

Padthaway WAP Stakeholder Advisory Group Minutes

Meeting No. 6, Thursday 28 May 2020, 2:00 – 4:00 pm
MS Teams Video-Conference

Objectives

- Unbundling discussion.
- Groundwater level resource condition limits discussion.

Attendees:

Group Attendees – Kerry DeGaris (Group Chair, SE NRM Board), Scott Longbottom, Tim Hoare, Krysteen McElroy, Carolyn Brown, John Summers, Phil Brown.

Staff Attendees – Sue Botting (Team Leader, Water Policy and Planning, NRSE), Ryan Judd (Senior Project Officer, Water Policy and Planning, NRSE), Simone Stewart (Water Planning and Security), David Williamson (Team Leader, Water Licencing) (left at 2:05pm returned at 3:00pm).

Apologies – Nil.

Welcome and agenda

The Chair welcomed everyone, advised on MS Teams etiquette and discussed the proposed agenda. Thanked advisory group members and staff for their attendance.

Minutes

Previous minutes from meeting 5 confirmed as true and correct.

Action outcomes to note

- Action 2.6 – On-going.
- Action 3.6 – On-going
Suggested wordings noted in Action Table
- Action 3.7 – On-going.
- Action 4.4 – On-going.
- Action 4.5 – On-going.
- Action 5.1 – Completed.
- Action 5.2 – Completed. Presented in Meeting 5.
- Action 5.3 – Completed. Presented in Meeting 5.
- Action 5.4 – Completed.
- Action 5.5 – Completed. Presented in Meeting 5.
- Action 5.6 – On-going.

Unbundling

Simone Stewart presented an overview of unbundling and some more detailed examples of where it has been implemented elsewhere in South Australia.

Key Points:

- Unbundling (separation of authorisations) is a legislative requirement under the *Landscape SA Act 2019* providing consistency with the *National Water Initiative 2004*.
- Key benefits:
 - To simplify water trading and reduce red tape
 - To provide the flexibility to adjust water allocations annually according to water availability (without permanent reductions)
- Designed for river systems but required to also be applied to groundwater systems.
- Proposed regulations may allow for partial unbundling. Water entitlement (share of the resource) must be separated from allocation (volume of water able to be taken), however separate Water Resource Works Approvals and Site Use Approvals may not be needed. WRWA and or SUA may be put on the licence (entitlement) or allocation and rules are written for the “take and use of water”.
- Examples:
 - Southern Basins and Musgraves
Highly responsive to rainfall, storage levels depleted quickly without recharge, annual allocation adjusted based portion of water available for allocation (pre-determined relationship based on specified storage level triggers).
 - Far North PWA
Not responsive to rainfall, water is available but not quantified, focus on protecting groundwater dependent ecosystems.

Additional allocations allowed if no impact on GDEs or existing users. Managed through Water Resource Works Approvals with rules now referring to “take and use of water”.
 - Northern Adelaide Plains, Dry Creek and Central Adelaide PWAs
Plan is currently under review and will incorporate three PWAs. Rules need to manage one over-allocated area, allow for transfers between consumptive pools and maintain appropriate groundwater pressures.

Discussion:

- The group clarified a number of points with Simone, including:
 - An allocation cannot be issued unless you have an entitlement.
 - An allocation may be traded for a 12 month period (licensing period).
 - In an under-allocated system the Minister may hold and issue shares in the consumptive pool. As Padthaway is fully allocated no additional shares are available to be issued from the consumptive pool.
 - A Site Use Approval (SUA) has no reference to location or to volume.
 - A Water Resource Works Approval (WRWA) references specific locations and can specify volumes. In groundwater systems the rules need to relate to the WRWA to enable management of the location of extraction.
 - A WRWA or SUA could be put on a licence (entitlement) or allocation and rules written for the “take and use of water”.
- The Group thanked Simone for her presentation and Simone advised that she was available to answer further questions outside the meeting.

ACTION: Forward Simone’s unbundling presentation to the Group.

Saturated thickness

Ryan Judd addressed Action 5.3 relating to advice from Cameron Wood (DEW) on the use of saturated thickness as an RCL measure.

Key Points:

- Saturated thickness is a useful measure in hydrogeology but is a challenging concept to communicate and ensure that the community has a good understanding and appreciation of the measure.
- Standing water levels are easier to measure, monitor, interpret and communicate.
- For RCTs and RCLs to be effective, they need to be easy to monitor and communicate, and to be well understood by the community with clear management responses.

ACTION: Forward Action 5.3 response to the Group.

Resource condition triggers / Resource condition limits

Ryan Judd presented on the application of RCTs and RCLs to historical data and modelled future scenarios, and an assessment of the vulnerability of stock and domestic wells.

Key Points:

- Summer data points were excluded from graphs of historical data to more clearly show “retrospective” application of RCTs and RCLs.
- Historic data shows RCT A was triggered six times and RCT B triggered three times in the period 2006-2016. In most years very low percentages of wells exceeded the RCL, with the condition of 25% of wells exceeding the RCL only occurring in the reference year (2009).
- Modelled Scenario 1A (average extraction and average climate). RCT A is rarely reached, and RCT B and the RCL do not exceed the proposed conditions.
- Modelled Scenario 1B (average extraction and reduced rainfall). Longer periods of lower recharge activate RCT A and then RCT B. RCL is triggered but the responsiveness of the Padthaway system allows for recovery, supporting the proposal to implement management responses only after the RCL has been exceeded in three consecutive years.
- Modelled Scenario 2A (full allocation and average climate). RCT A, RCT B and the RCL are all exceeded within the lifetime of the next plan with the resource showing little capacity to recover under full allocation.
- Modelled Scenario 2B (full allocation and reduced rainfall). RCT A, RCT B and the RCL are all exceeded within five years. Under a reduced rainfall future, full extraction would result in on-going restriction to ALE until water level recovered to above 2009 levels. Enacting full extraction after recovery may re-trigger RCTs and RCLs.
- Limitations to the assessment of vulnerability for stock and domestic wells were noted. Groundwater modelling has shown under scenario 2B of reduced rainfall recharge and full extraction that groundwater declines of 3m are likely on the Flats and could impact 30% of stock and domestic wells.
- There is anecdotal evidence that flood irrigators had poor yields during 2004 as groundwater levels declined. However, there has been no anecdotal evidence that could be found of this affecting stock and domestic wells.
- Groundwater modelling has shown that if average extraction continues then stock and domestic wells will be a low risk of being impacted.

- A considerable number of stock and domestic wells are owned by irrigators and any adverse impacts on their wells will be caused in part by their own irrigation extractions.

Discussion:

- The RCT and RCL graphs and tables of percentage exceedances gave a good understanding of how RCTs and RCLs and associated management responses, would be applied.
- Scenario summaries were consistent with what was anticipated. Understanding the recovery rate of the resource following the application of the proposed RCL restrictions would be informative, helping to demonstrate the effectiveness of the proposed adaptive management framework.
- The Group discussed how carry-over should be managed in the proposed adaptive management framework. It was provisionally agreed that carry-over should not be made available when RCT B has been triggered. It was also noted that after several dry years there is unlikely to be much carry over so the measure would likely have little impact on recovering the resource.
- SE NRM requested confirmation of a previous Group discussion on whether the proposed management responses should apply only to the management area in which they were triggered, or to the entire Padthaway PWA. The group noted that previously reductions had applied across the whole PWA and that for consistency and fairness, any future restrictions should also be applied to the entire Padthaway PWA.
- Group questions:
 - Is there was a good community understanding of water levels under scenario 1B and will this be a limitation to irrigation in the future?
RJ advised that as the RCL is based on 2009 groundwater levels irrigators should have an understanding of what to expect under those conditions.
 - Scenarios 1A and 1B are based on average allocation, will the current expansion of vineyards in the area and associated water extraction, significantly impact these scenarios?
DW advised that it may be possible to get a broad assessment of the change in vineyard extent over time using aerial photography comparisons.

SAG PROVISIONAL DECISION: The adaptive management framework should include a hold placed on carry-over water when RCT B is triggered.

SAG DECISION: Management responses activated through the triggering of RCTs and RCLs are to be applied to the entire Padthaway PWA.

ACTION: Investigate possible changes to vineyard extent in the Padthaway since 2009.

ACTION: Forward RCL Scenarios presentation to the Group.

Next steps

- Continue unbundling discussion.
- Model water resource recovery following application of adaptive management provisions (RCT / RCL management responses).

Next meeting date

- Next meeting date: Thursday 2 July 2020 2:00 pm – 4:00 pm.

Close of meeting

Meeting closed at 4:30 pm.

The Chair thanked the stakeholders and staff for attending.

Padthaway WAP Stakeholder Advisory Group
Action Table

Action	Padthaway WAP Stakeholder Advisory Group Actions	Status	Meeting 6 Update
2.6	Prepare and distribute to the Group an explanation / example of the application of the three year rolling average SPR carry-over.	On-going	Held open
3.6	Consider alternative wording to “Resource Condition Triggers”. Suggested wordings: “Warnings” and “Actions” “Resource condition indicators”	On-going	Held open
3.7	Consult with DEW re feasibility of providing more tailored water quality and level data and trends directly to licensees.	On-going	Held open
4.4	Investigate suggested alternatives for groundwater level resource condition triggers and limits.	On-going	Held open
4.5	Consult with relevant DEW teams to review annual reporting to better inform licensees of Padthaway salinity and groundwater levels and trends.	On-going	Held open
5.6	Further investigate options for managing commercial-in-confidence data.	On-going	Held open
6.1	Forward Simone’s unbundling presentation to the Group.		
6.2	Forward Action 5.3 response to the Group.		
6.3	Investigate possible changes to vineyard extent in the Padthaway since 2009.		
6.4	Forward RCL Scenarios presentation to the Group.		

Action Table – Closed Items

Action	Padthaway WAP Stakeholder Advisory Group Actions	Status
1.1	Amend Terms of Reference	Complete
1.2	Unbundling presentation for meeting 2	Complete
1.3	Forward both Daniela and Cameron's meeting 1 presentations to SAG members	Complete
2.1	Forward unbundling presentation to the Group	Complete
2.2	Confirm requested information regarding delivery supplements and the current sustainable limit and allocations	Complete
2.3	Available water extraction, rainfall and salinity data for the last ten years to be compiled and forwarded to the group	Complete
2.4	Forward presentation on the current Padthaway Water Allocation Plan to the Group.	Complete
2.5	Confirm requested information regarding transfers, carry-overs and divided allotments.	Complete
2.7	Terms of Reference to be amended, as discussed, and distributed to the Group.	Complete
3.1	Forward Groundwater Modelling and Resource Condition Limits (RCLs) presentation to the Group.	Complete
3.2	Further information on flow from the ranges to the flats to be provided.	Complete
3.3	Further information required on modelled salinity output confidence levels, with respect to landuse and spatial patterns, and potential areas to improve the model.	Complete
3.4	Contact PIRSA (Mel Fraser) to investigate current or potential soil salinity monitoring projects of relevance.	Complete
3.5	Scenarios to be run for average extraction, full allocation and reduced rainfall.	Complete
3.8	Confirm requested information for RCT and RCL discussion.	Complete
3.9	Ryan to present further information on the Citizen Science salinity monitoring project.	Complete
4.1	Forward updated salinity modelling and groundwater modelling scenarios presentation to the Group.	Complete
4.2	Forward heat mapping and other information to the Group.	Complete
4.3	Licensing to check that if DS has been returned that Total Allocation has also been reduced, and to confirm the current Total Allocation volume.	Complete
4.6	Forward salinity monitoring project presentation to the group.	Complete
5.1	Decision Register to be updated with reference to salinity modelling limitations as a key consideration in the decision to not have an RCT or RCL for salinity.	Complete
5.2	Examples of how unbundling applies to Padthaway licences to be prepared for the next meeting.	Complete
5.3	Request advice from Cameron Wood on the use of saturated thickness as an RCL measure and how it varies across the Padthaway area.	Complete
5.4	Forward presentation of RCL and RCT graphs to the Group amended with only winter observation wells' readings included.	Complete

Action	Padthaway WAP Stakeholder Advisory Group Actions	Status
5.5	Prepare examples of the application of the proposed RCL/RCTs to past data and future modelled scenarios, the percentage of well exceedances for each management area, and projections for the recovery of the resource.	Complete

Padthaway WAP Review 2019/20
Decision Register

Issue	Meeting	Decision
Terms of Reference	3	Group agreed to adopt the Terms of Reference
Guiding principles for WAP review		
Resource Condition Triggers and the concept of Resource Condition Limits	4	Group agreed to have no RCT or RCL for salinity
	4	Group agreed to having an RCL for maintaining throughflow of groundwater from the Ranges to the Flats
	4	Group agreed to having an RCT and an RCL for groundwater levels
Timeline for Resource Condition Triggers and Resource Condition Limits	5	Group agreed to the proposed timeline for responses to resource condition triggers and limits
Carry-over	6	Group <i>provisionally</i> agreed that carry-over should be suspended if RCT B is reached as an adaptive management step to prevent the RCL being reached.
Adaptive management	6	Group agreed that management responses activated through the triggering of RCTs and RCLs are to be applied to the entire Padthaway PWA.