality concerns and service delivery. The Department advised that these are being considered as part of the NT Strategic Water Plan, which practically may result in engaging similar people in communities and that the Department may need to refine the approach to ARG to respect people's time, needs and meet broader outcomes.

Action 4.1 The Department continues to work with CLC to set up appropriate mechanisms to improve Aboriginal involvement in water management such as via an Aboriginal Reference Group (which are being established in other plan areas in the NT), or other appropriate ways.

2. The Committee noted the positive response from the field trip and the session at Ali Curung and discussed the need for further follow-up consultation with local communities. It was suggested that there was a need to clearly demonstrate that the Committee and Department had taken on board matters raised at the meeting. The Committee sought advice about the Department's proposed consultation process and recommended that the Department makes more and longer visits to the region, visits specific communities in addition to Ali Curung and ensures that a broader range of interest groups are consulted where possible eg pastoralists, mining and other nearby population centres.

Recommendation 4.2

The Committee acknowledges the effort involved in and the effectiveness of the site visit to the Western Davenport region prior to the meeting, especially the discussions with the Local Authority members and that a representative from the Singleton development joined the visit.

The Department works with CLC to coordinate a consultation on the draft Plan in the region in early September when the draft Plan is expected to be released for public consultation.

The Department consults with broader interest groups in the developing the WAP.

3. Members were advised that the Department is in the process of preparing a public version of ESY process (including the natural water balance) which clarifies terms, details water balance volumes and clearly differentiates the approach adopted between the previous and proposed water allocation plans. During discussions, members requested clarification about whether removing the concept of the regolith has increased or decreased certainty/confidence in model parameters and results, and about the implications of changes.

Action 4.2 The Department to clarify effect of not using regolith on the modelling of available water – e.g. does it makes the model more or less accurate?

4. The Committee was informed that the proposed refinement of the limits of acceptable change to groundwater dependent ecosystems Guideline, as discussed at Meeting #3, has not progressed partly due to the need for further field work to validate the expanded mapping across the whole WAC area. The Committee discussed the proposed incorporation of the Guideline into the new WAP. Concern was raised by a member that this will give the Guideline legal status which was not supported, especially if the underpinning science is still being refined. The Committee noted that it was difficult to see a precautionary approach being applied if high value GDEs were not protected as part of this process and there was a need to clearly outline the level of protection for affected GDEs.

Action 4.3 The Department to provide the WAC with as a **limits of acceptable change paper** summarising previous discussions and outlining:

- the level of protection offered to GDEs under the current Guideline
- proposed refinements

The WAC also requested to understand the implications of retaining a stand-alone guideline vs including the limits of acceptable change into the WAP as recommended by the Department

- 5. The Committee discussed the importance of not over allocating water, the difficulty of reducing entitlements, the despair caused by aquifers going dry and the need to preserve the resource for future generations. This included wide ranging discussion on the implications for community, cultural values and environmental assets. Members generally:
 - supported the proposal for an annual report on Plan implementation. The Department advised members that additional capacity will be available as part of the current budget process
 - suggested reviewing the Plan in earlier than in five years because if development happens very quickly and if permanent crops are planted it may be difficult to reduce allocations.

- noted that the strength of a Plan as a water management tool was dependent on the scope and details of its policies especially if it was to provide guidance for licence conditions whereas Departmental policies currently provide this guidance
- suggested active annual reviews, triggers for review or other action defined in the Plan as the basis for clear advice to the Controller of Water Resources
- suggested there were benefits to be achieved from continuation of the Committee and for
 meetings on six monthly basis to review monitoring and other data and that the Committee could
 provide a useful conduit to water users/irrigators and that any impacts on GDEs are regularly
 reviewed.

Recommendation 4.3: The Plan needs to establish processes such as active annual reviews, clear review triggers for review, and establishes a conservative ESY, to ensure the resource is not over allocated especially when an area, such as the Western Davenport is in an establishment and development phase.

Item 9. Confirmation of agenda

The proposed agenda was confirmed.

Item 10. Revisit Plan timeline

The schedule for development of the new Western Davenport water allocation plan was proposed, noting the ambitious timeframe.

Item 12. CLC groundwater review

As requested by the CLC, Ryan Vogwill presented key points from the two papers circulated 1. high-level review of WD water allocation, environmental impact potential and groundwater model, and 2. model sensitivity and uncertainty.

The presentation and discussion highlighted:

- 1. Where there is a high degree of uncertainty in understanding of the water resource and the impacts of extraction, the allocation limit (ESY) should be set conservatively at 50% of the potential total available until the science is available to reduce the uncertainty
- 2. Need to recognise the implications of changing groundwater levels on aquatic GDEs, for example changes in the duration of standing water levels due to lower groundwater levels can affect the lifecycles of macro invertebrates
- 3. Need to better understand ability of GDEs to adapt to change in groundwater levels and use absolute numbers rather than percentage changes in depth cf. Gnangara mound in WA
- 4. Concern that water is being allocated very fast given the uncertainties in the science
- 5. Full allocation limit should not be more than 70% of recharge, with the analogy of aquifer storage being like a bank account that we don't want to deplete beyond a certain level over a certain time
- 6. Need to identify and prioritise GDEs, and recognise ecosystem connectivity, before applying any % change allowable impacts so that 'jewels' are protected
- 7. A process needs to be in place for Traditional Owners and managers to say 'no' to, or negotiate, impact to Aboriginal cultural sites

Action 4.4 Department to circulate the slides from Dr Vogwill's presentation.

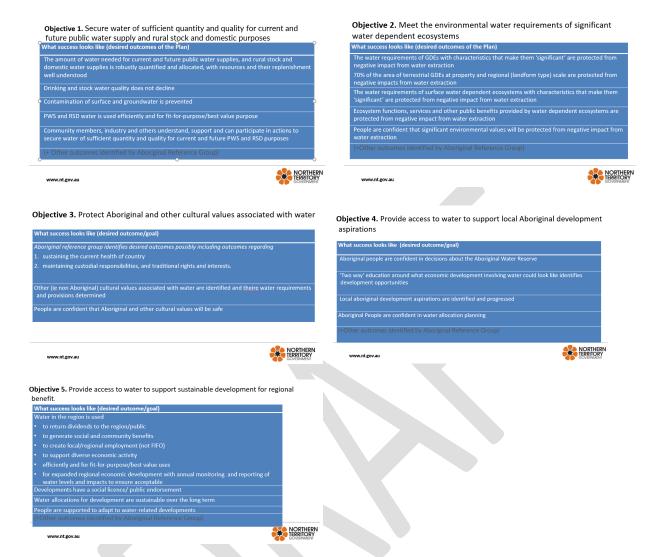
Item 11. Field visit

Meeting participants were asked to share their key messages/learnings and advice from the field visit:

- 1. Now have a better understanding of the difference between groundwater dependent ecosystems and inundation dependent ecosystems
- 2. Need to clearly understand the extent and value of GDEs lost due to drawdown
- 3. Many local concerns around water quality water quality issues relating to water supply need to be better explained and separated from Plan issues
- 4. Need to better recognise the high diversity of GDEs across the district, the landscape is not all the same
- 5. Need to better recognise the importance of shallow GDEs and interactions such as the role of large trees in pulling up local water levels
- 6. Need to prioritise GDEs in terms of significance rather than treat them all equally
- 7. High turnout at the Local Authority meeting demonstrates the need for more engagement, the interest in and instinct for water matters was at a much broader level than anticipated and it was considered there was a real opportunity for engagement which reinforced the importance of an ARG or appropriate mechanism
- 8. Need to be upfront that we are mining water as recharge is irregular and explain the implications of lowering the water levels, and how impacts can be managed via acceptable limits of change, rather than talk about percentages of storage
- 9. Need to better recognise irrigation salinity risks, need soil salinity data and to understand the land degradation implications which are being collected as part of the current drill program
- 10. We all want same outcomes and for development to be sustainable, the lack of communication leads to unnecessary tensions, the leader(s) need to take everyone on the journey, we need time to share information and talk
- 11. Need to consider industry development models in terms of public benefit from water consider different models of Melon farm vs Singleton activity
- 12. We have responsibility for managing a public resource so where there is public outrage we really need to interrogate and understand the cause
- 13. Need the Plan to include the steps that will be taken if any alarms are sounded
- 14. The current lack of voice and power is causing tension. If an ARG is formed, it is critical to be clear on what the Group can and can't influence, on where their power is.
- 15. Need to better recognise roles of Traditional Owners and land managers, as well as local Aboriginal residents
- 16. Need to better recognise the responsibility that Aboriginal people carry for country and the complex protocols for engagement including the need to not simply take comments at face value
- 17. Need for an irrigators group to discuss matters such as irrigation techniques, bore constructions, marketing and community relations
- 18. Need improved understanding of aquifer properties and flow paths and aquifer connectivity
- 19. Need to recognise the importance of talking directly with community members, for more engagement and more in-depth and ongoing conversations.

Item 13. Objectives & desired outcomes

The draft objectives and associated desired outcomes of the Plan were presented. There was limited time for discussion but a commitment was made to circulate draft outcomes as a paper for discussion.

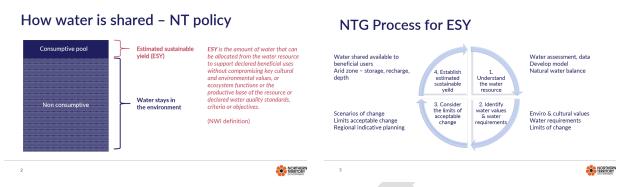


Key initial discussion points:

- As indicated in Meeting 3, more guidance is needed to better define the meaning of the term 'significant' in Objective 2
- Not all members support inclusion of the statement '70% of the area of terrestrial GDEs at property and regional (landform type) scale is protected from negative impacts from water extraction' as a desired outcome of Objective 2

Action 4.5 The Department to provide an **objectives and outcomes paper** summarising the development of objectives and associated outcomes of the Plan.

Item 14. Overview of ESY process



An overview of the process the Department uses to establish Estimated Sustainable Yield (ESY) was presented, including the definition an outline of the four steps (as above).

Key discussion points raised by the Committee:

- It is important to identify sensitive and significant GDEs
- Some GDEs in the WCD are degraded making them more vulnerable to groundwater level drawdown – how is this considered and factored into ESY settings? For example if 30% of GDEs are already degraded from landuse activities how do we assess the additional impact of the proposed 30% impact associated with water related activities and are there any potential tradeoffs
- Guidelines for monitoring the condition of GDEs are being drafted. This will provide more information on the process so the work of the Department and licence holders are held to the same standard
- What guidance can the Plan provide to minimise degradation from grazing and other landuse activities given the context of the Water Act.

Action 4.6 Department to advise when the Guideline on Establishing an ESY and the GDE monitoring guidelines are available in the coming months

Optional action 4.6b ALEC/other members to propose guidance for the Committee to consider regarding minimising degradation to GDEs from grazing etc within the plan area (note this may be outside of the development of the WAP).

Item 14. Estimated Sustainable Yield

The application of the process of establishing an ESY from the previous presentation was then applied to the Western Davenport planning area. This started with understanding the water resource, explaining the numerical model and the natural water balance which assigns 89% of the total potentially available water resource (153,721 GL) to the Central Plains, 5% to the Davenport Ranges and 6% to the Southern Ranges. Next the work being undertaken to identify water values and their water requirements was presented, the second step in the process for establishing the ESY.

The third step included an overview of the five water sharing scenarios modelled by the department. These scenarios were described in terms of use of the total water storage assuming no recharge (as per the policy and previous Plan) as well only considering the top 150m of the resource. The numbering shows % of accessible storage (the aguifer to a depth of 150m rather than the entire aguifer, which in

places is over 300m). Maps of the area with indicative draw down contours for each of the scenarios were illustrated on a clickable pdf map and discussed.

- SC20 = allocate 87 GL/yr across the 3 management zones
- SC25 = allocate 95 GL/yr across the 3 management zones
- SC30 = allocate 114 GL/yr across the 3 management zones
- SC40 = allocate 153 GL/yr across the 3 management zones
- SC80 = allocate 305 GL/yr across the 3 management zones

The Department recommended an conservative ESY of 95GL/yr across the region (SC25) and explained that this represents a decrease from the current 138GL/yr ESY/consumptive pool in the current Plan

Clarifications made during the discussion:

- Drawdown contours represent change from standing water levels
- Contour error margins are around +/- 1 to 2m where we have more data points but this varies across the model domain with higher errors where there are fewer data points eg in the west the error could be +/-10m however these is no development proposed in those regions.

Key discussion points:

- Not many bores go to 150m since not economic, also need to consider possibility of separate aquifer at around 100m and saturated thickness
- Bores may not go that deep now, but we are looking at the resource over 100 years
- It would be interesting to see the numbers based on 100m economically accessible base
- The 95GL/yr ESY proposed over the three management zones is within Ryan Vogwill's suggestion that an ESY is no more than 70% of recharge
- The evapotranspiration component of recharge can be accounted for in the non-consumptive pool
- This high level of drawdown does not happen in the Daly or Mataranka area where there is good recharge so how can it be allowed to happen in an arid area where recharge is very scarce
- It was suggested that economically Fortune would likely seek a further licence rather than stop pumping at the end of the current licence period of 30 years especially if they have invested over \$100milion
- We may trust the modelling at a regional scale but the effects of the Singleton licence which
 ramps up relatively quickly and is likely to be difficult to adjust in the future, appears to be
 significant
- One option proposed was to set the consumptive pool lower than the ESY and advise that no more allocations are to be made in the region in the next 5 years
- Ecosystems here are slow to respond and we may not see the effects of drawdown for decades
- The Department is confident that it knows enough to allocate 95GL/yr across the region and will
 have time to build information and understanding over the next 3-5 years as larger extraction is
 staged and contingent on next stages based on actual changes and predicted meeting these
 expectations.
- The ESY is not to do with how much water has already been allocated, the potential area of impact is already too great
- The area of impact for SC20 on GDEs is in the order of 30% and each individual licence assessment is used to determine the actual impact prior to approval or progress to the next stage. It was pointed out that the modelled impact on GDEs is generalised as the scenarios are fictional as the actual total use in the region is 3 GL/year
- Experienced farmers shared their views that water levels typically start dropping from the upgradient end of an aquifer
- It was suggested that allocations should be decreased now as it would save a lot of pain later if there was a requirement to partially reduce allocations now rather than later
- Recharge is episodic and could take decades/centuries to move through to areas of drawdown

• It was noted that in effect water use in the region will be mining the groundwater resource until recharge occurs to replenish the resource base

Summary of Committee advice:

- 1. Show total volumes for water management zones as well as totals for the whole region
- 2. Avoid using the term 'worst case scenario' when simply modelling full entitlements
- 3. Model the scenarios with Fortune still 'on' at 50 years
- 4. The Department advised that it would be unable to provide as requested the areas on the map where water levels drop below the root zones of GDEs, show the drops also as depths below ground level and explain the difference between this map and the Fortune map of drawdown
- 5. Model scenarios for 100 years to understand the impacts on GDEs then, for example by using two lots of 50 years
- 6. Recognise the very large magnitude of the proposed drawdown and its potential impacts and model a 50G/yr (or possibly 70G/yr) scenario that creates less drawdown
- 7. Explain the confidence in the results and the error bars, assumptions etc
- 8. Account for the possibility of different aquifers, and explain the salinity impacts of the scenarios
- 9. Identify high conservation value/significant GDEs and GDEs that are important for connectivity when assessing potential drawdown impacts
- 10. Consider making cuts to existing entitlements to ensure an appropriate ESY such as 'last on, first off' or spread across all users including the AWR
- 11. Distribute the clickable pdf after this meeting to allow members more time to consider it.

Recommendation 4.4: the Department considers the Committee's advice during the meeting from the additional online meeting in August to inform the final draft WAP for public consultation in September 2022.

Action 4.7 Department to provide an **ESY paper** summarising the presentation on ESY with maps that describe all scenarios, including the new scenarios discussed at the meeting (for the additional meeting in August).

Closing comments

- Draft Plan needs to be ready in 4-6 weeks for public consultation.
- Modelling the new scenarios will take around a week and the report another week, but can aim to circulate by 18 Aug or earlier if possible with a possible meeting in late August
- Members will provide considered advice to the Chair, ideally circulated prior to the videoconference, to enable a compiled response to be developed independent of the Department
- It was noted that the Department had proposed a whole-of-planning area ESY of 95GL/year rather than the current 138GL/yr. This would be partitioned in accordance with the natural water balance storages (ie Central Plains 89%, Davenport Ranges 5% and Southern Ranges 6%)

Action 4.8 Committee members to reconvene online in about a month to develop clear feedback on the recommended ESY.

Items 16, 17 and 18

These items were not discussed due to lack of time.

Item 19. Wrap up

Given the time and energy levels, the Chair simply summarised the day as comprising of lots of discussion and lots of constructive debate which highlighted a variety of concerns and perspectives. It was noted

that much of the concern was focussed on the potential impact of draw down related to the Singleton licence, which was the subject of further negotiation and litigation

Item 20. Future meetings

The afternoon of Aug 24th was nominated as a possible time for an online meeting to discuss the recommended ESY.

Item 21. Meeting evaluation

The nominated member evaluated the meeting as positive, with the exception of papers being provided beforehand and all members arriving on time.

The meeting closed at 4.30pm.

END

Additional note

The Department is responding to feedback from the committee about the importance of monitoring and implementing adaptive management to ensure that water extraction is occurring as predicted and that there are adequate triggers and adjustments made before detrimental effects occur. As a result, the Department is adjusting planning processes to separate the current Water Allocation Plan into a series of three public documents aligned to their purpose and to align the Department to systematically monitor and report as changes occurs:

- <u>Water Allocation Plan (WAP)</u> concise statutory document, outlining where in the NT, the water resource being managed, objectives of sharing water, ESY, allocations to beneficial users and management rules applicable for the 10 year Plan, reviewed at 5 years.
- <u>Supporting information</u> background information to the decisions that informed the WAP and detail on planning processes, understanding of the water resource, numerical modelling, environmental and cultural considerations, water use staying relatively consistent and updated as part of the WAP at 5 and 10 years.
- Operational implementation more regular reporting and responding to changes within the 5
 years on the monitoring and actions that will be carried prior to the review. This will be
 publically updated in response to further information, monitoring, compliance to ensure that the
 Department is appropriately responding to changes as they occur and not waiting until the WAP
 review.

The draft WAP is being developed in the new structure.