

Summary

- The USE is dominated by a regional groundwater flow system, although intermediate, local and seasonal systems are also present.
- Clearance of native vegetation and establishment of perennials and annual pastures have increased the amount of annual rainfall that now recharges to the groundwater system by at least 50 times.
- The additional recharge of water to the groundwater system fills the groundwater system and water tables rise.
- Once “full”, excess groundwater is then discharged out of the soil by evaporation and evapotranspiration in the interdunal flats.
- This discharge of water from the soil brings salts stored in the groundwater and soil zone to the land surface. This process is known as secondary dryland salinisation.
- More deep rooted vegetation will improve the groundwater balance and mean less evaporative discharge.
- However, there would need to be 80 – 90 % of the land surface covered with deep-rooted vegetation or pastures to restore the groundwater balance. This was considered to be an unattainable target.
- Consequently, an engineering solution in the form of drainage is required to restore the groundwater balance to discharge water from the soil by the drain that would otherwise be evaporated.