

Padthaway WAP Stakeholder Advisory Group Minutes

Meeting No. 3, Thursday 5 December 2019, 2:00 – 4:00 pm
Farmer's Leap, 41 Hodgsons Road, Padthaway, SA 5271

Objectives

- Adopt Terms of Reference
- Detail the Padthaway model update
- Discuss scenarios for model projections
- Discuss the Resource Condition Trigger (RCT) and Resource Condition Limit (RCL) methods for adaptive water management
- Discuss licensee salinity monitoring project

Attendees:

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

Staff Attendees – Sue Botting (Team Leader, Water Policy and Planning, NRSE), Cameron Wood (Senior Hydrogeologist, DEW), Ryan Judd (Senior Project Officer, Water Policy and Planning, NRSE).

Apology - Scott Longbottom, Faith Coleman (proxy Chair, SE NRM Board), David Williamson (Team Leader, Water Licencing)

Welcome and agenda

The Chair welcomed everyone and discussed the proposed agenda. Thanked advisory group members and staff for their attendance.

Minutes

Previous minutes from meeting 2 confirmed as true and correct.

Action outcomes to note

- Action 1.1 – Completed. To be removed.
- Action 2.1 – Completed. To be removed.
- Action 2.2 – Completed. To be removed.
- Action 2.3 – In progress.
The group clarified that the allocation and extraction volumes for the different licenced components (eg SPR, Delivery Supplement) should be presented in a table format.
- Action 2.4 – Completed. To be removed.
- Action 2.5 – In progress.
- Action 2.6 – In progress.
- Action 2.7 – Completed. To be removed.

Terms of Reference

Stakeholder Advisory Group confirmed the amendment to the Terms of Reference.

Groundwater modelling

Cameron Wood presented the updated Padthaway groundwater modelling and discussed resource condition limits and possible scenarios to model.

Key Points:

- The updated Padthaway model, “Padmod4”, includes the last ten years’ of extraction and rainfall data, extended domain to cover entire PWA and higher resolution surface elevation data.
- Recharge rates used are consistent with the previous model but timeframes have been extended and landuse information updated.
- Groundwater level is modelling well and is consistent with measured results and appropriate for running scenarios.
- Salinity modelling is not quite as good. Previously was over-estimated and now underestimated due to revised surface elevation data influencing calculated evaporation rates.
- The variation between modelled and measured salinity is not consistent across the Padthaway PWA. Variability is due to assumptions in the model (eg the recharge rate used for a landuse is the same across all of the PWA) and limitations in being able to represent all salinity processes that may be occurring (eg mobilisation of localised soil salt loads).
- Resource condition limits in the current WAP reference June 2004 levels. Water levels may decline below this level again so a new RCL may be appropriate. Salinity has increased in some areas and revision of the RCL wording should be considered.
- Scenarios proposed for modelling:
 - Continuation of average extraction for next 10-20 years
 - Maximum extraction
 - Reduced rainfall (worst case scenario)

ACTION: Forward Groundwater Modelling and Resource Condition Limits (RCLs) presentation to the Group.

Discussion:

- The Group expressed concerns about the reliability of the modelled salinity data as a tool to inform the WAP and noted the need for an effective monitoring program in order to effectively manage the water resource.
- Specific issues noted included:
 - Rainfall data in the model is annual rainfall – the model currently does not account for monthly or seasonal variation.
 - There is no current information on flow from the ranges to the flats.
 - Currently unable to determine if there are trends in salinity associated with landuse, or with the movement of the salinity slug.
- The Group discussed the possible influence of localised salt loads and the need for improved understanding of soil salinity through monitoring and requested NRSE to investigate monitoring options.

- At this stage running scenarios in the model may be useful for groundwater levels, but more work is required to improve confidence in salinity outputs.

ACTION: Further information on flow from the ranges to the flats to be provided.

ACTION: Further information required on modelled salinity output confidence levels, with respect to landuse and spatial patterns, and potential areas to improve the model.

ACTION: Contact PIRSA (Mel Fraser) to investigate current or potential soil salinity monitoring projects of relevance.

ACTION: Scenarios to be run for average extraction, full allocation and reduced rainfall.

Resource Condition Triggers and Resource Condition Limits

Ryan Judd presented an example of possible groundwater level Resource Condition Triggers (RCT) and Resource Condition Limits (RCL). The Group discussed how these would be applied, their effectiveness as an adaptive management tool and community acceptance of the approach.

Discussion:

- Need to reconsider groundwater RCTs and RCLs as levels have decreased over the last ten years but more recently readjusted upwards. On the flats some levels are still decreasing while others have increased.
- As the current plan sets RCL as at June 2004 groundwater levels, each well has an individualised groundwater level trigger.
- Could consider use of volumes being pumped as RCTs and RCLs.
- Concern expressed that the language used and any communications need to be subtle to avoid adverse community reaction, but still provide enough understanding to prompt self-regulation. Specific concern noted re the use of the word “trigger”.
- Community needs to have understanding and appreciation of water quality and level trends so that they will self-regulate. Regular communication of water quality and level data and trends suggested.
- NRSE noted that the use of RCTs provides a clear mechanism for management responses, including notifications to licensees re water quality and level trends and implementation of restrictions, if needed.
- Noted that DEW and NRSE provide advice and information on RCTs and RCLs and the Group is responsible for determining the RCTs and RCLs and appropriate management responses.
- Any management actions should apply to the whole of the PWA, not individual management areas otherwise the community will be divided.
- The Group requested confirmation of the following points:
 - Where is water being extracted and what is the spatial distribution of water not currently being used?
 - What is the volume of Delivery Supplement and does it equate to the difference between the entitlement volume and the sustainable allocation volume?
 - Allocation and extraction volumes for the different licenced components (eg SPR, Delivery Supplement) be presented in a table format (clarification of Action 2.3).
 - How is an average determined (eg for RCT) and how many years is appropriate for an average for this WAP?

ACTION: Consider alternative wording to “Resource Condition Triggers”.

ACTION: Consult with DEW re feasibility of providing more tailored water quality and level data and trends directly to licensees.

ACTION: Confirm requested information for RCT and RCL discussion.

Citizen Science

Ryan Judd discussed a Citizen Science licensee salinity monitoring program.

Discussion:

- Collaborative salinity monitoring project between licensees and NRSE.
- NRSE to provide bottles for sampling and arrange lab analysis and data management.
- Licensees to collect sample bottles from a local distribution point and collect water samples at least once per year.
- Group noted that there would need to be consistency and adherence to sampling procedures to ensure integrity of samples and reliability of data.

ACTION: Ryan to present further information on the Citizen Science salinity monitoring project.

Next steps

- Presentation and discussion of scenarios.
- Discussion of Citizen Science salinity monitoring program.

Next meeting date

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

Close of meeting

The Chair thanked the stakeholders and staff for attending.

**Padthaway WAP Stakeholder Advisory Group
Action Table**

Action	Tatiara WAP Stakeholder Advisory Group Actions	Status	Meeting 3 Update
1.1	Amend Terms of Reference	Complete	Closed
1.2	Unbundling presentation for meeting 2	Complete	Closed
1.3	Forward both Daniela and Cameron's meeting 1 presentations to SAG members	Complete	Closed
2.1	Forward unbundling presentation to the Group	Complete	Closed
2.2	Confirm requested information regarding delivery supplements and the current sustainable limit and allocations	Complete	Closed
2.3	Available water extraction, rainfall and salinity data for the last ten years to be compiled and forwarded to the group	On-going	Held open Note clarification of action.
2.4	Forward presentation on the current Padthaway Water Allocation Plan to the Group.	Complete	Closed
2.5	Confirm requested information regarding transfers, carry-overs and divided allotments.	On-going	Held open
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
2.7	Terms of Reference to be amended, as discussed, and distributed to the Group.	Complete	Closed
3.1	Forward Groundwater Modelling and Resource Condition Limits (RCLs) presentation to the Group.	Complete	Closed
3.2	Further information on flow from the ranges to the flats to be provided.		
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.		
3.4	Contact PIRSA (Mel Fraser) to investigate current or potential soil salinity monitoring projects of relevance.		
3.5	Scenarios to be run for average extraction, full allocation and reduced rainfall.		
3.6	Consider alternative wording to "Resource Condition Triggers".		
3.7	Consult with DEW re feasibility of providing more tailored water quality and level data and trends directly to licensees.		
3.8	Confirm requested information for RCT and RCL discussion.		
3.9	Ryan to present further information on the Citizen Science salinity monitoring project.		