



Government of Western Australia
Department of Water and Environmental Regulation

A sustainable groundwater future for the turf industry in Greater Perth



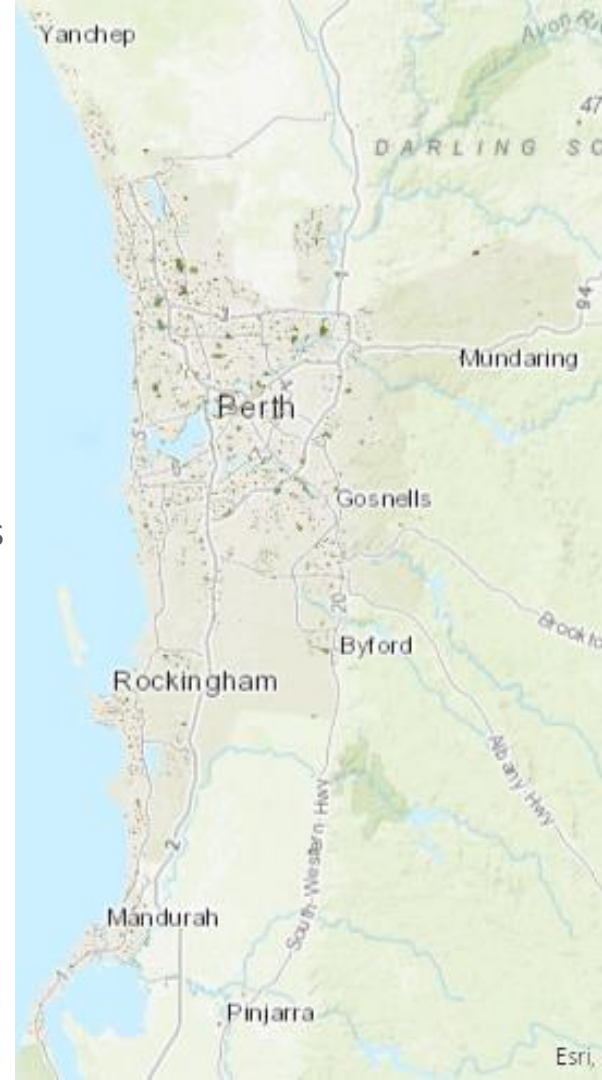
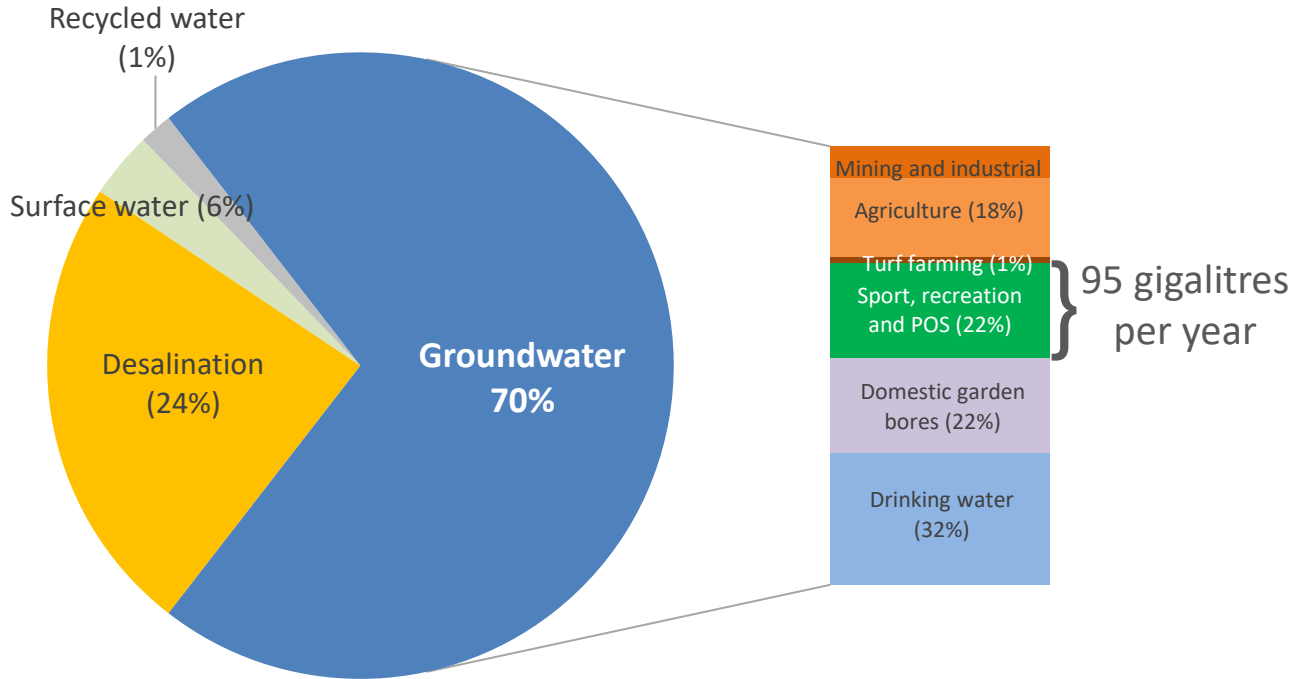
WA Turf Seminar
June 16, 2021

Dan Ferguson (Principal Water Planner, Water Supply Planning, DWER)





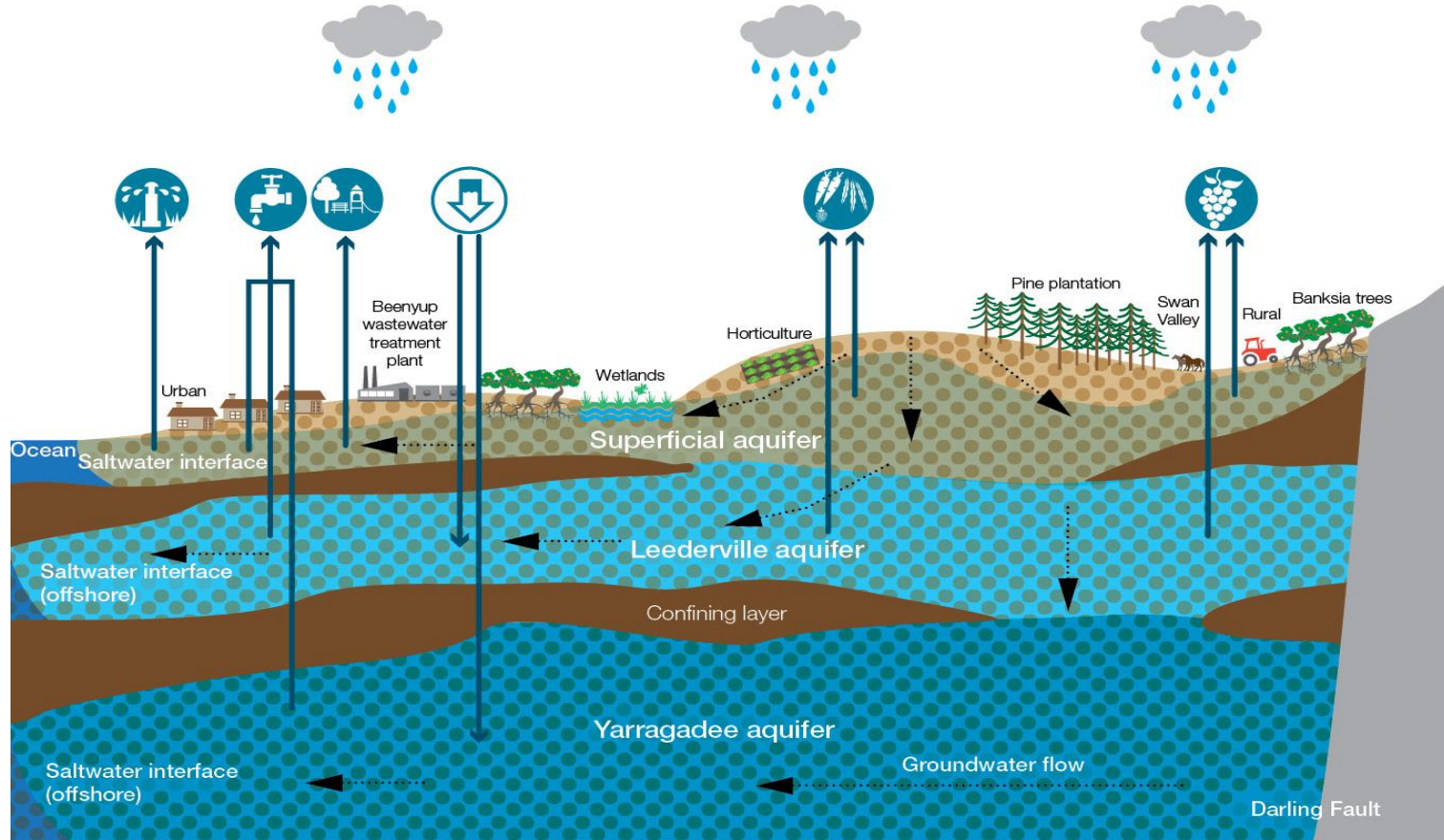
Greater Perth: a city built on groundwater



Total average use \approx 580 gigalitres per year



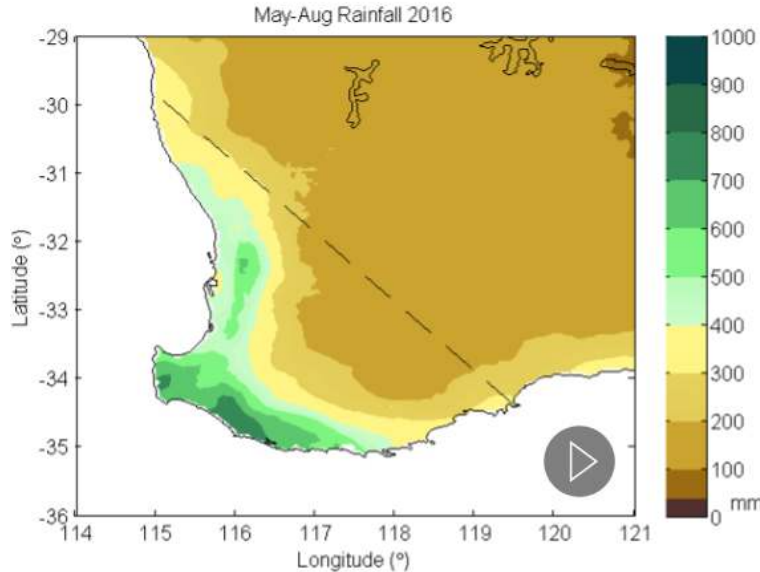
Groundwater use and values for wetlands, bushland and urban vegetation



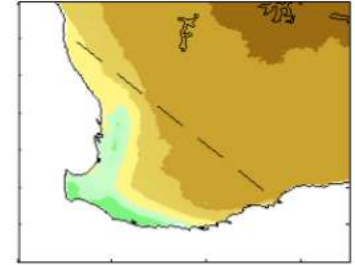


Climate change: our groundwater use is no longer in balance

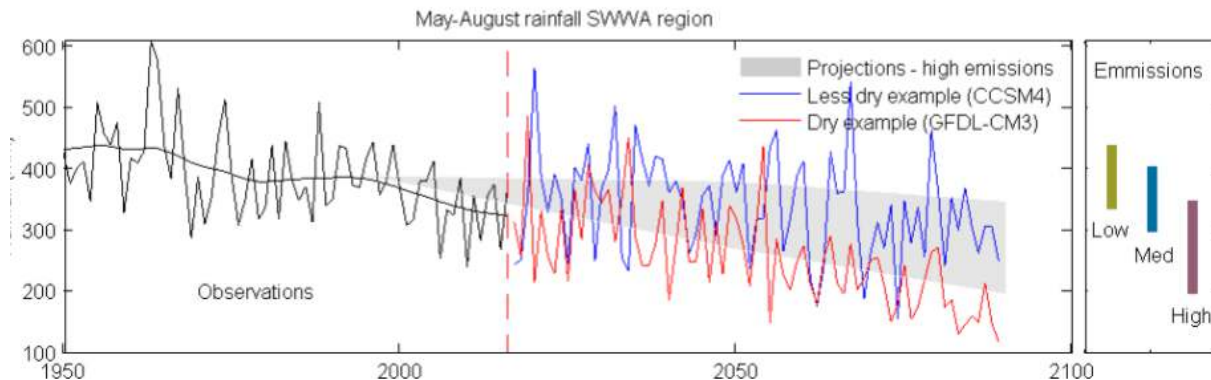
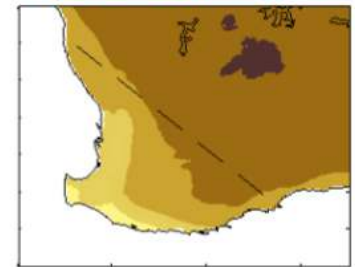
- Est. 1000 GL of storage loss in Superficial aquifer
- Water table (~ 2 m) and pressure declines
- Environmental impacts significant at over 50% of most important sites
- Water quality deterioration



High emissions, Less dry example 2089

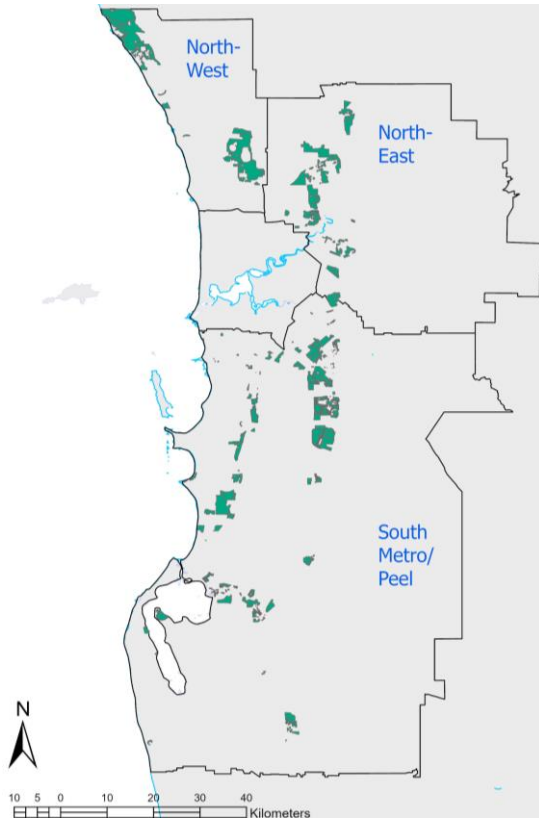


High emissions, Dry example 2089





Greater Perth urban growth: outlook at 2050



- Population @ 2050 \approx 3.5 million people
- 53% greenfield / 47% infill urban development
- High-proportion of greenfield development in areas with high-water tables and poor yielding aquifers
- New regional playing fields, district and local public open spaces, school ovals and other greenspaces estimated to need 12-15 gigalitres of irrigation water by 2050 depending on design and efficiency
- Some demand can be met by transfer or trading existing groundwater licences
- Some areas have potentially feasible alternative non-potable water supplies



Building water security and adjusting to less groundwater in the future



- Largest groundwater licence reductions to public drinking water supplies
- Target to reduce all groundwater use by 10% across the region by 2030
- Transition period to include:
 - Increased metering of licensed water users
 - Capping allocation limits at the current licensed volume
 - Water use efficiency programs for peri-urban horticulture, local government, schools and domestic garden bores
 - Planning new water supply infrastructure



Water efficiency and innovations for irrigated greenspaces

- Reducing groundwater demands
 - Monitoring, scheduling and metering
 - Hydro-zoning and eco-zoning
 - Prioritising active use areas for irrigation
 - Selecting optimal turf varieties
 - Soil amendments
- Alternatives to groundwater supply
 - treated wastewater recycling
 - drainage water sources
 - managed aquifer recharge
 - scheme water services





Working together

- Industry groups (e.g. Irrigation Australia, Greenspace Alliance)
- Integrated water and land use planning (LGA's and State Govt)
- Commonwealth support for water infrastructure development
- Waterwise programs



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