Information sheet January 2019

Review of Mingenew-Parmelia groundwater allocation limits

Background

The Mingenew Parmelia aquifer is a local aquifer containing high quality groundwater. Water from the aquifer flows to the surface in the North, Northeast, West and South of the groundwater area, supporting an abundance of freshwater springs, wetlands and river ecosystems.

In 2018, Karara Mining Limited applied to increase its annual licensed entitlement to seven gigalitres per year, triggering a review of the allocation limit of the Mingenew-Parmelia groundwater aquifer. This information sheet summarises the interim findings of the review.

Interim findings

- The ecosystems supported by discharge from the aquifer are highly valued by the community. Many people have commented on the importance of these ecosystems and it is clear that the aquifer supports high social, cultural and ecological values.
- Clearing of native vegetation in the area started in the 1960s. This increased the volume of rainfall entering the aquifer as recharge. Aquifer water levels have been rising since monitoring began in the mid 1960's.
- Rainfall patterns have changed, falling from a long term annual average at the Mingenew town site of 412mm from 1900 to 1975, to 360mm for 1975 to 2018. These declining trends are modelled to continue.
- The Department's monitoring shows rainfall and recharge has now reached an equilibrium, and aquifer levels are either stable or falling. Aquifer levels are expected to fall in the future as a result of natural discharge and usage.
- The volume of water in the system required to meet the needs of groundwater dependent ecosystems was reviewed, and the current volume assigned has been determined to be insufficient.
- Rainfall trends in the region are predicted to decline over the next 50 years (Figure 1).

- The Department's modelling indicates that when the average annual rainfall declines to less than 300mm per year, in most years there will be no recharge to groundwater.
- The long-term reliability of supply for existing users will decrease over the next 30 years through climate change.

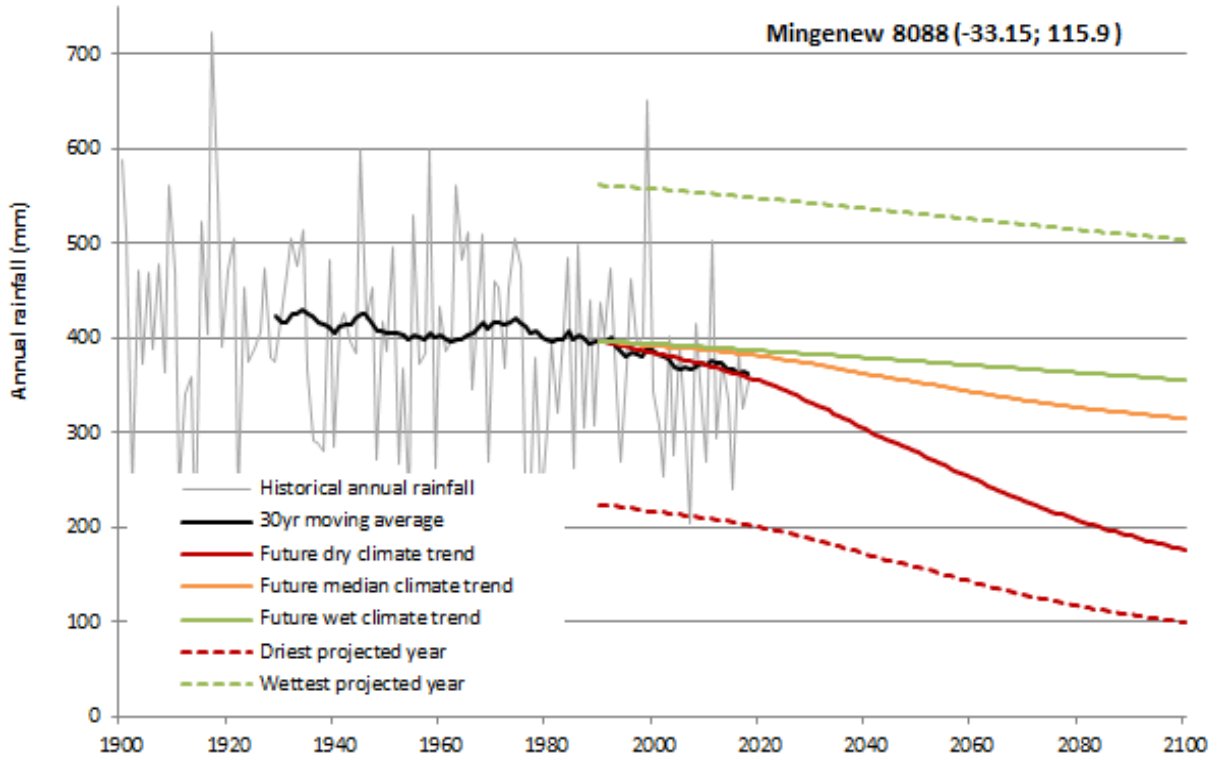

Figure 1. Predicted rainfall trends

Outcomes

Based these findings, the allocation limit for the Mingenew-Parmelia aquifer will not be increased.

The assessment has also identified that over the coming decades the allocation limit may need to be reduced to ensure abstraction remains sustainable. Further work is underway to develop a path forward. Stakeholders will be kept up to date along the way and a public position will be made available by the end of 2019.

For more information contact the Geraldton office on 9965 7400 or by email at MidWestGascoyne@dwer.wa.gov.au.