# WATER RESOURCE AND AVAILABILITY

In 2017, an integrated groundwater/surface water model was developed calculate the natural water balance and determine a sustainable level of extraction to maintain key environmental and cultural values associated with water.

The model uses the facts about the geology, groundwater levels and hydrogeological processes, including actual data from:

- Core logs of the geology from 176 bores to determine the lithology

- Water level data from 48 bores to calibrate the water levels

- On ground field investigations pumping water from 50 bores

- Climatic data of rainfall and evaporation in the region
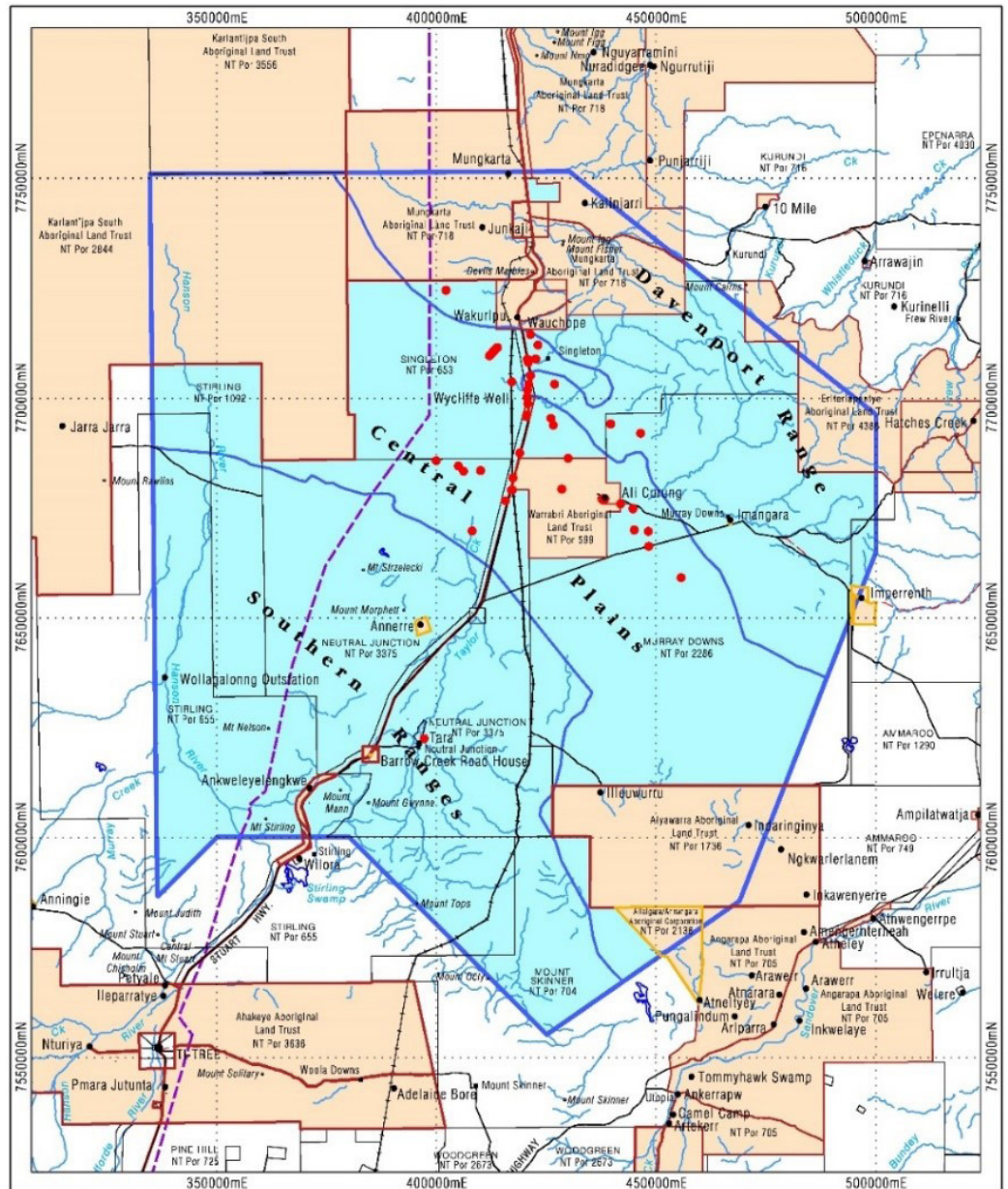
GENERAL FEATURES

● TI-TREE	Minor Town
● Wilora	Community
▪ Stirling	Homestead
▫ Mount Tops	Mountain
	Cadastre
	Highway
	Main Road
	Minor Road
	Railway
	Gas Pipeline
	Watercourse
	Lake/Swamp

LEGEND

- Aboriginal Freehold ALRA
- Aboriginal Freehold NT
- Water Control District
- Water Management Zone
- ● Water Model Calibration Bore (48*)

*List of calibration bores: Table 5 (p35)
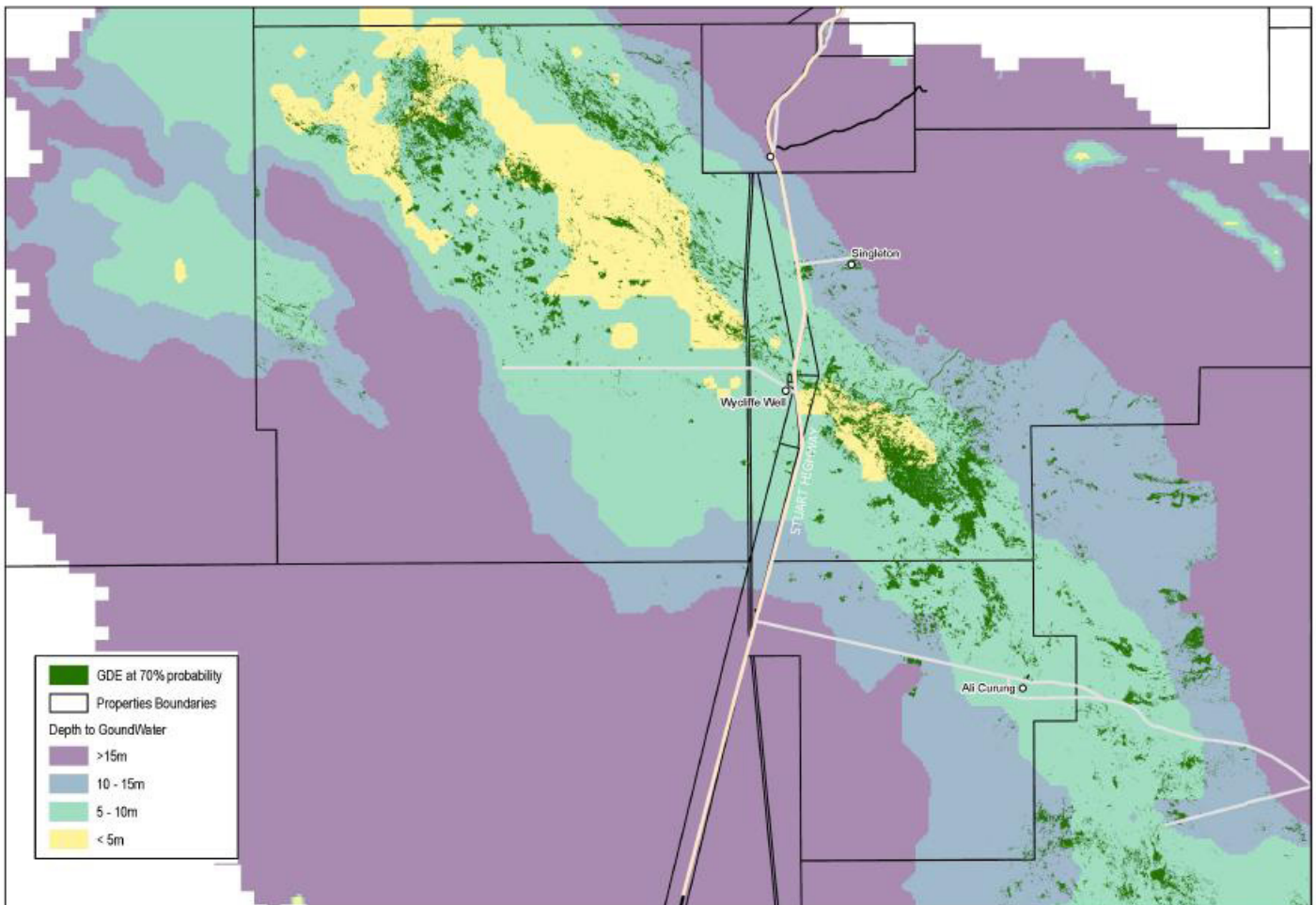*Western Davenport WCD Groundwater Model* report

kilometres
0 10 20 30 40 50

Horizontal Datum GDA 94
Map Grid of Australia (MGA) Zone 53
Drawing Number: DEPWS2021035

Western Davenport
Water Control District

**Aboriginal Land
and
Water Model Calibration Bores**

NORTHERN
TERRITORY
GOVERNMENT

MEASURES TO PROTECT GROUNDWATER DEPENDANT ECOSYSTEMS

- Groundwater dependent ecosystems (GDE) are ecosystems that require access to groundwater to meet some or all of their water requirements. Groundwater dependent vegetation can usually only occur where the depth to groundwater is less than 15m.

- The model was developed and validated using 425 ground sites in the study area that were classified as being either groundwater dependent vegetation (GDV) or non-GDV.

- The ecological characteristics of GDE in the Central Plains have been described following detailed on-ground sampling of plant species composition and vegetation structure at 60 sites.

- This identified distinct vegetation communities associated with shallow (<10m depth) groundwater in both sandplain and alluvial landscapes. Large bloodwood and ghost gum trees within the 10-15m groundwater depth zone are also likely to be groundwater dependent.

- Guidelines recognise that with development some impact will occur and limits that impact by protecting 70% of GDEs within each of the sandplains and alluvial landscapes, and at regional and sub-regional scales.