

Salinity Risk Mapping in the Macalister Irrigation District

A 28-year history of depth to water table maps



What do the maps show?

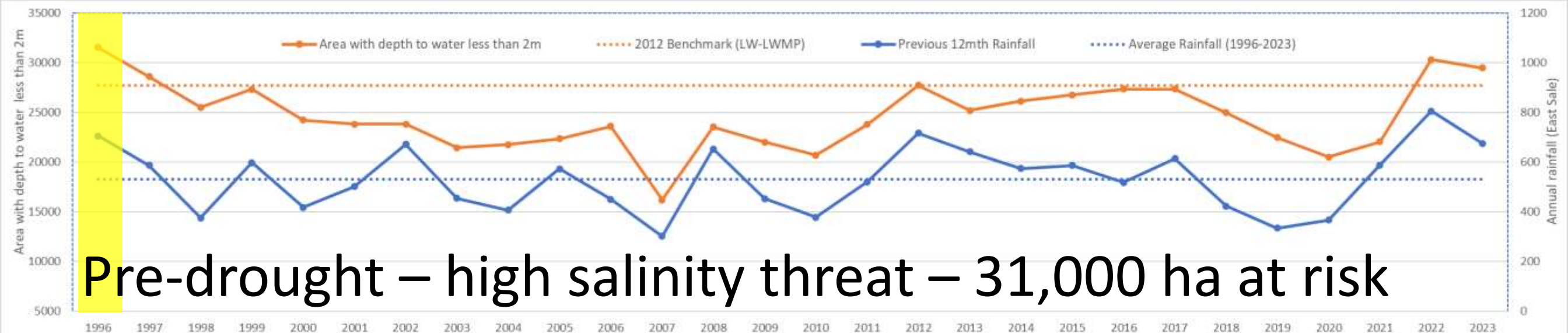
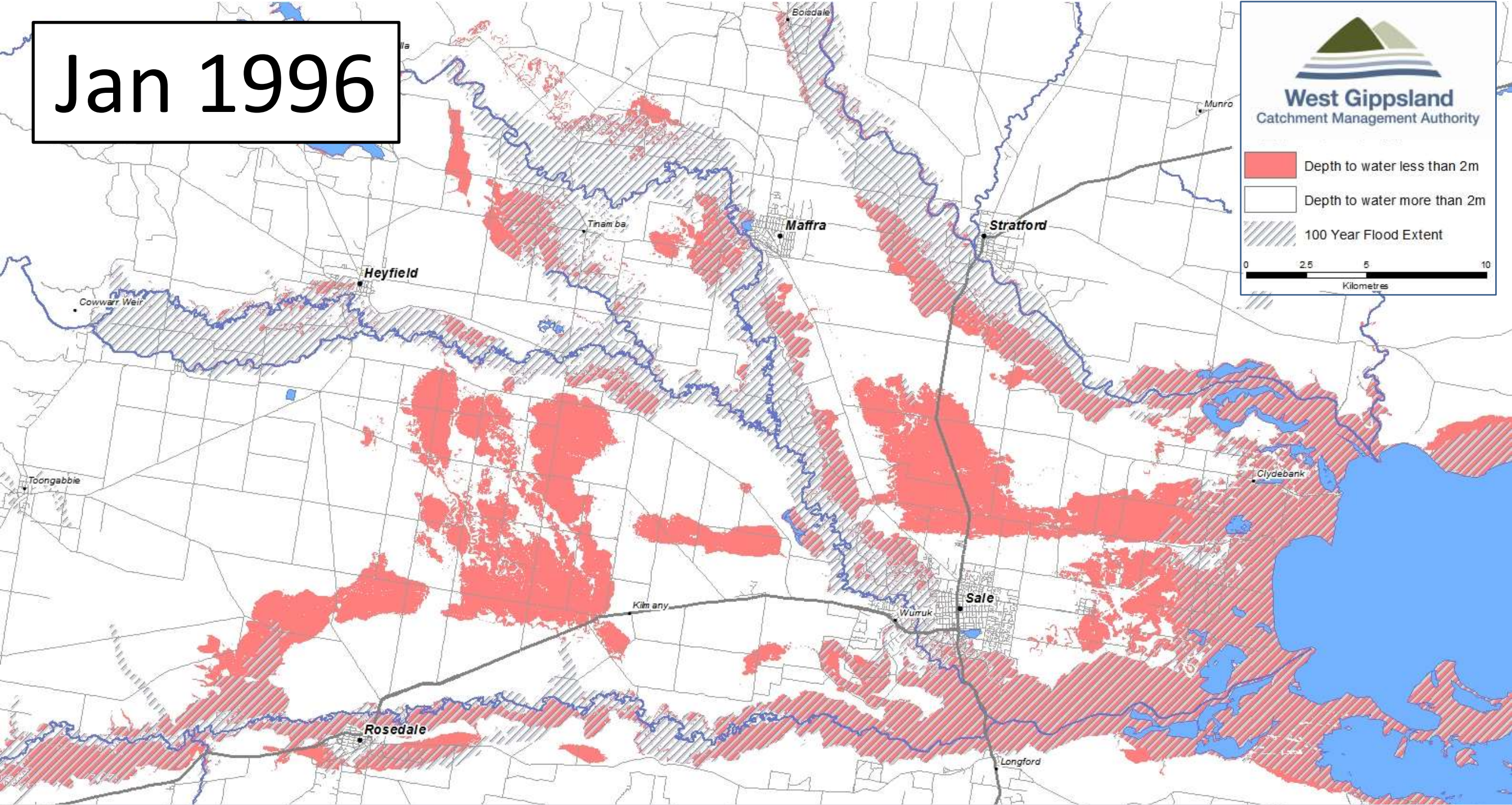
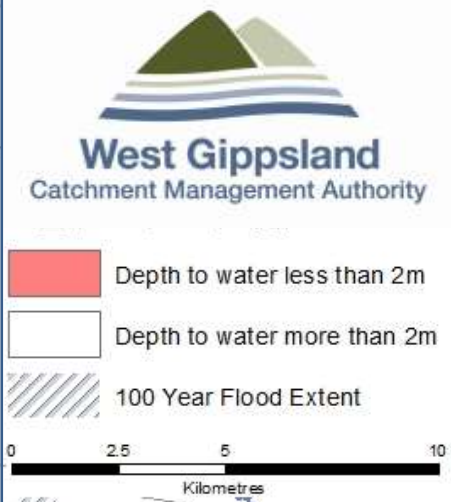
This time series of maps shows the fluctuating depth to the water table across the Macalister Irrigation Area and surrounds.

Areas where the water table is within 2m of ground surface are coloured red on the maps. These areas are more prone to land salinisation and water logging.

Areas subject to flooding are hashed grey as they are less prone to salinisation despite the shallow water table commonly found on floodplains.

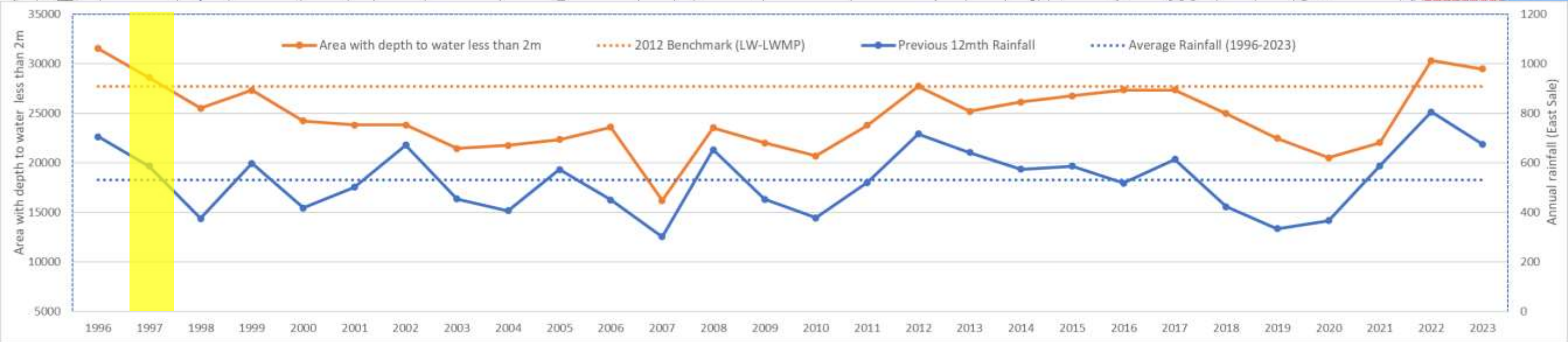
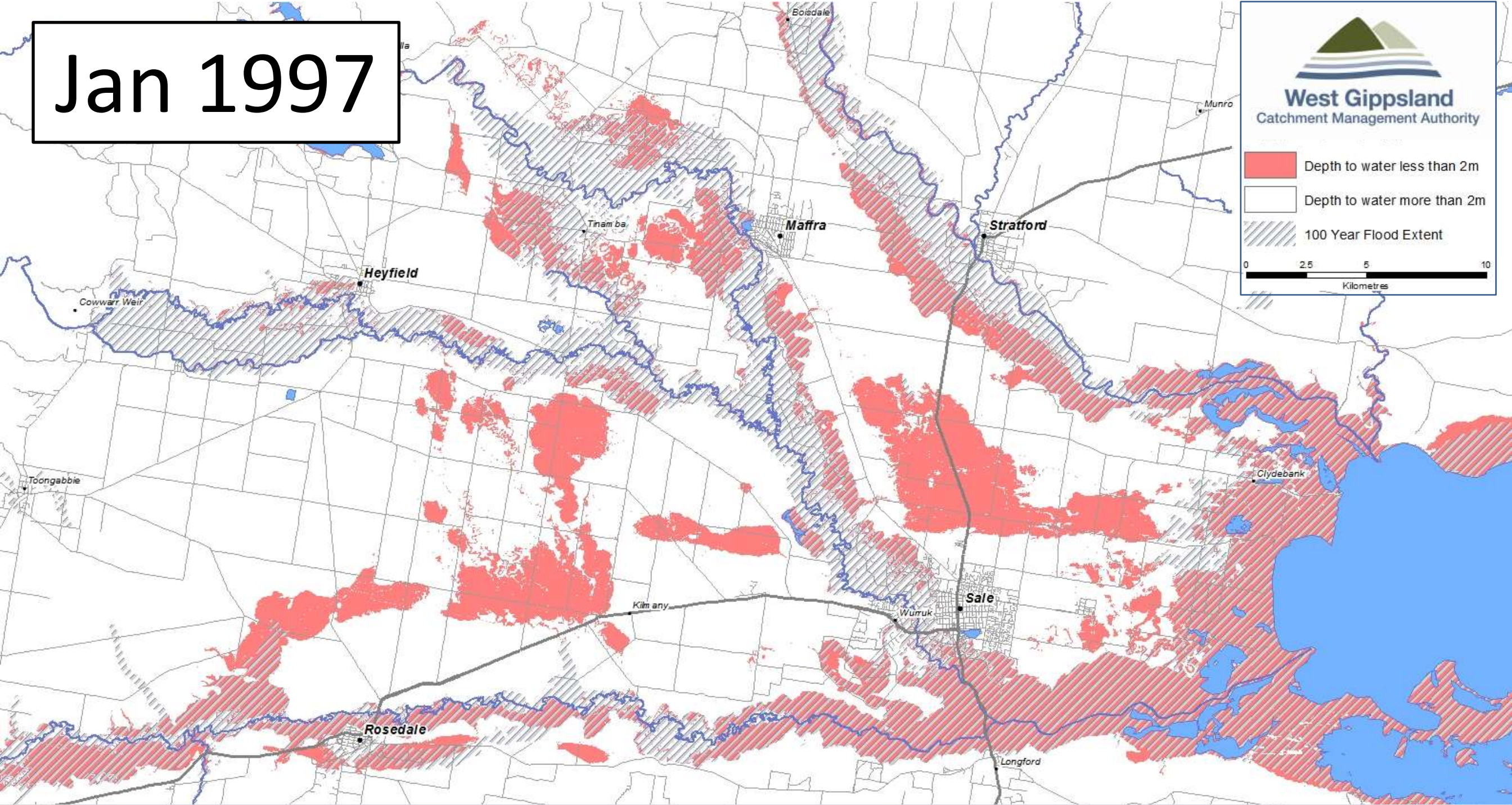
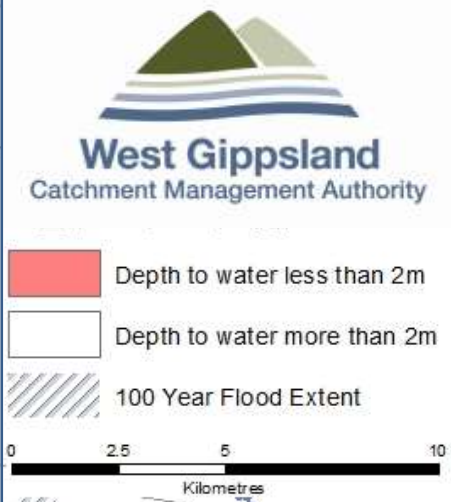
Water table response to floods and droughts is evident in the time series. As is a long-term trend of reducing areas at risk thanks to irrigation efficiency improvements and drainage management in the district.

Jan 1996

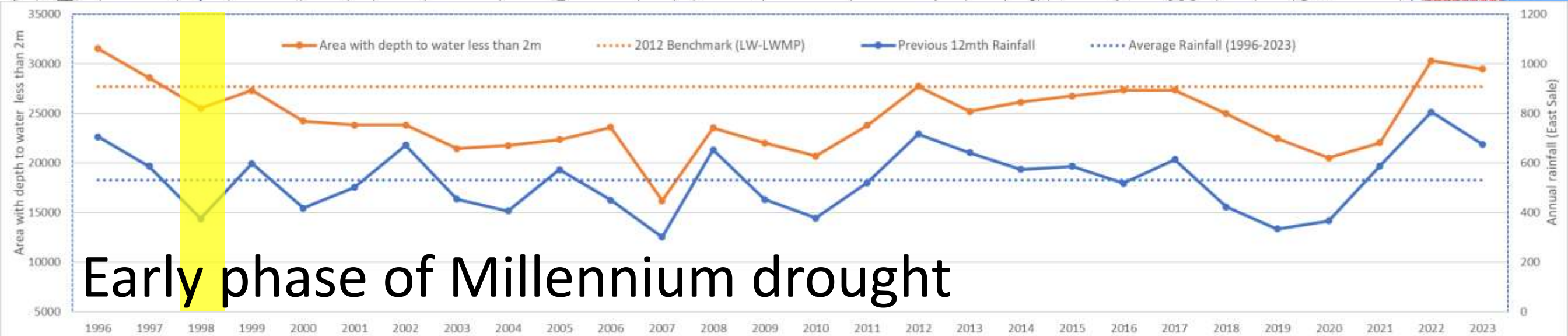
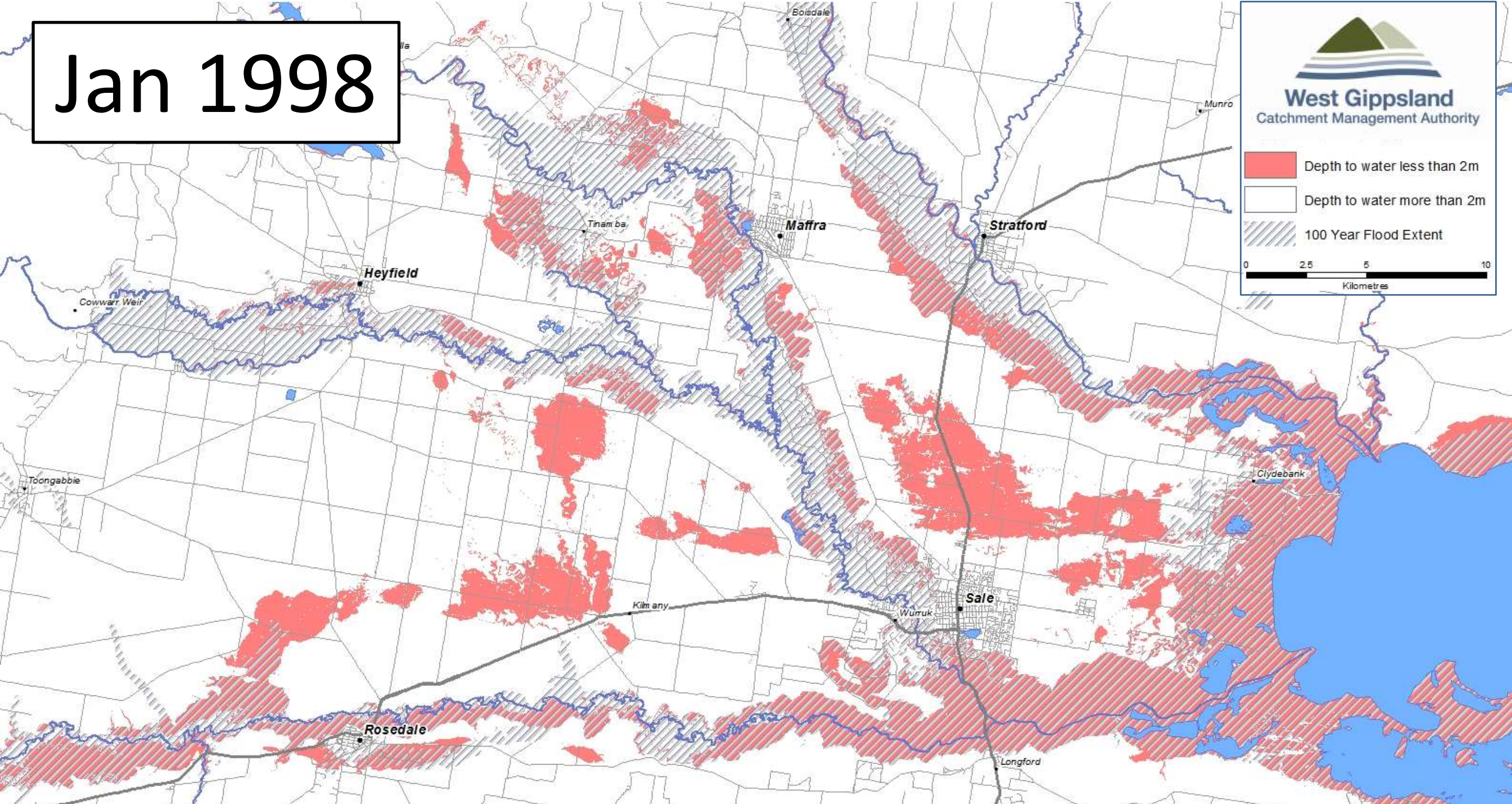


Pre-drought – high salinity threat – 31,000 ha at risk

Jan 1997

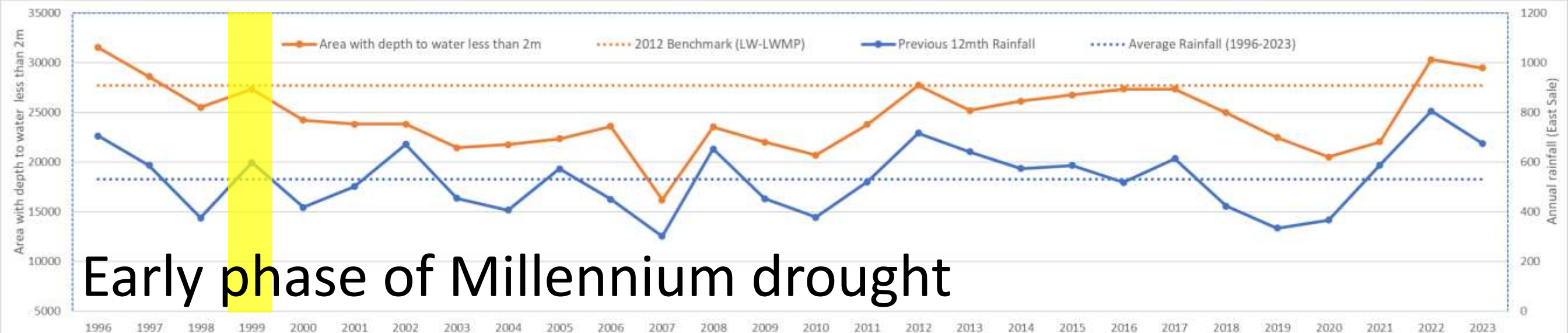
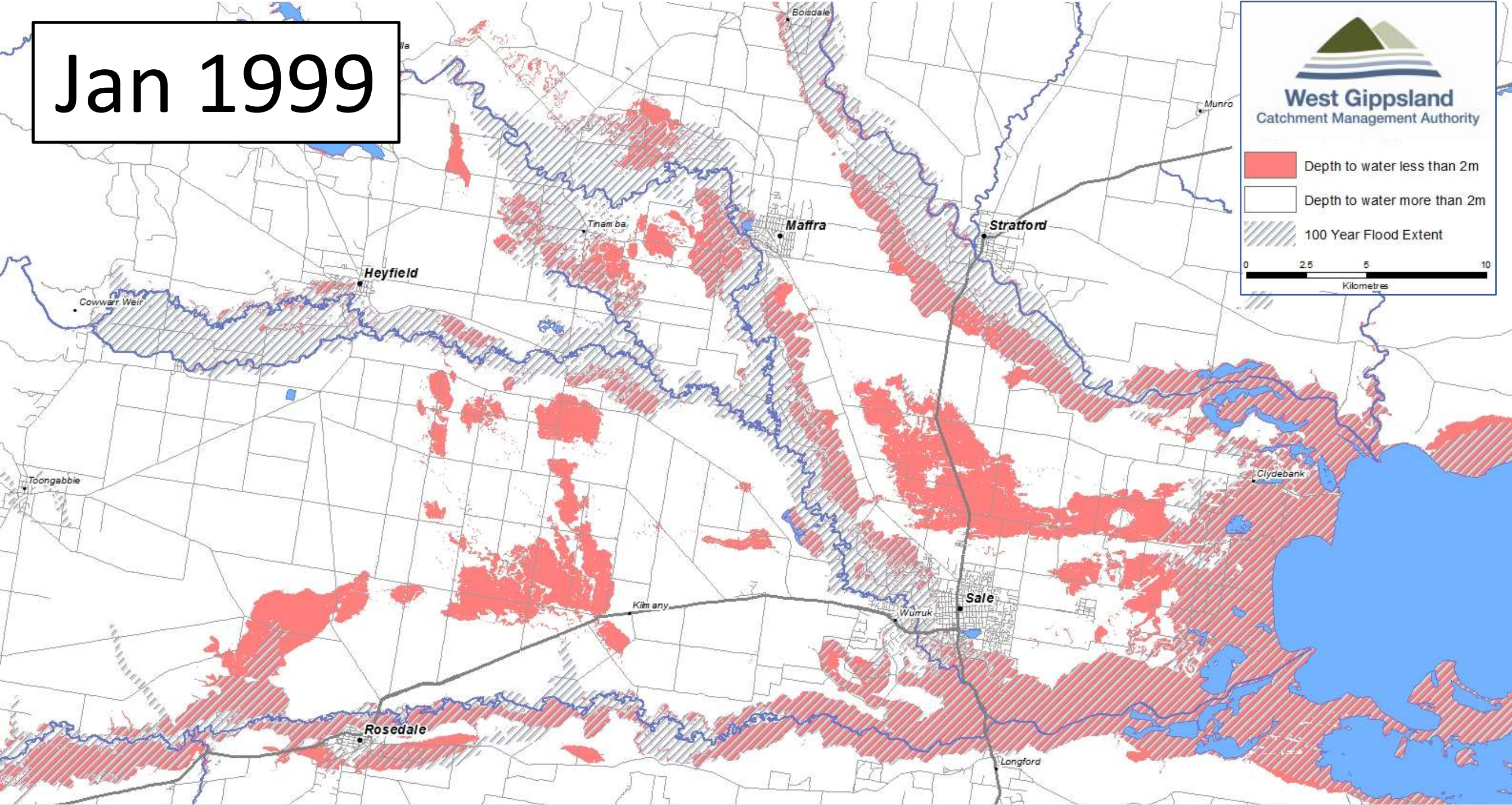


Jan 1998



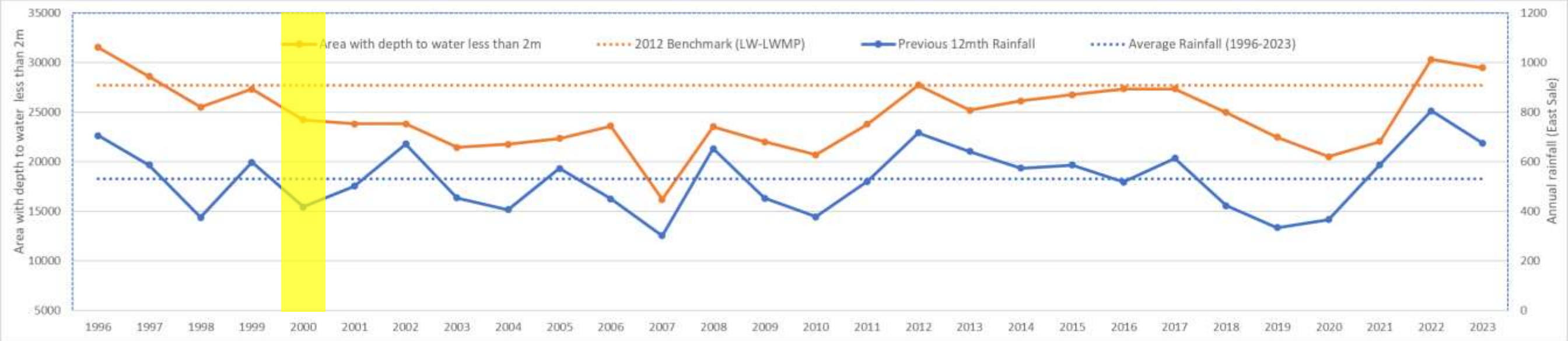
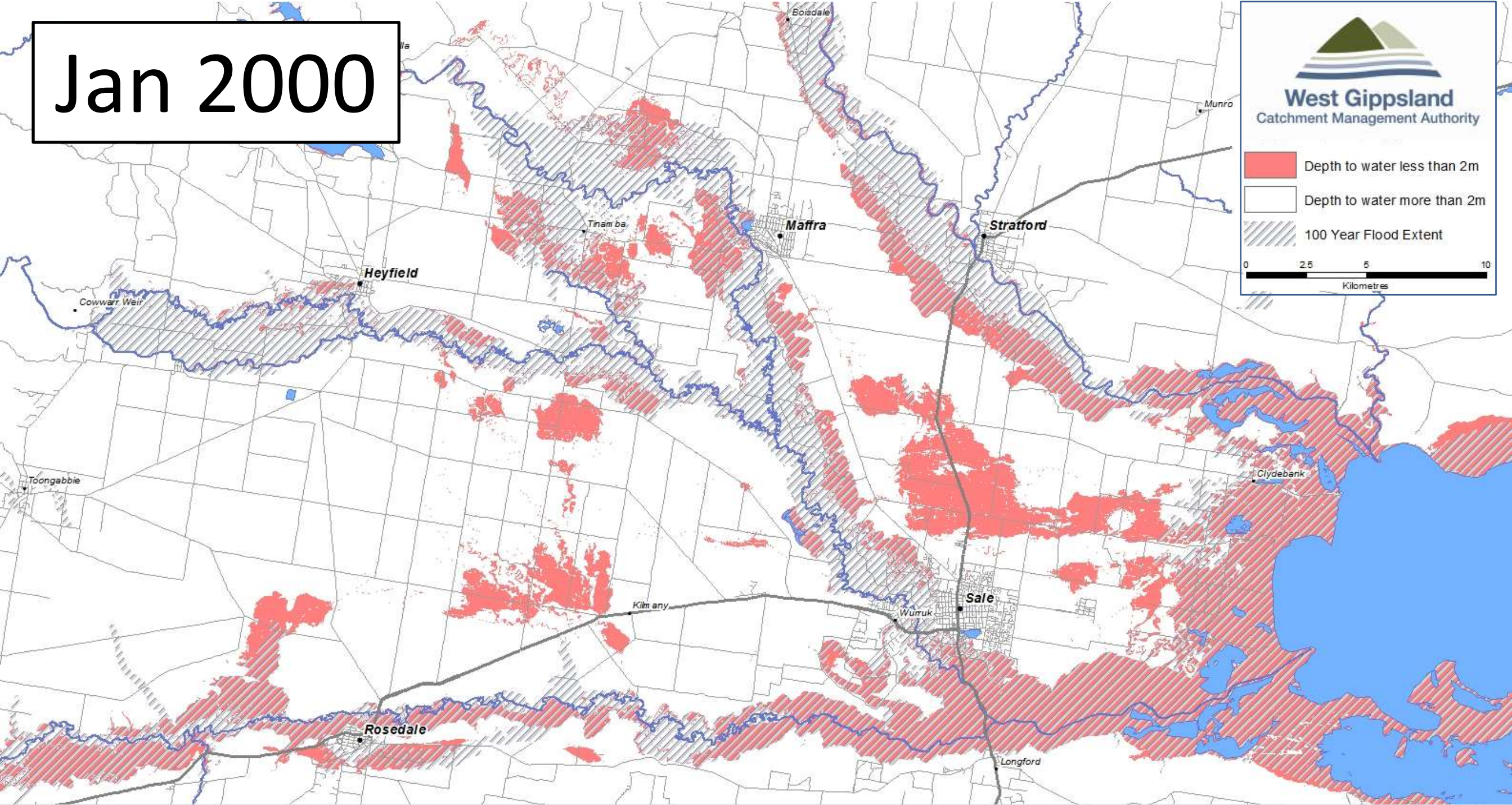
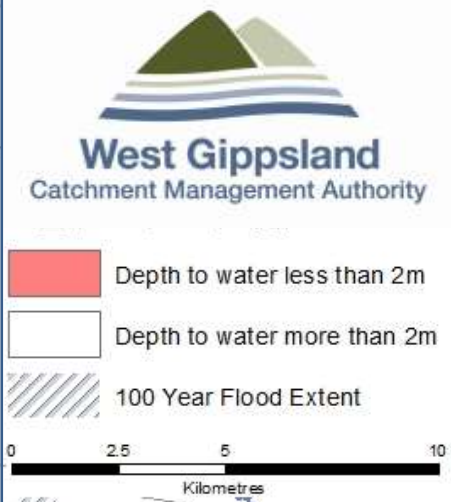
Early phase of Millennium drought

Jan 1999

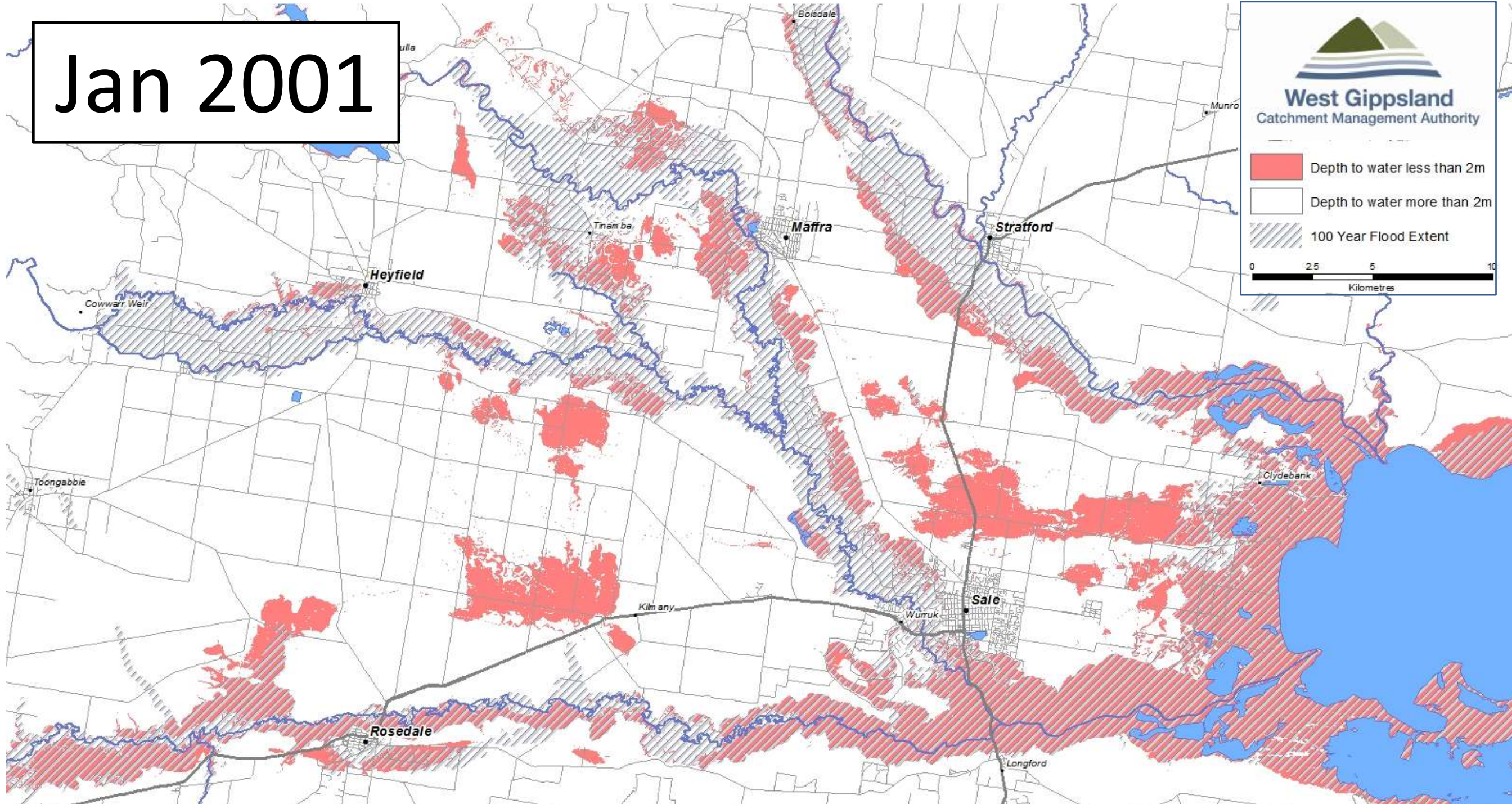
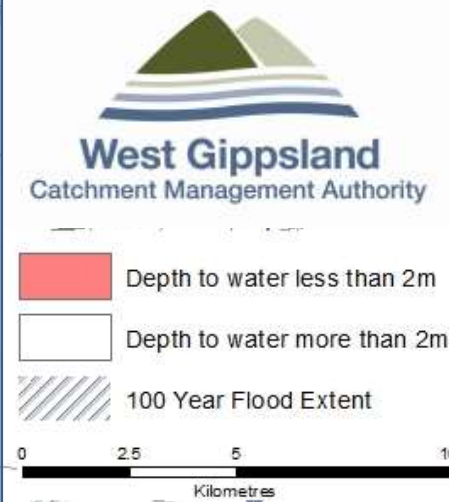


Early phase of Millennium drought

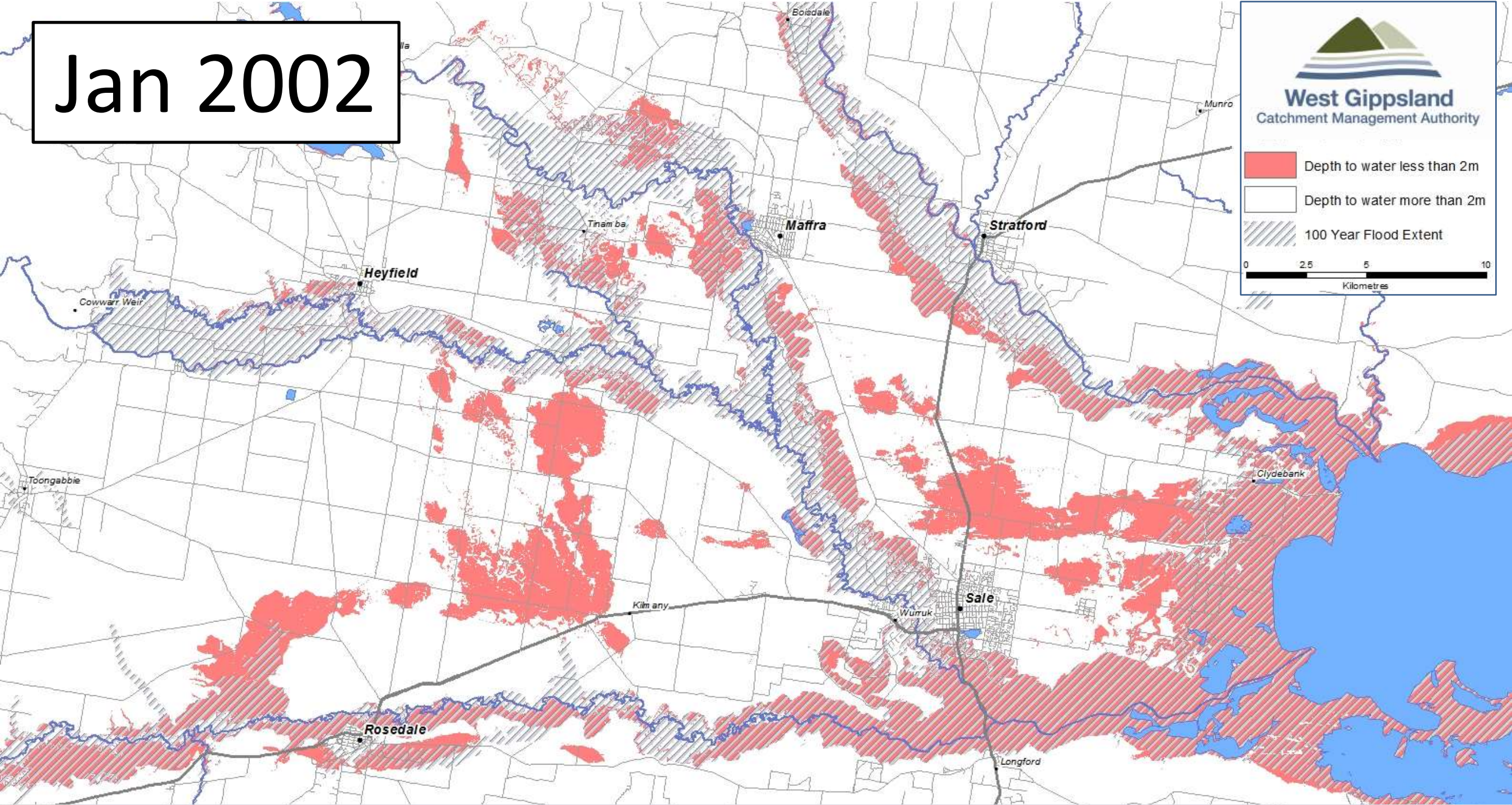
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Jan 2001

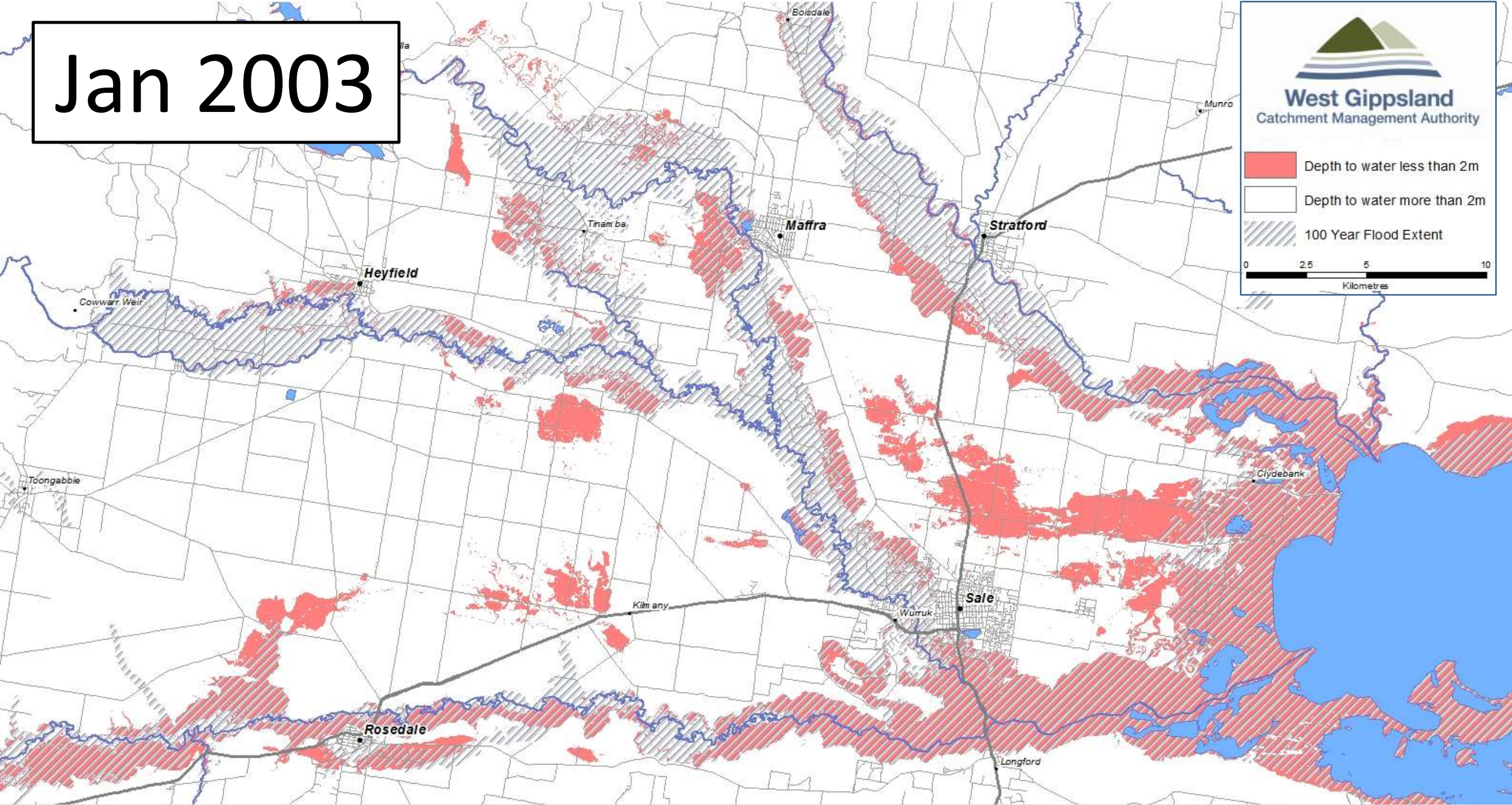
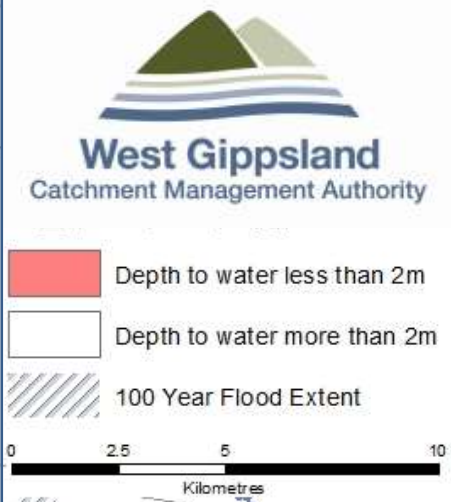


Jan 2002

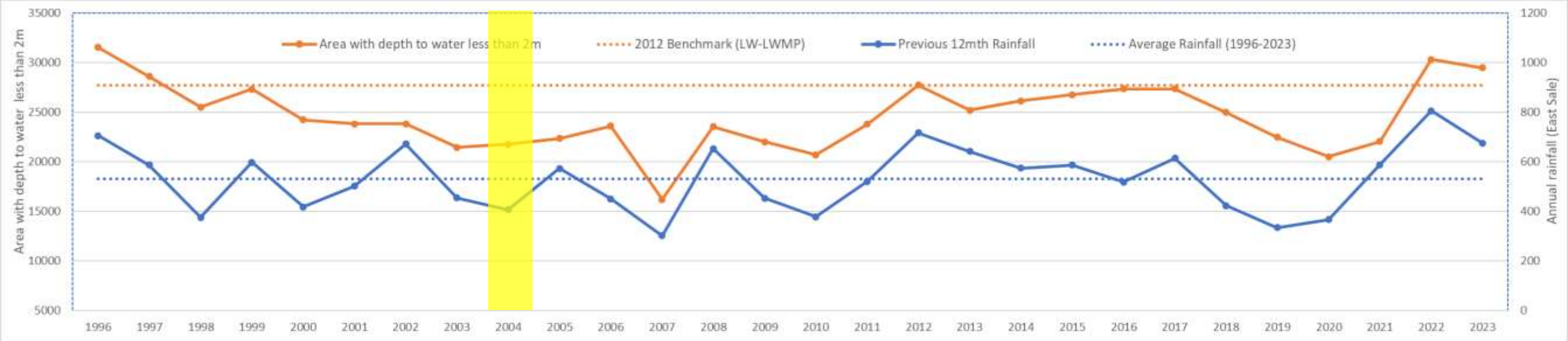
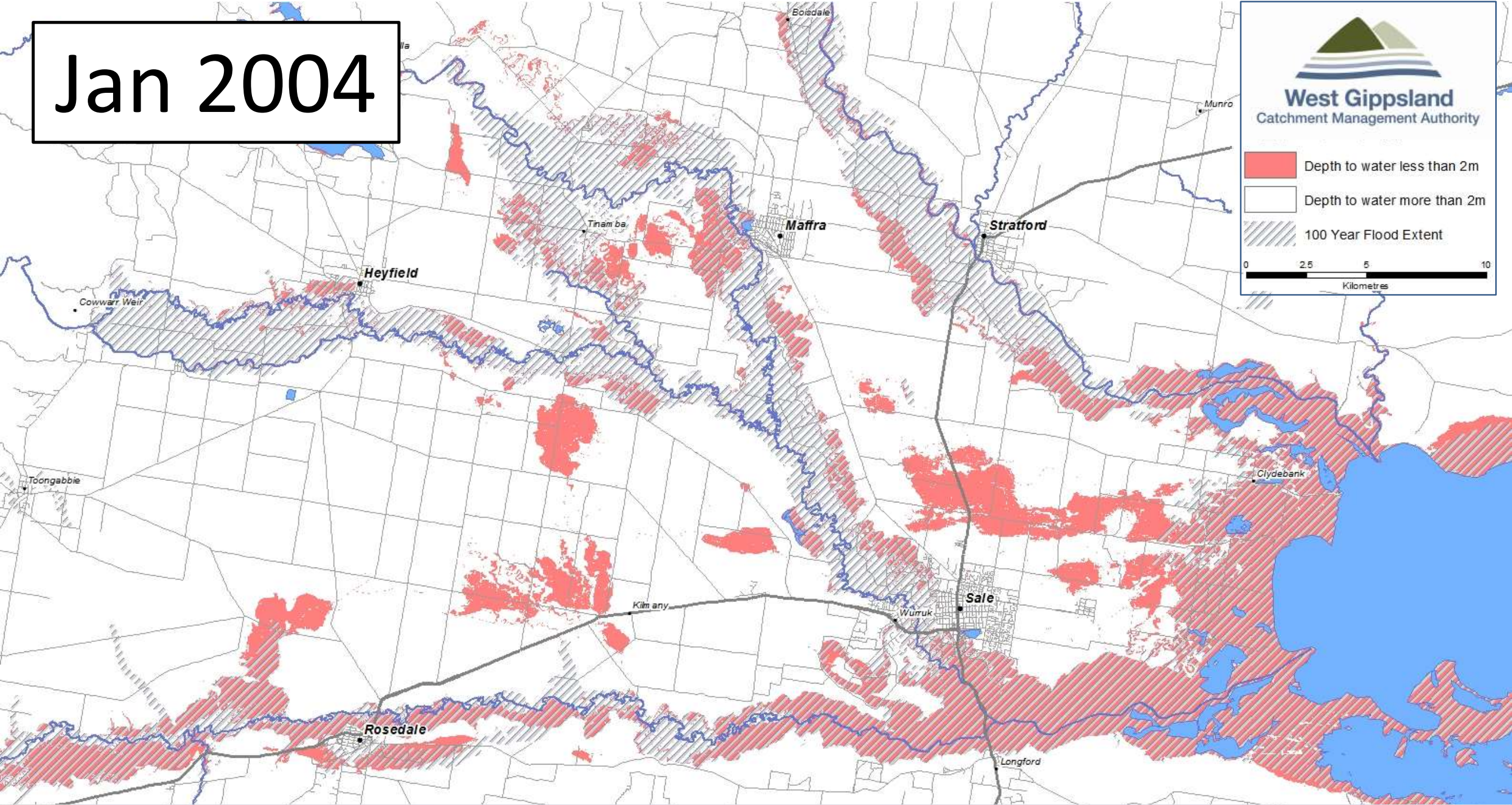
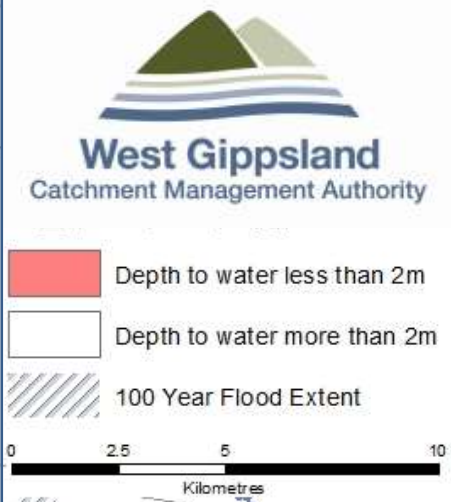


Minor break in drought

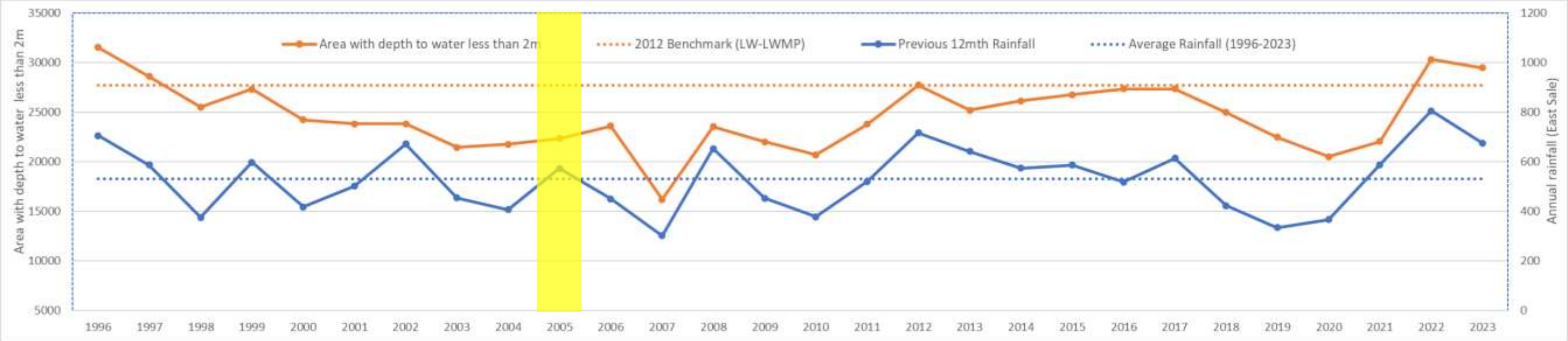
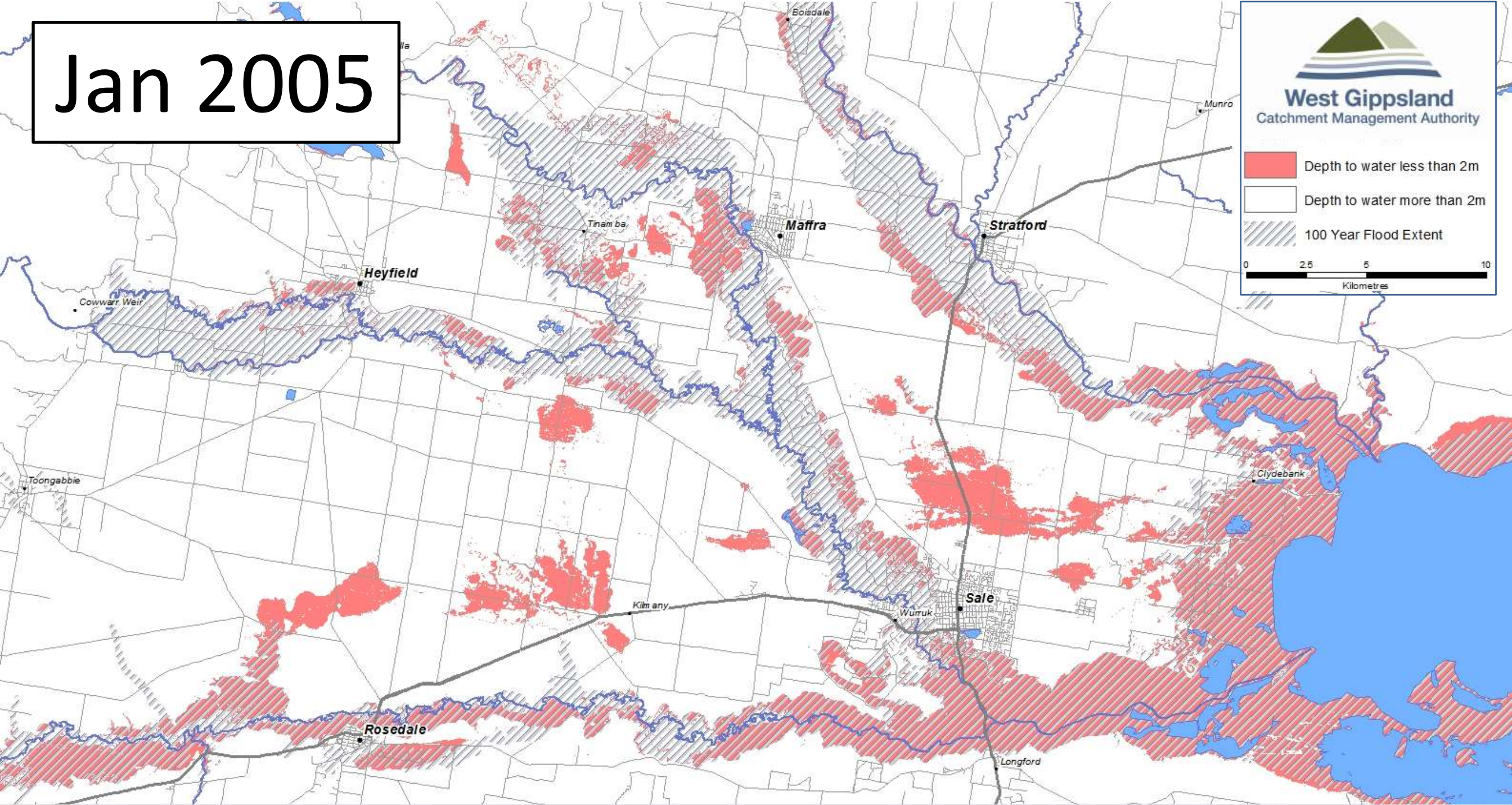
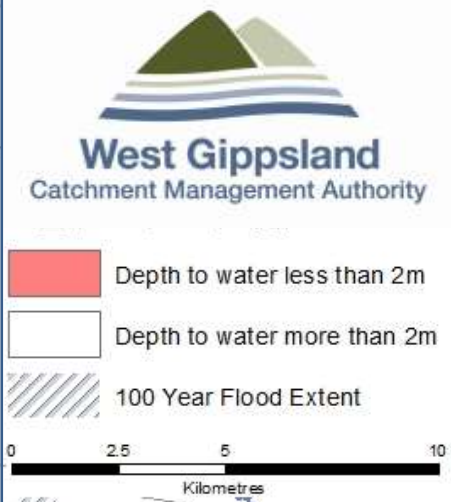
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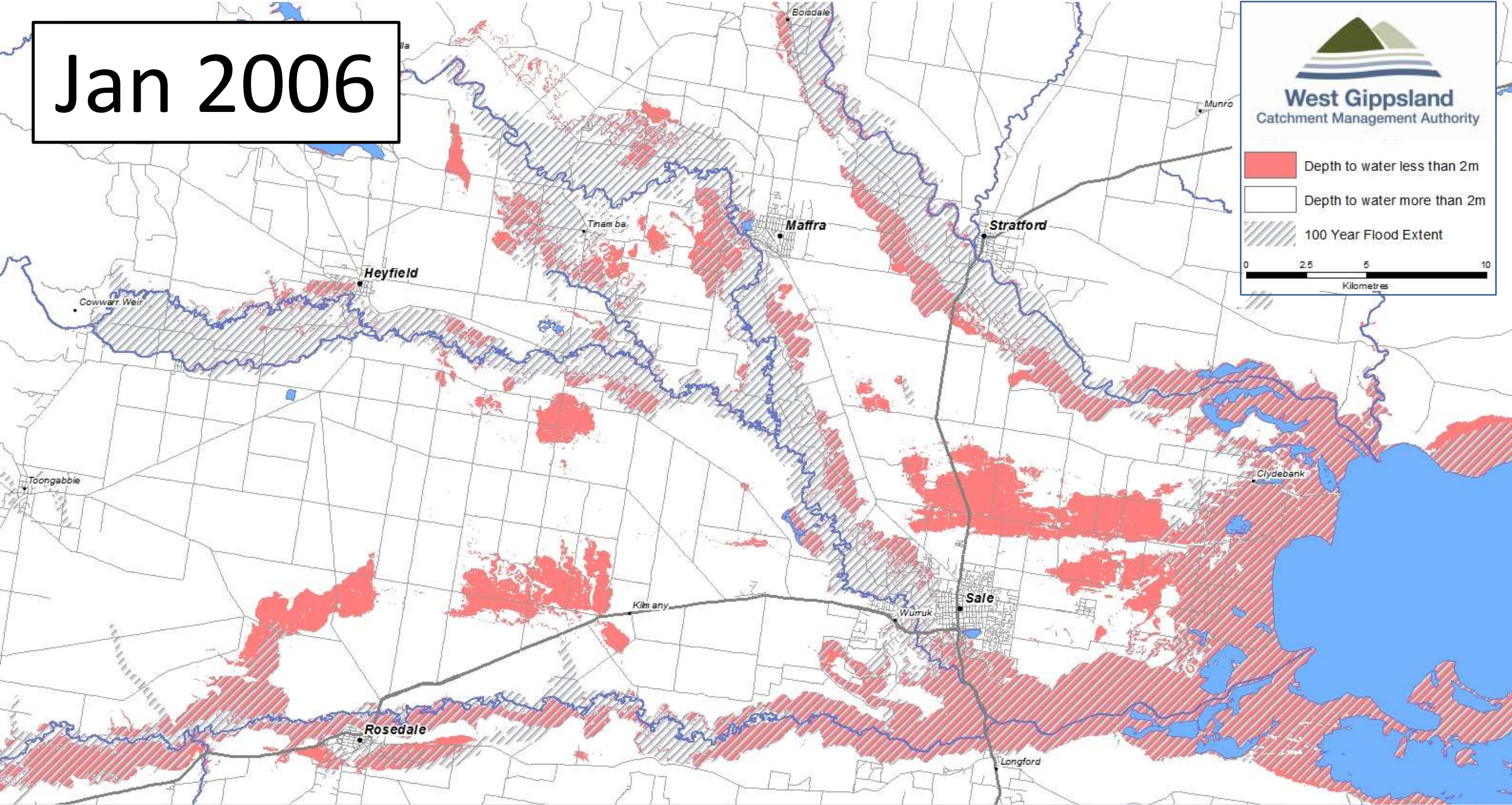
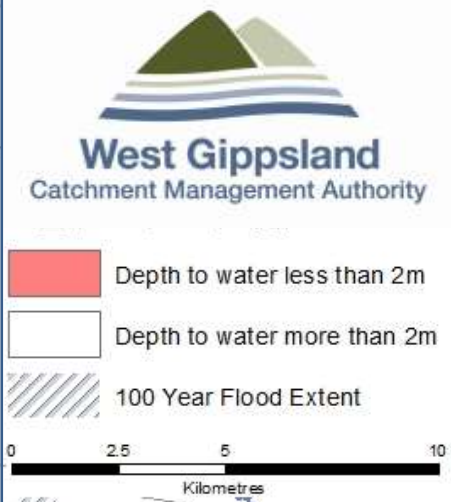
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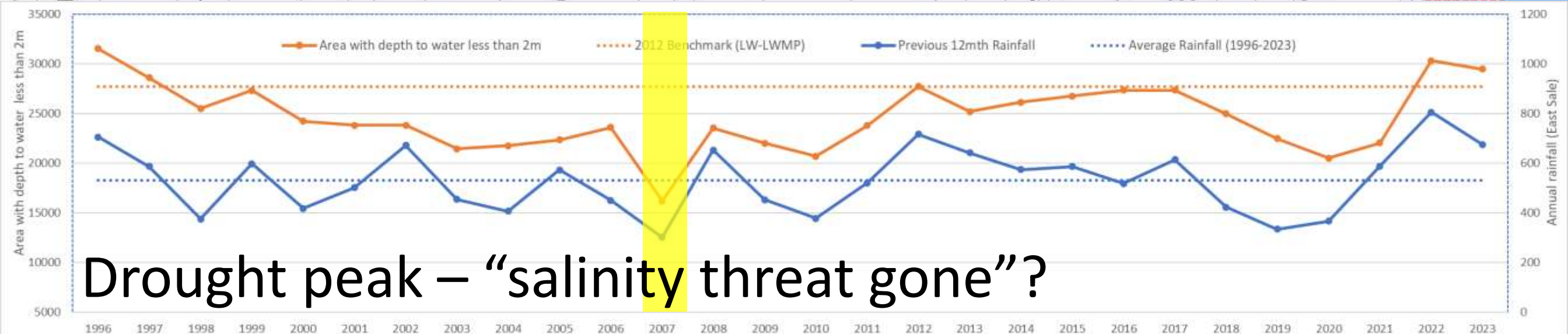
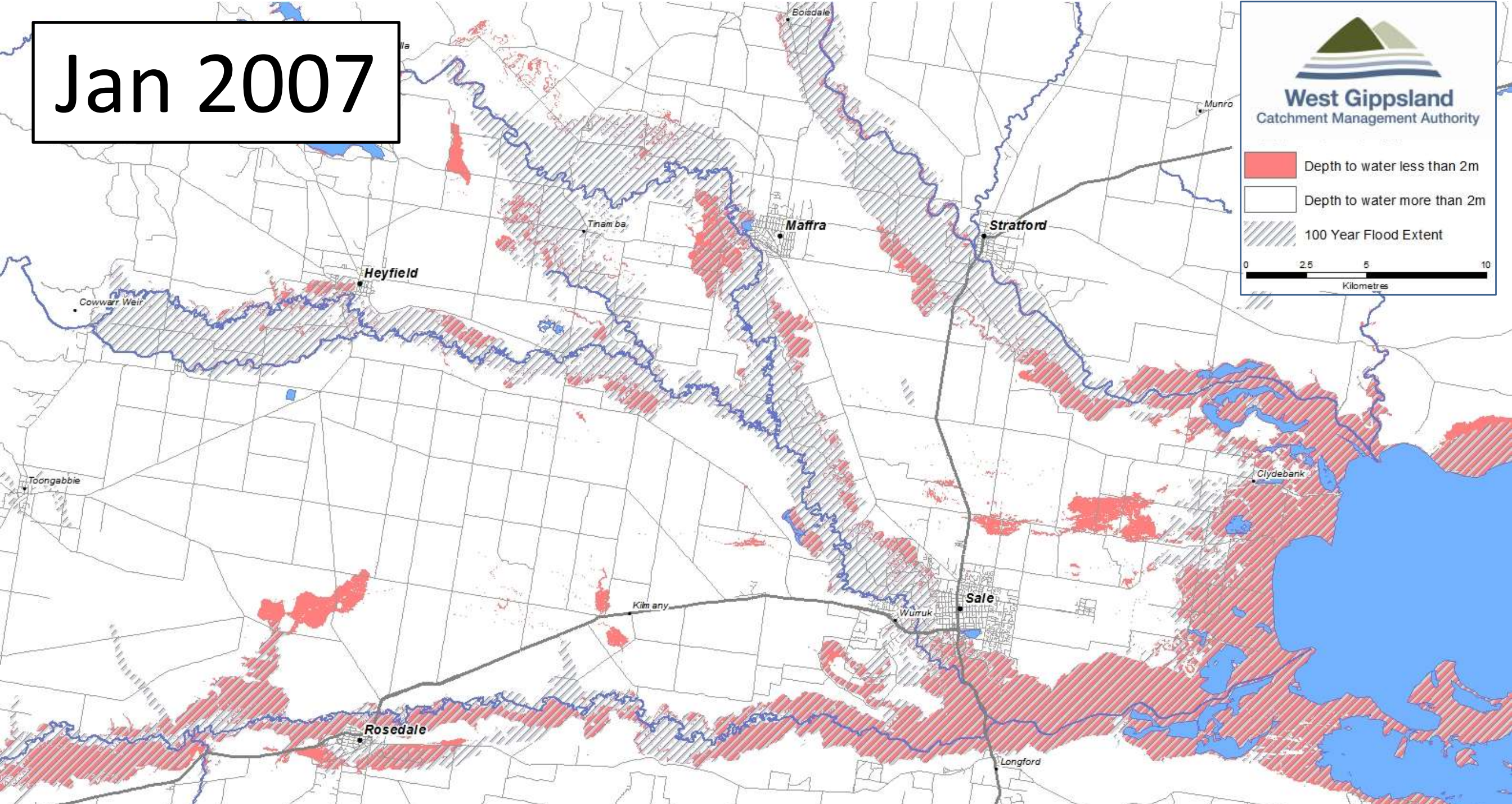
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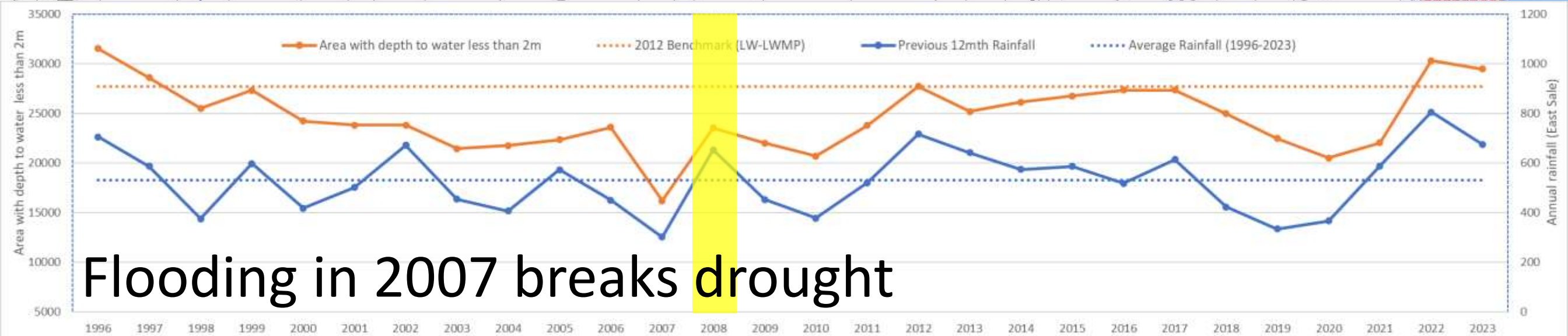
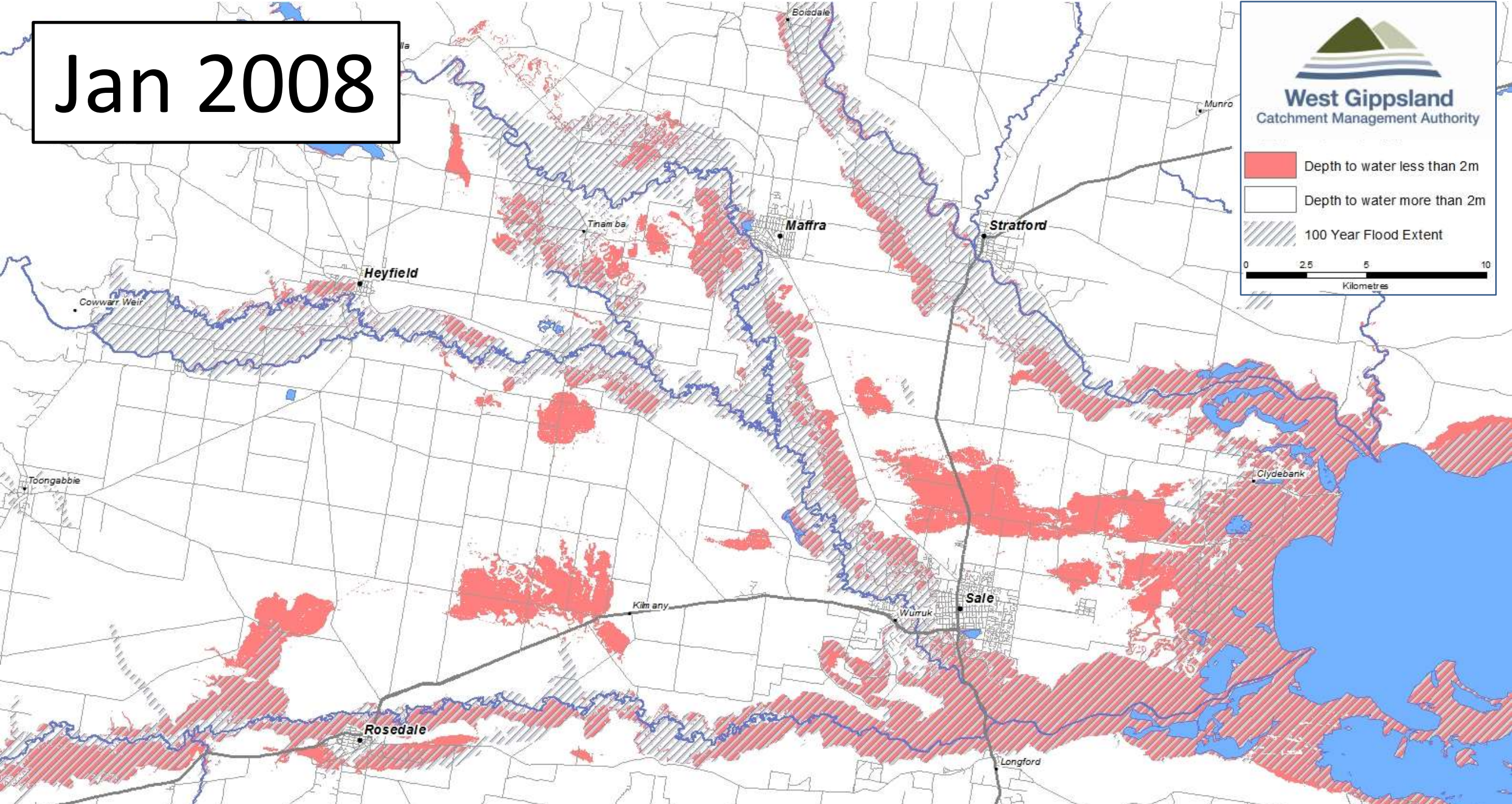
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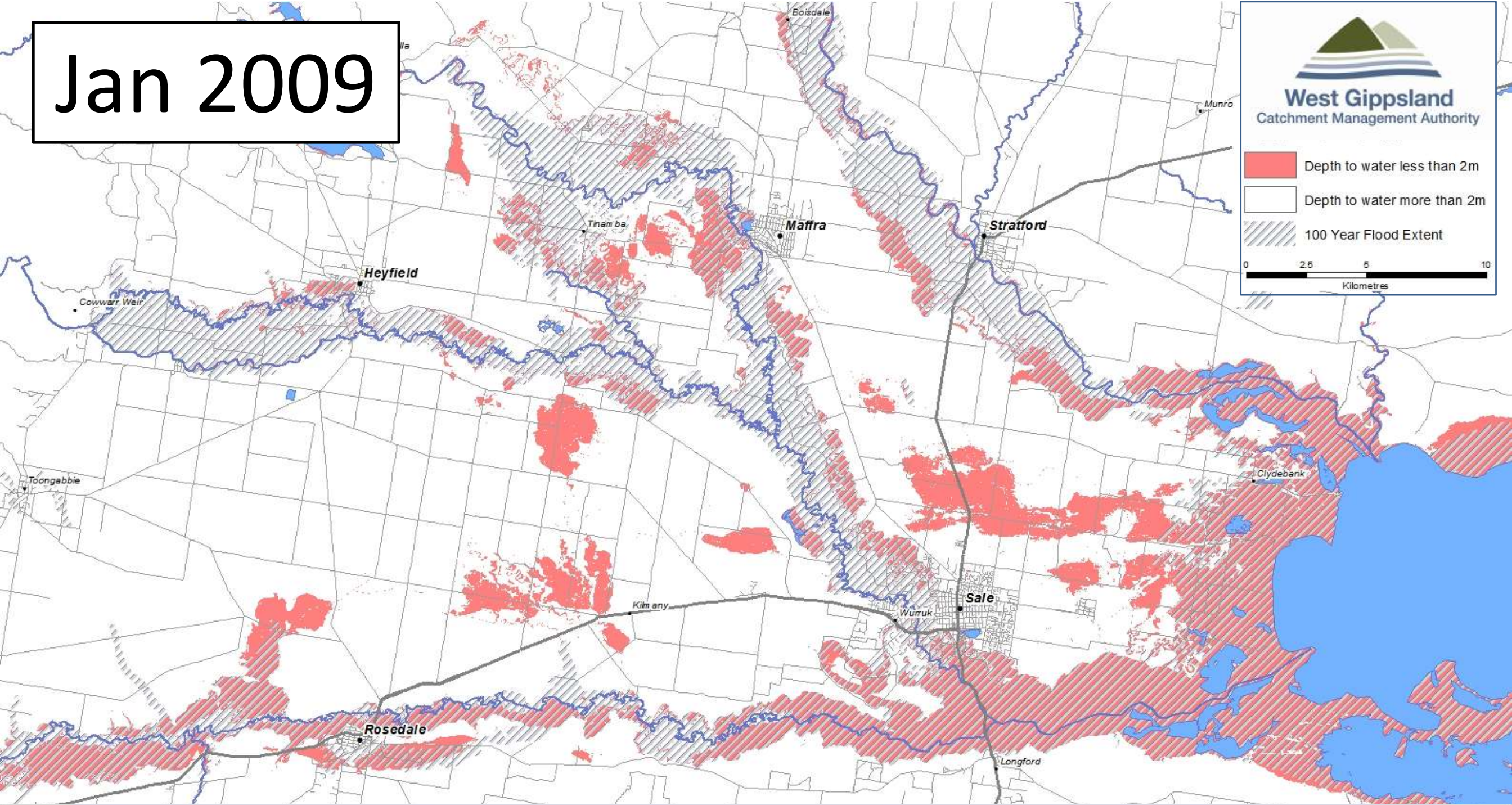
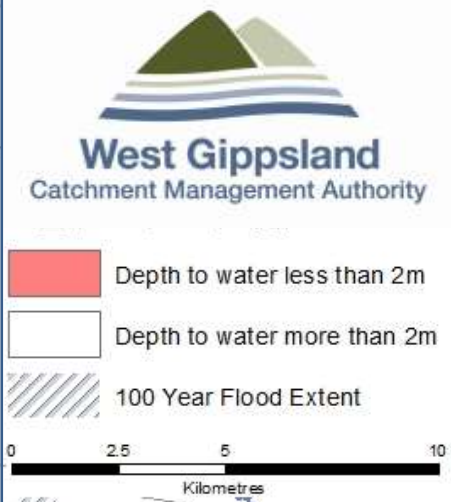


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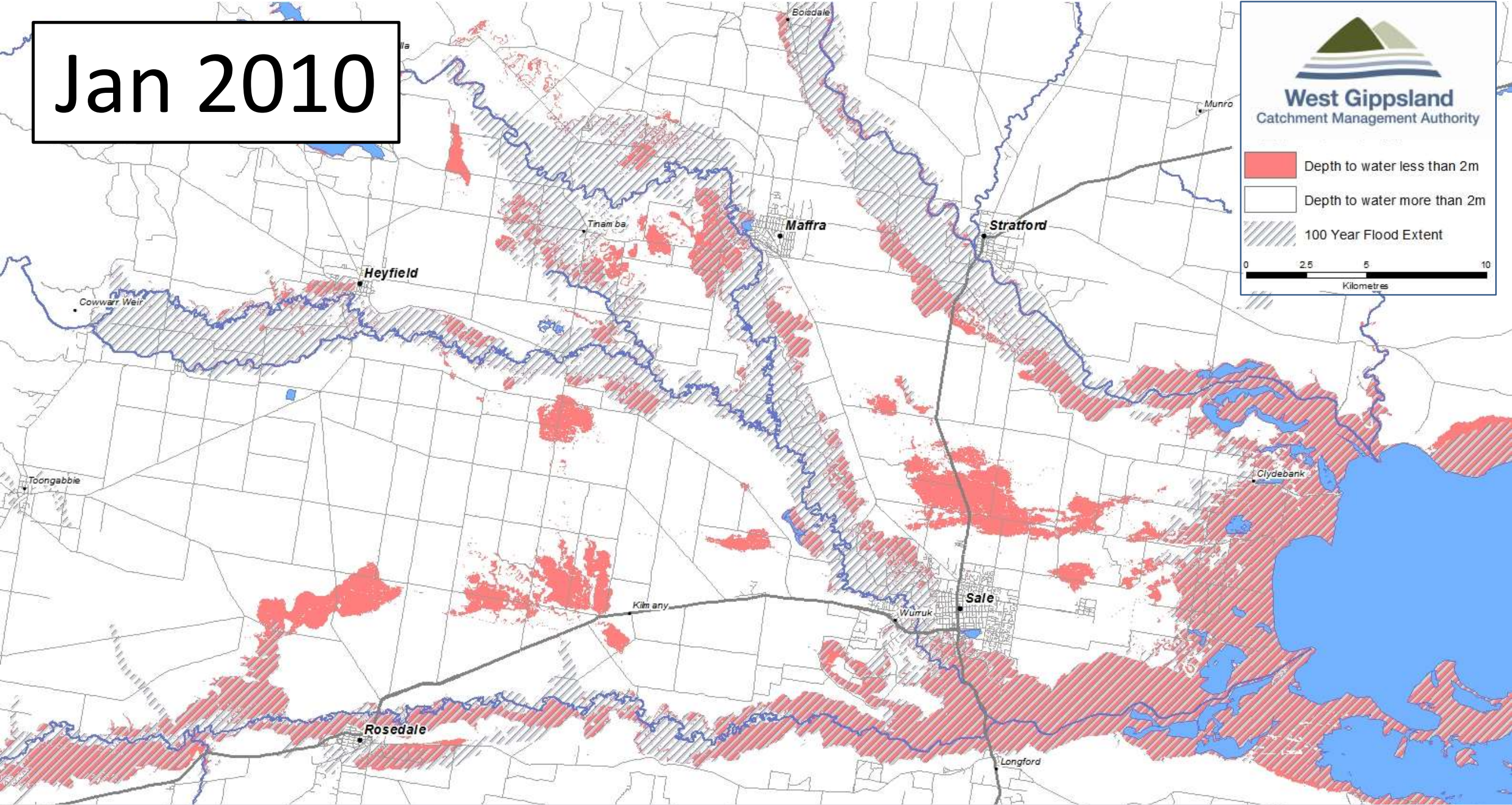
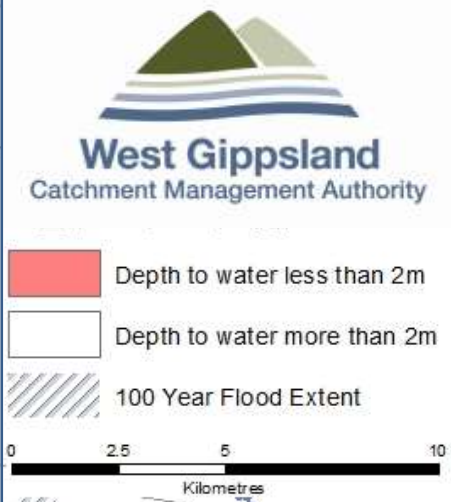


Flooding in 2007 breaks drought

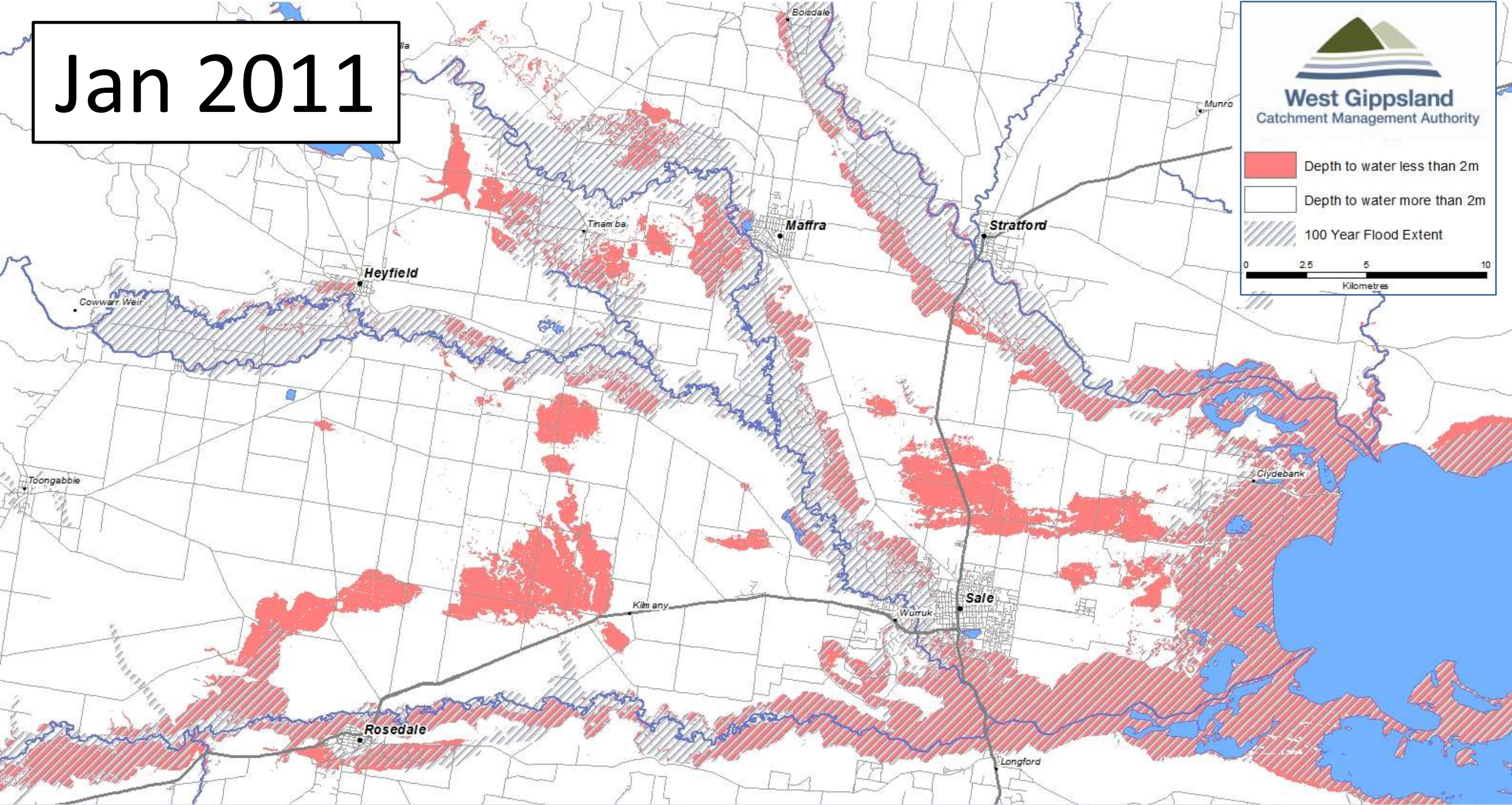
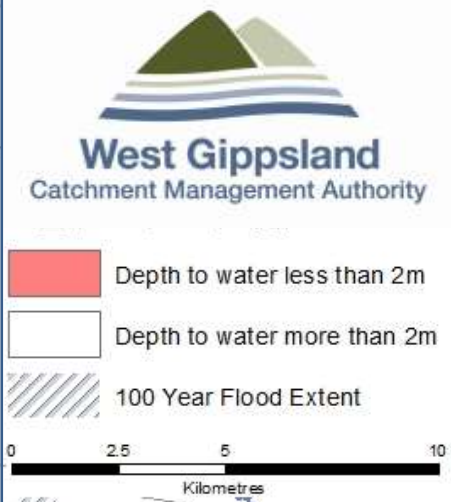
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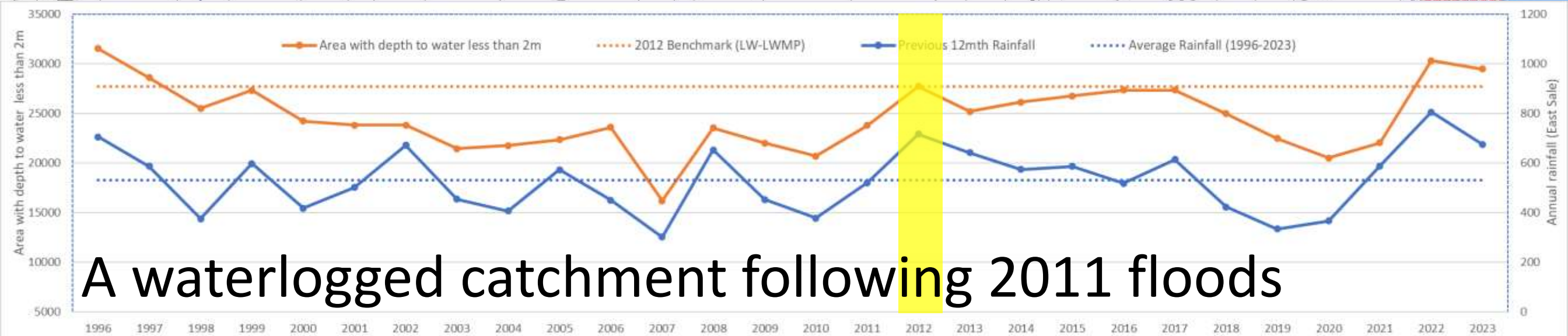
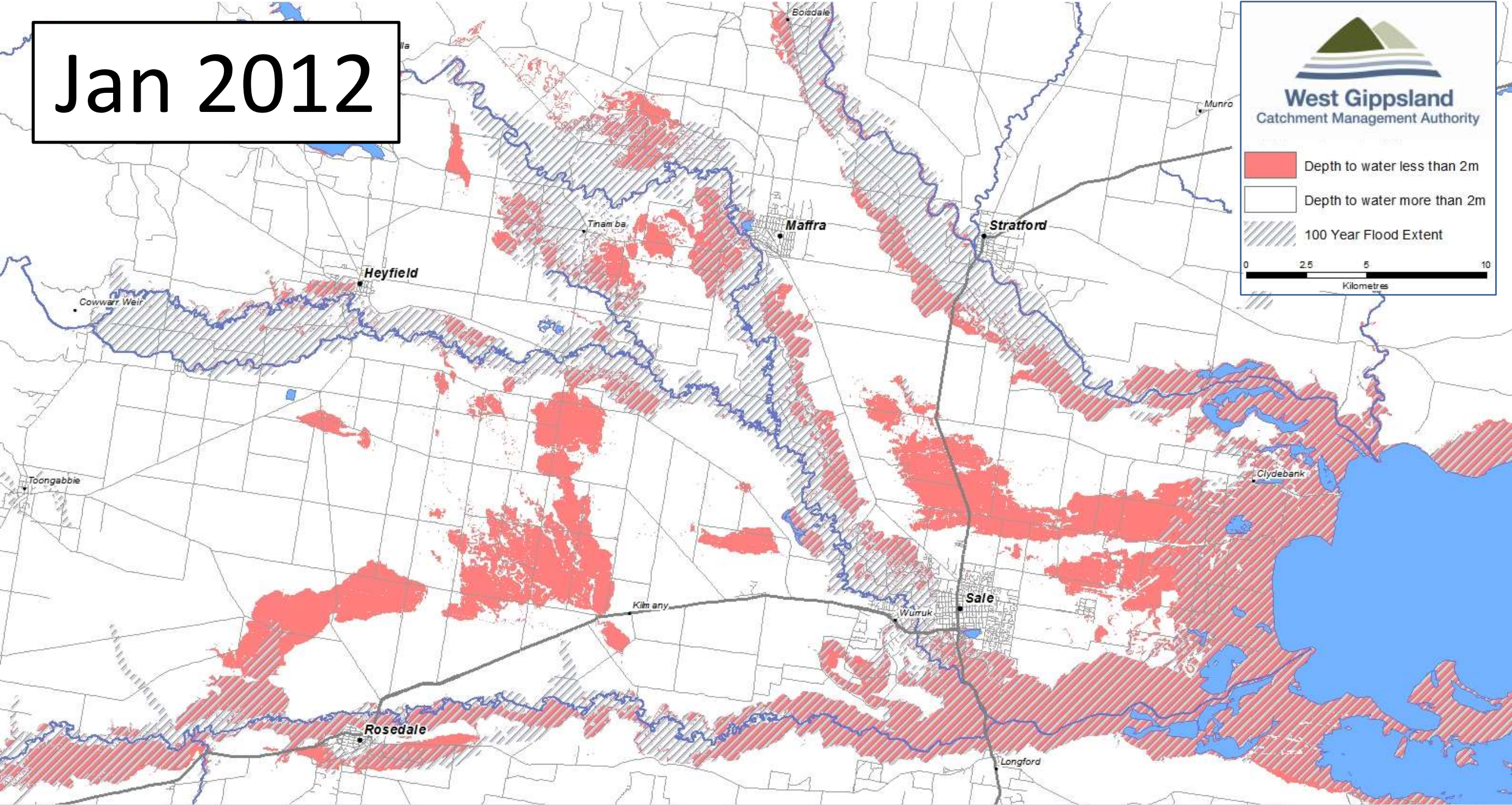
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Jan 2011

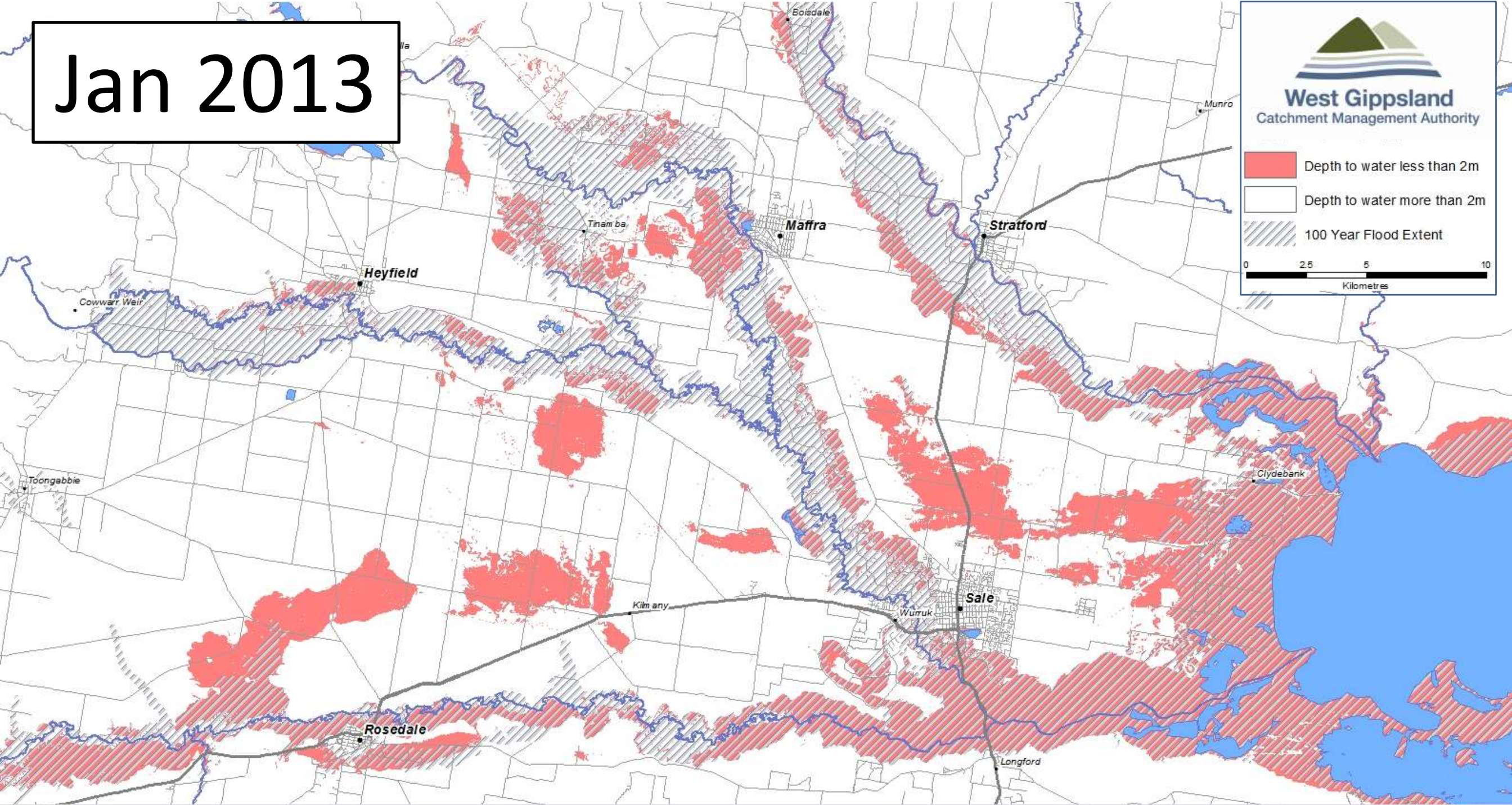
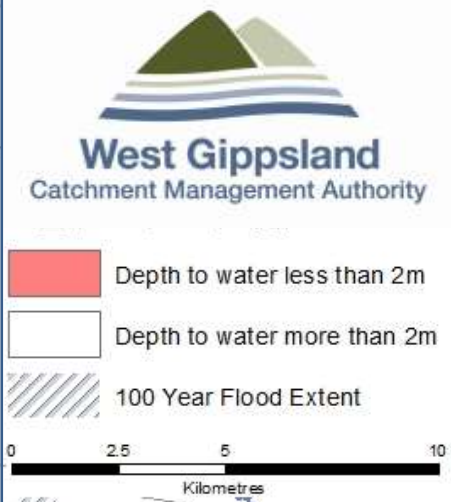


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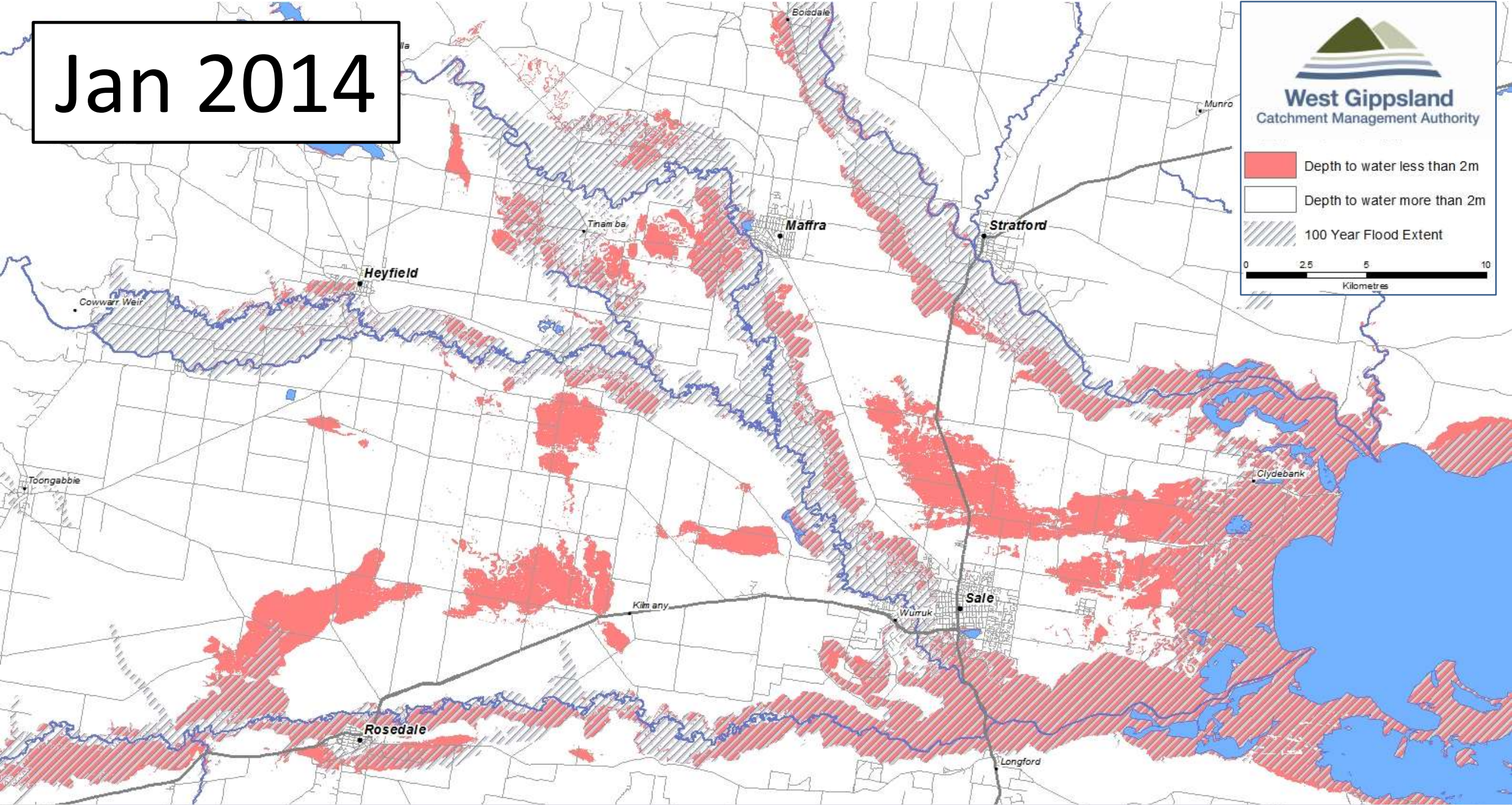
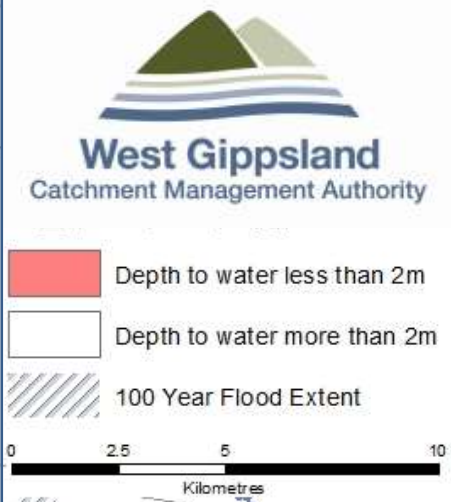


A waterlogged catchment following 2011 floods

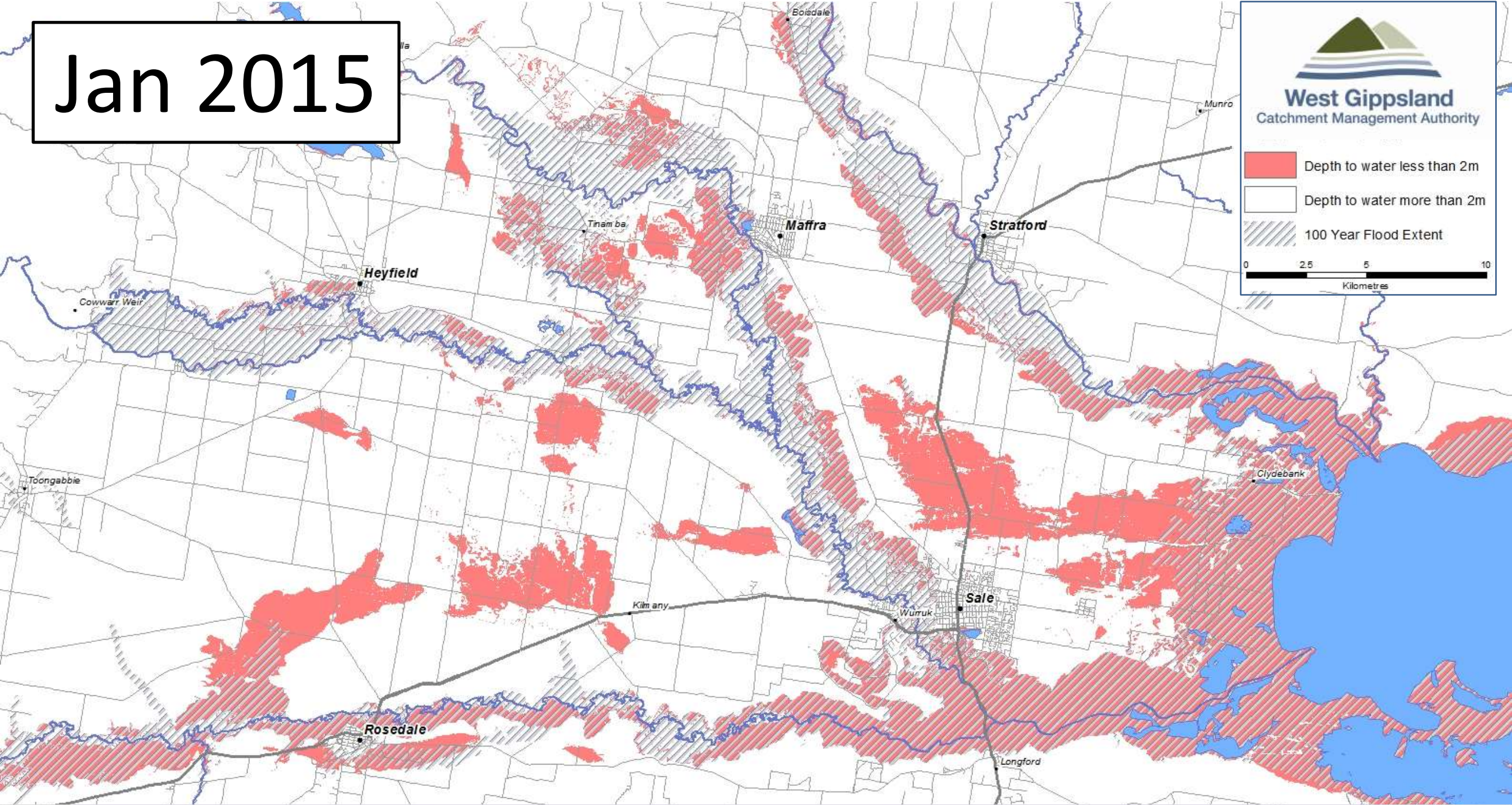
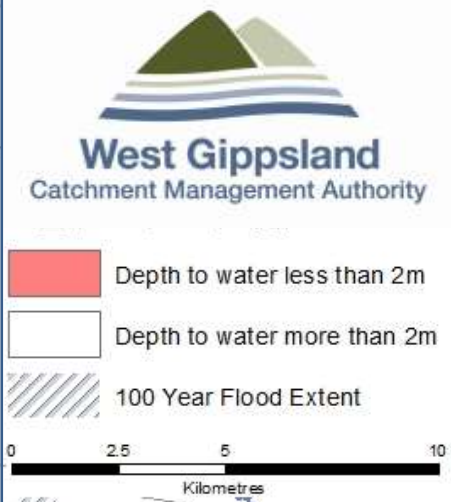
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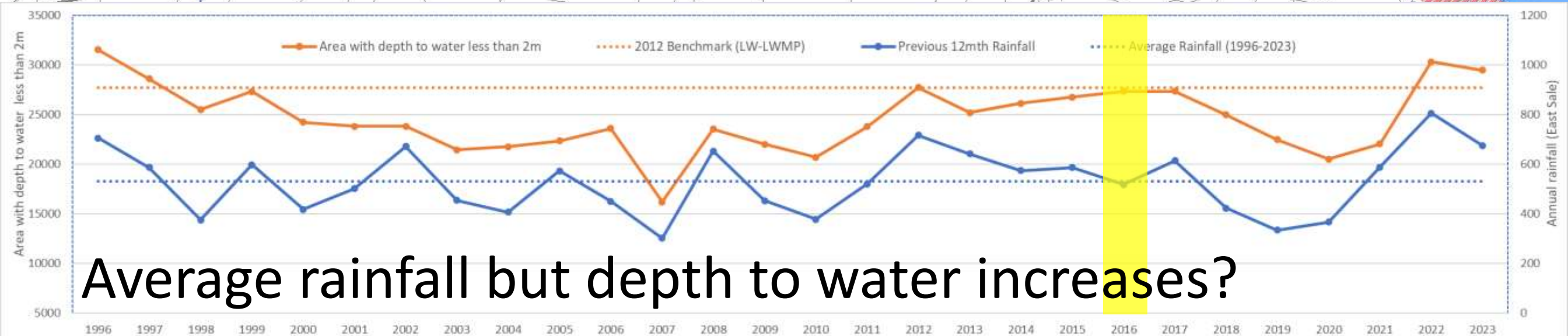
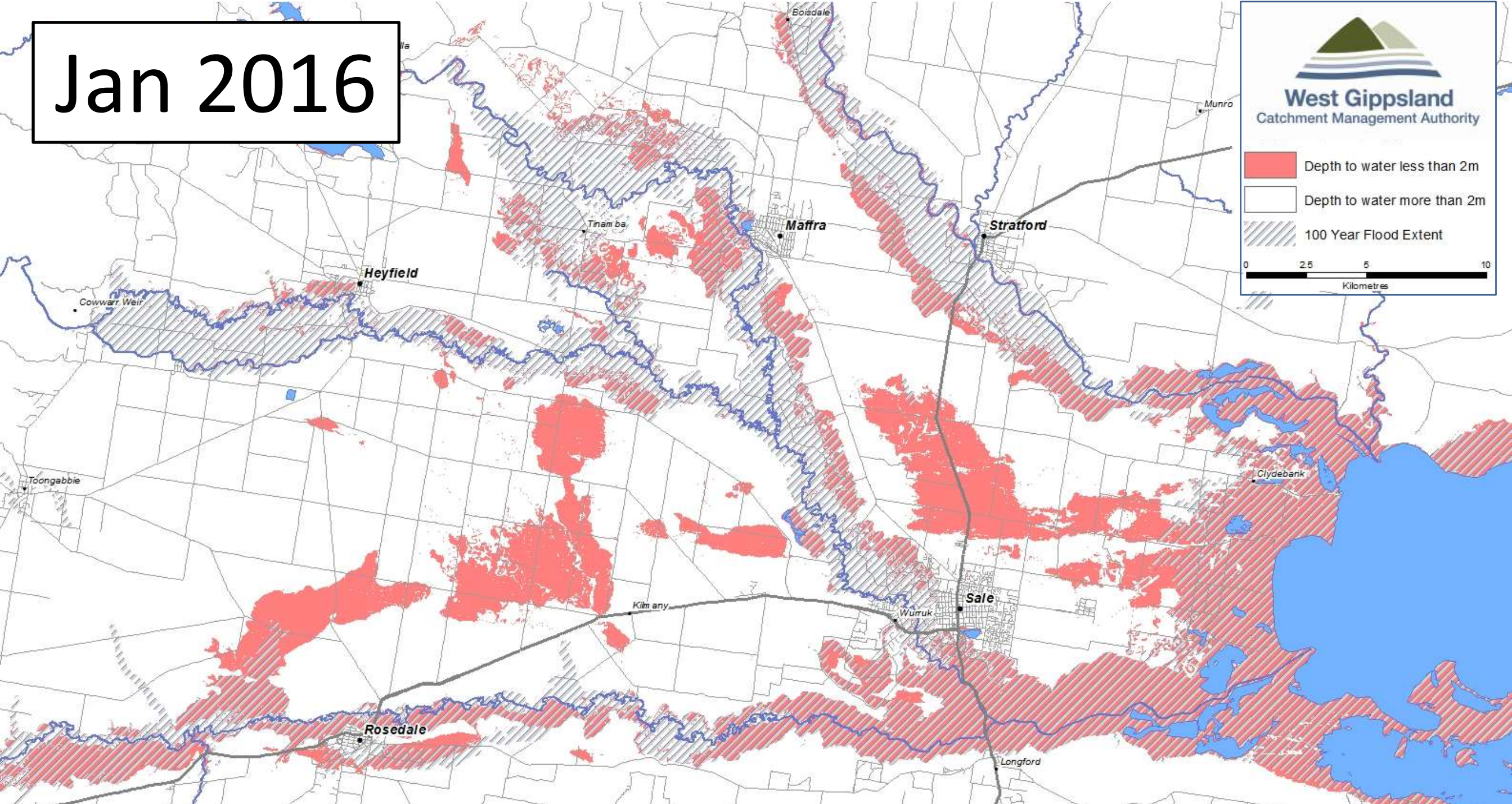
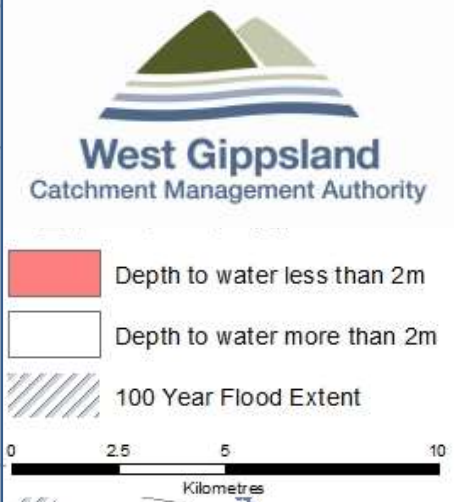
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Jan 2015

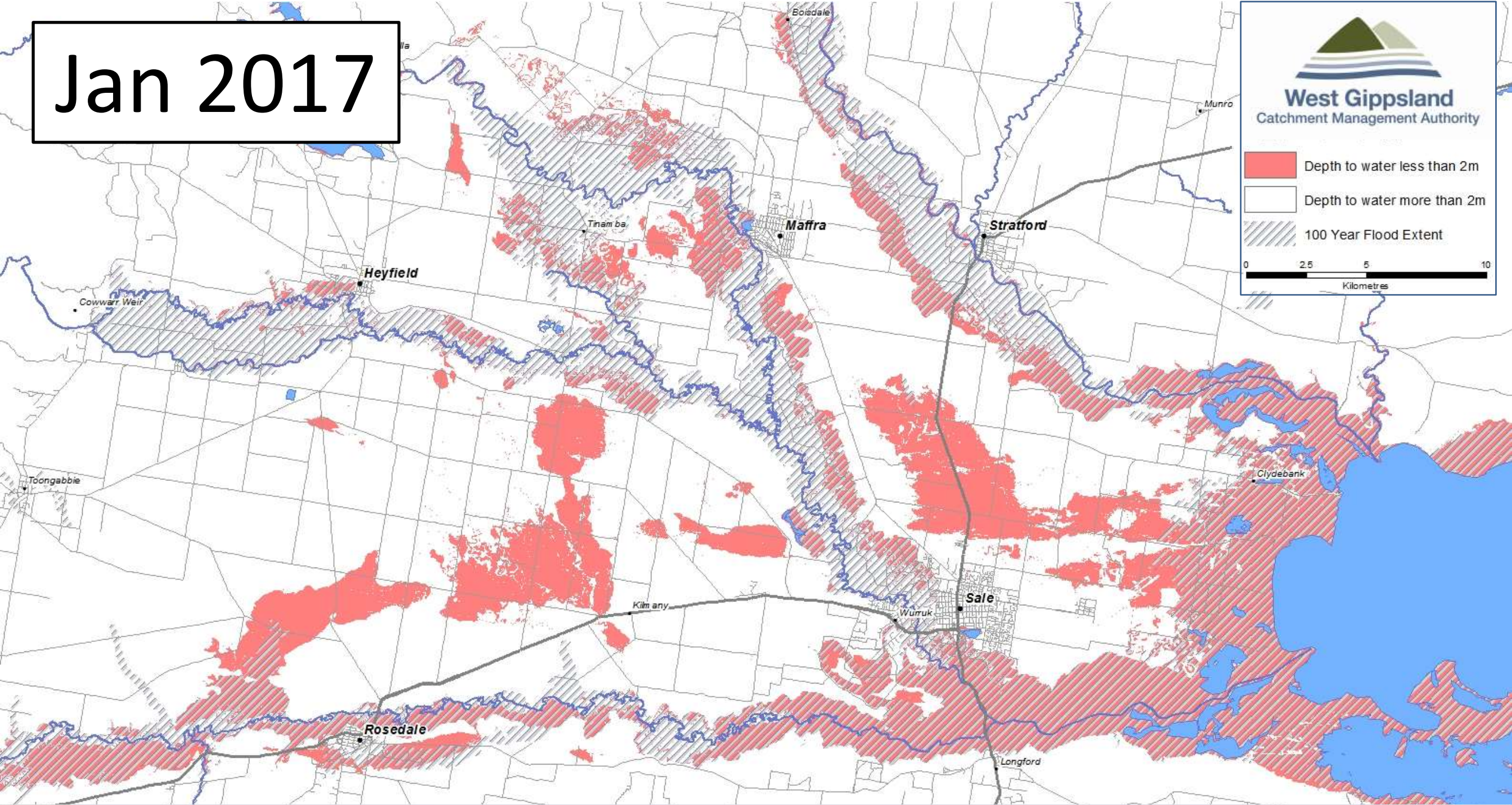
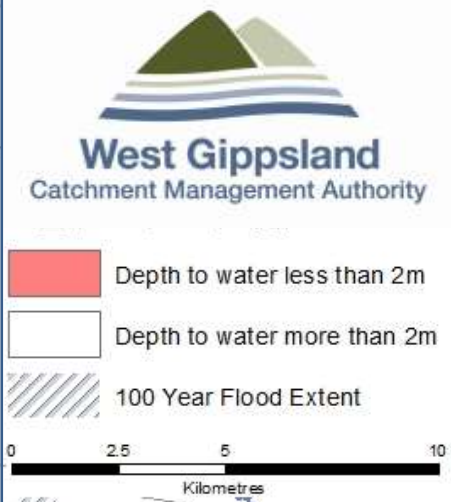


Jan 2016

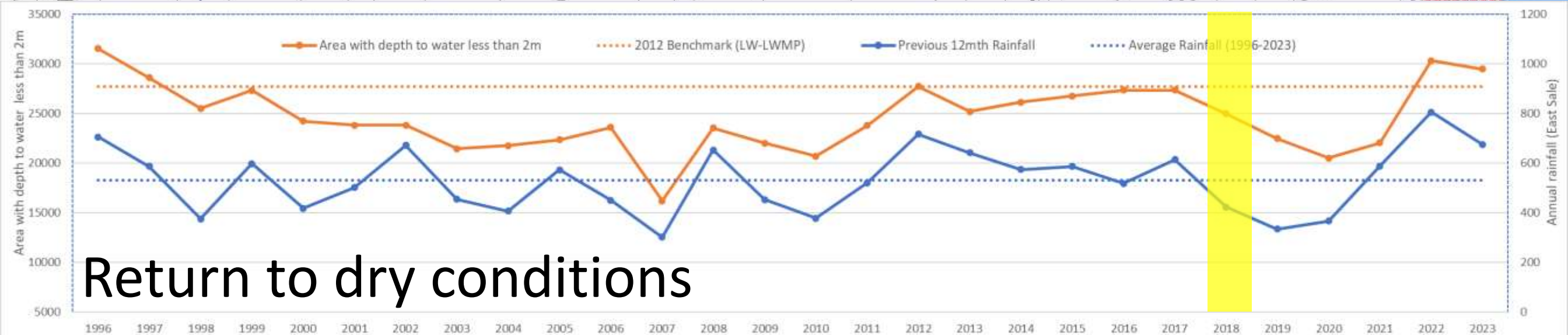
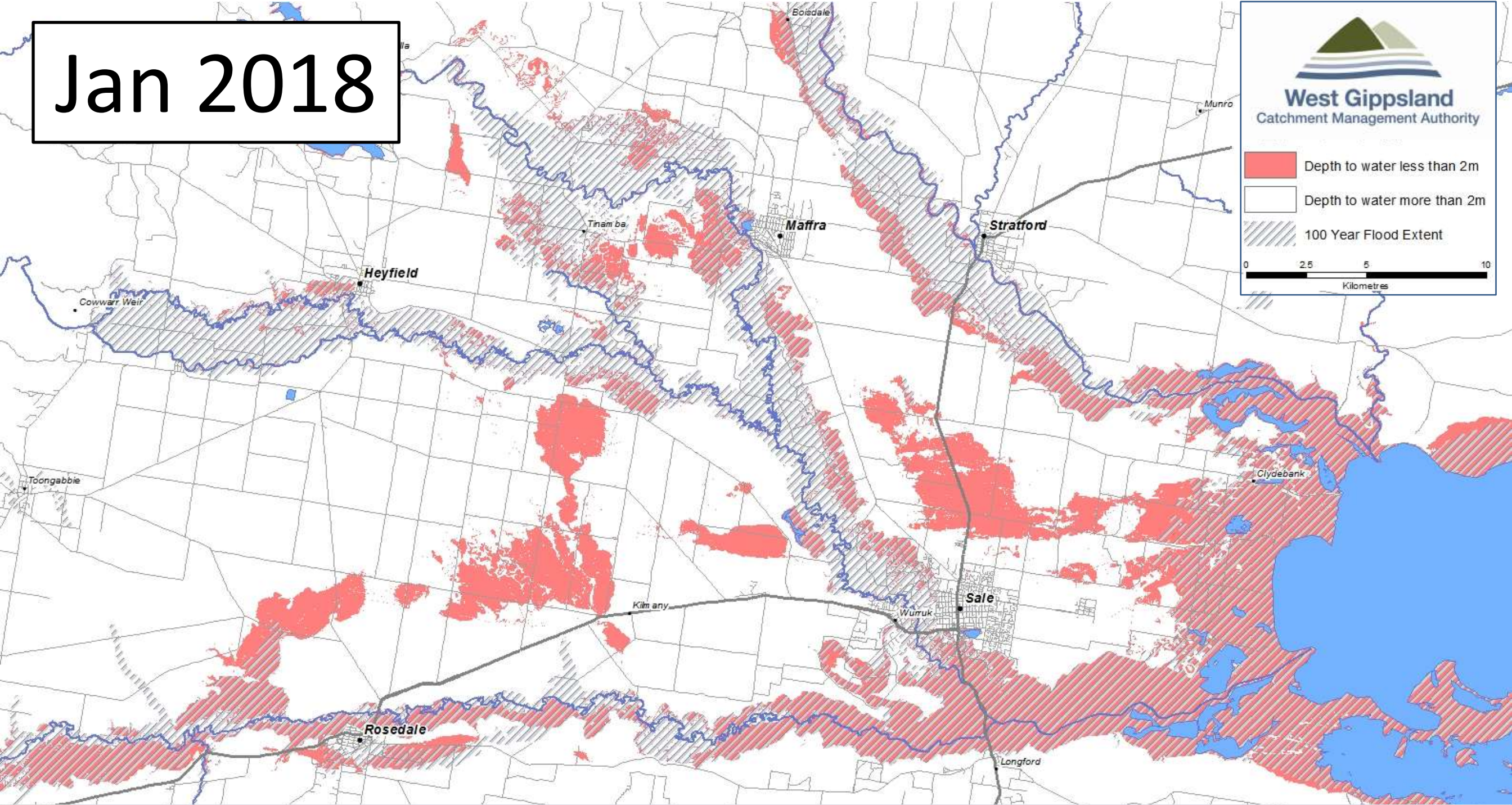
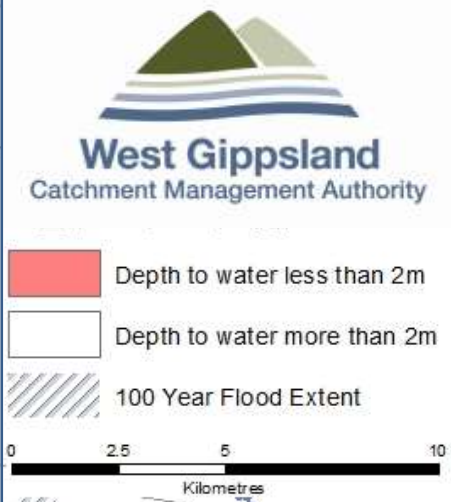


Average rainfall but depth to water increases?

Jan 2017



Jan 2018

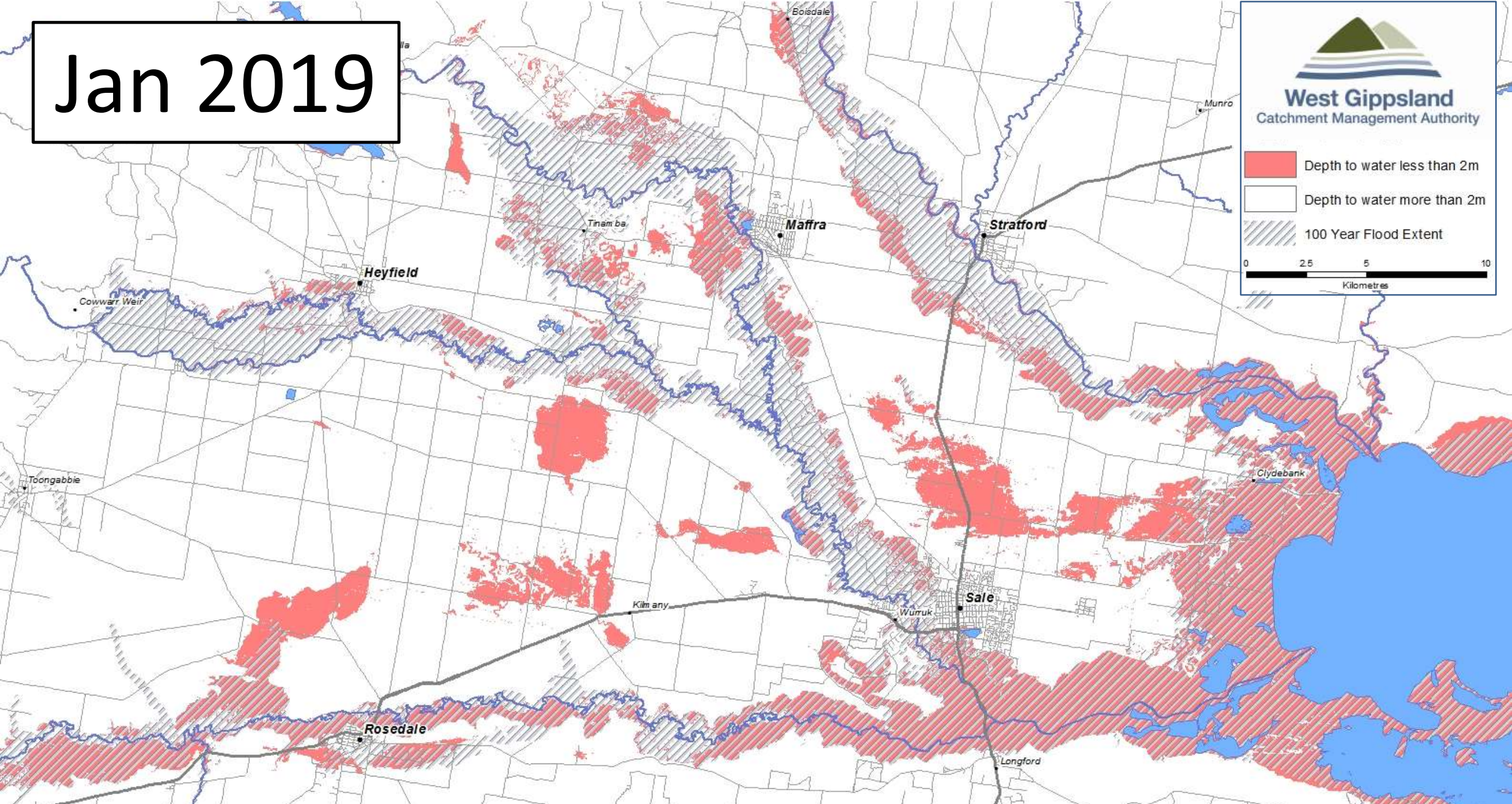
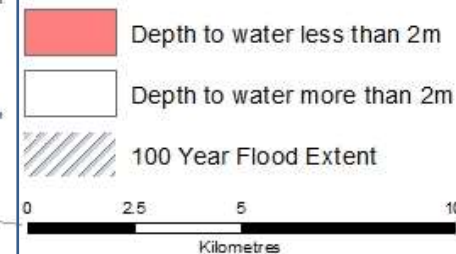


Return to dry conditions

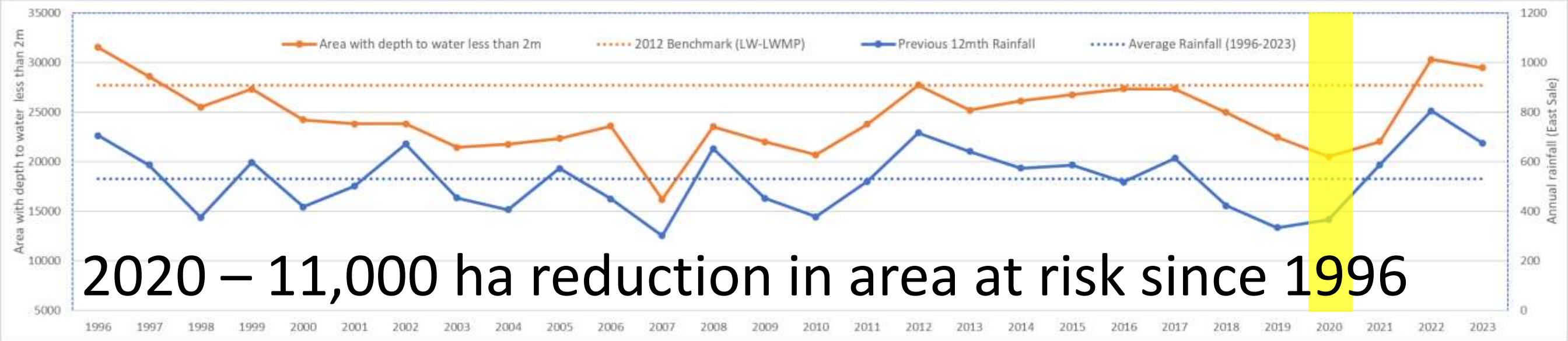
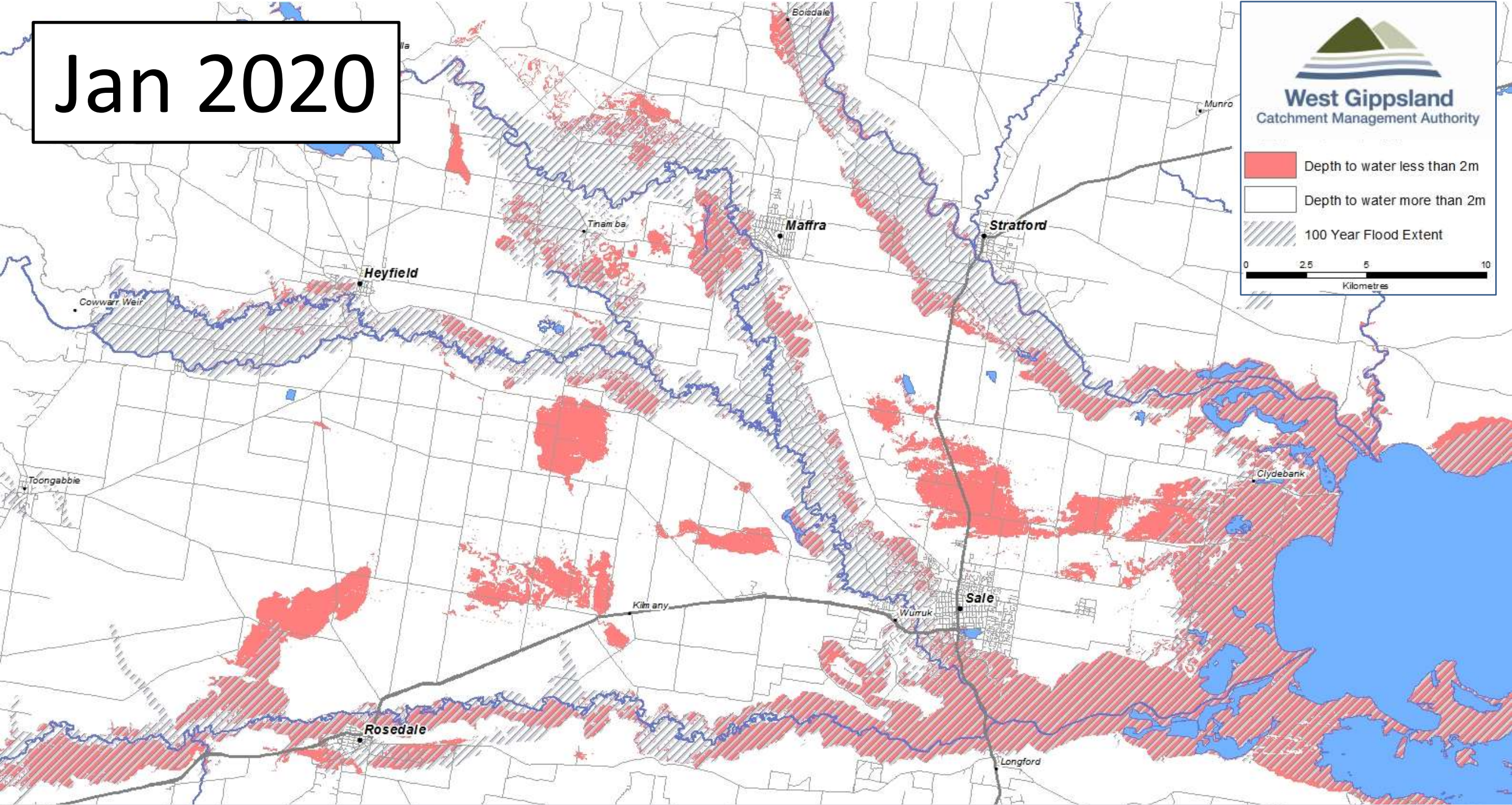
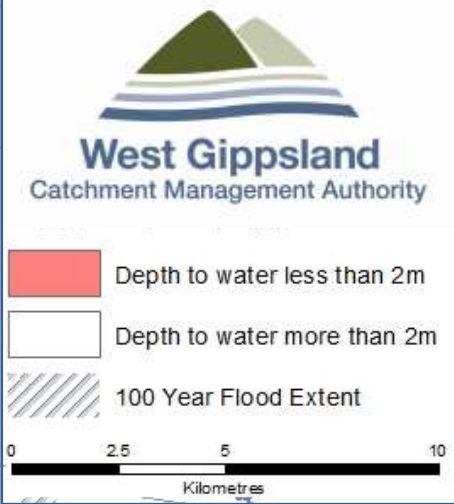
Jan 2019



West Gippsland
Catchment Management Authority

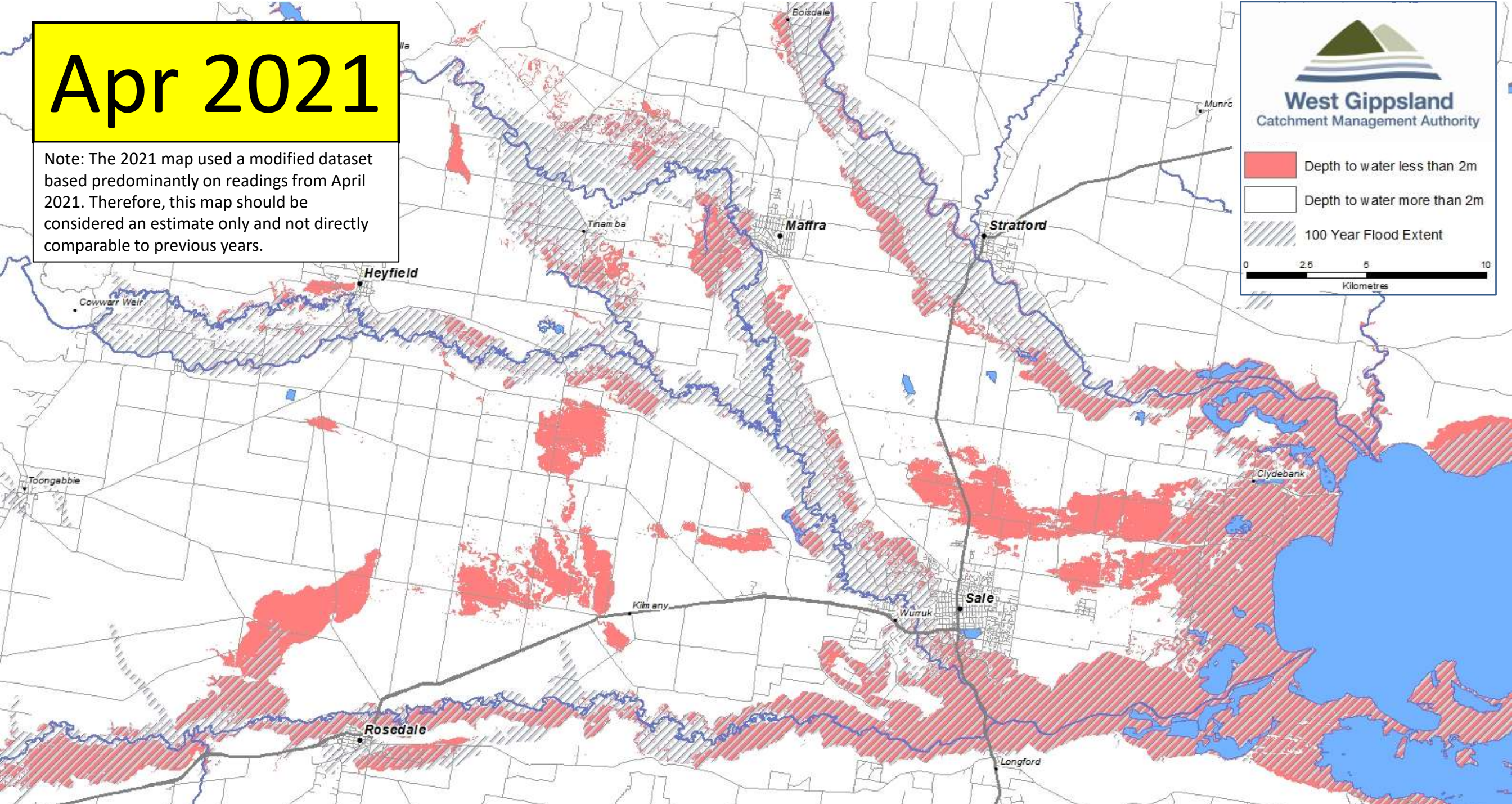
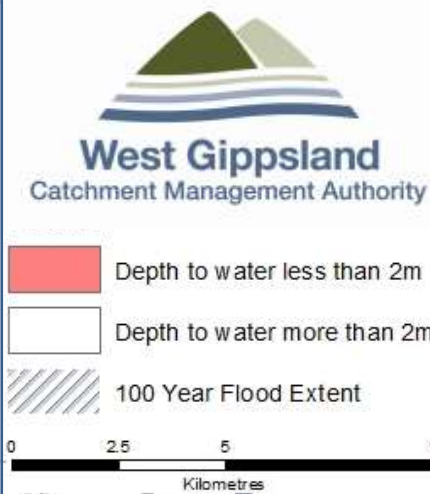


Jan 2020



Apr 2021

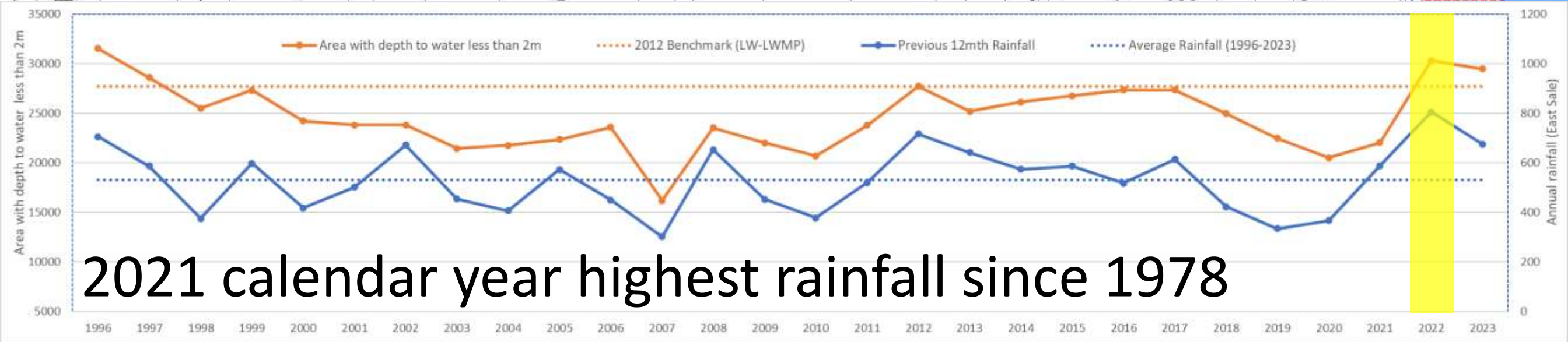
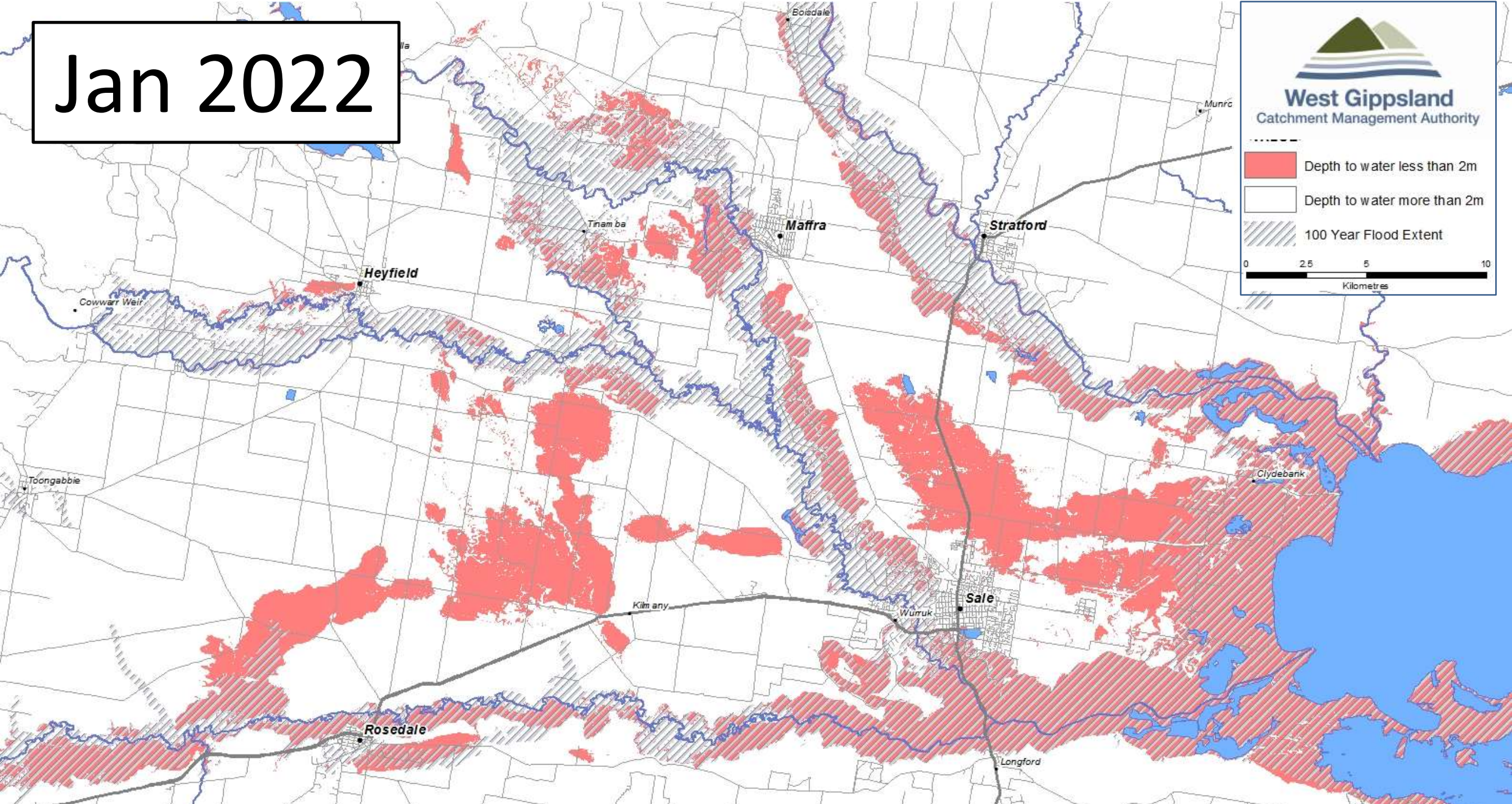
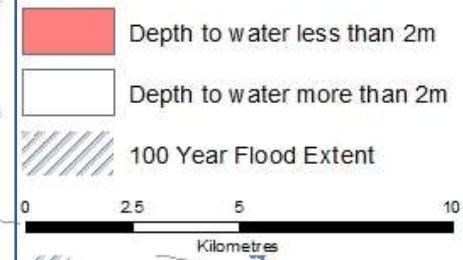
Note: The 2021 map used a modified dataset based predominantly on readings from April 2021. Therefore, this map should be considered an estimate only and not directly comparable to previous years.



Jan 2022



West Gippsland
Catchment Management Authority



2021 calendar year highest rainfall since 1978

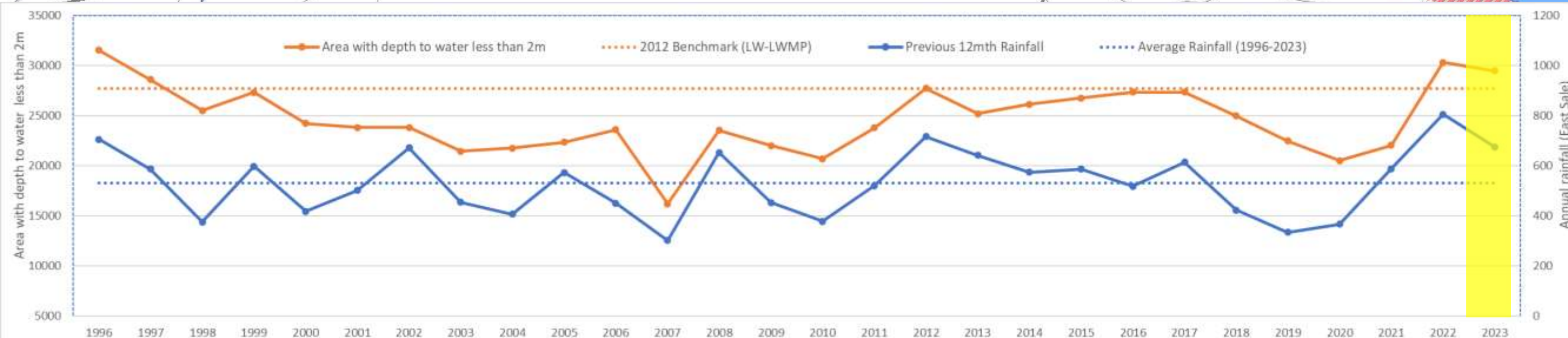
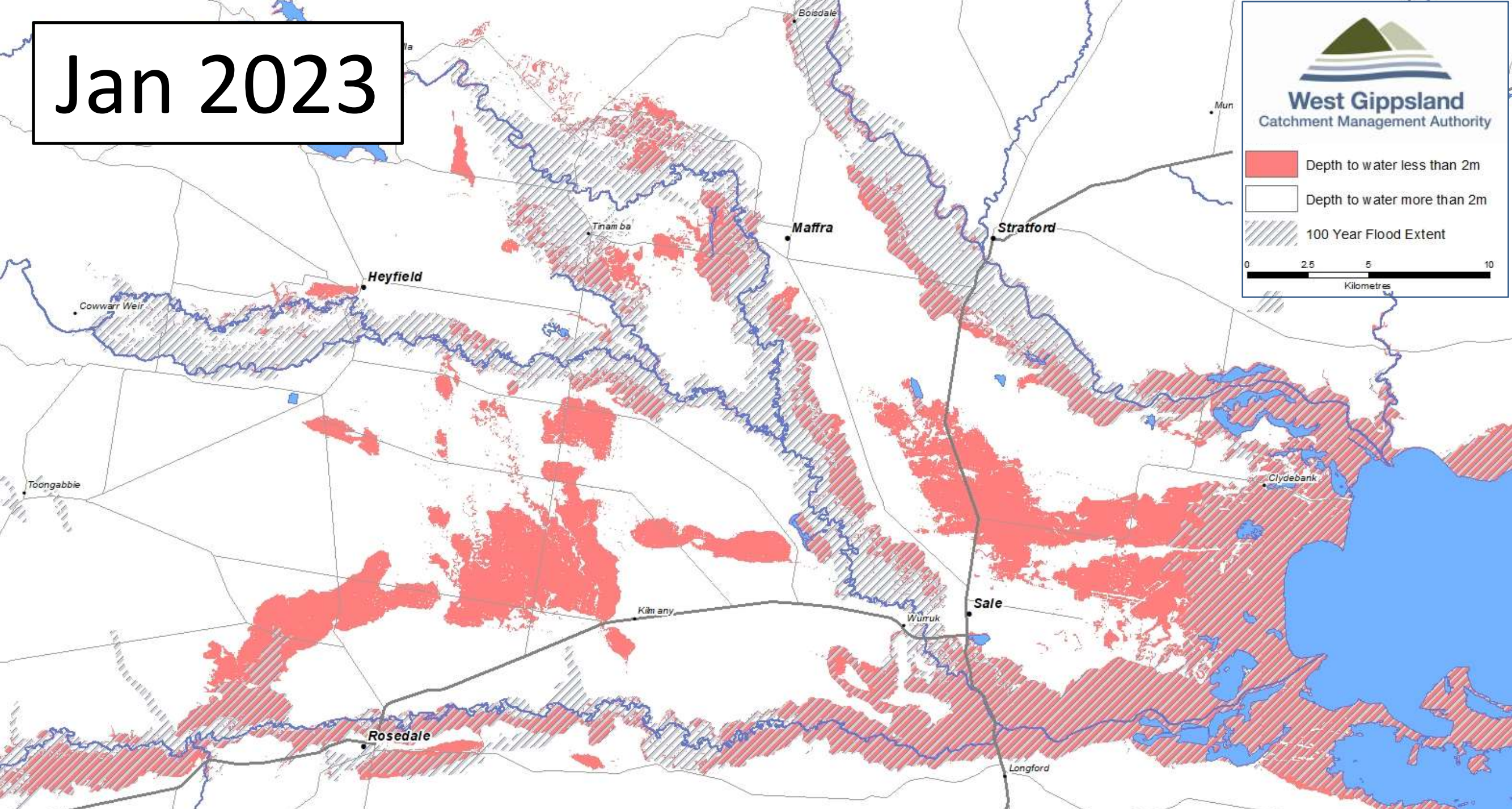
Jan 2023



West Gippsland
Catchment Management Authority

- Depth to water less than 2m
- Depth to water more than 2m
- 100 Year Flood Extent

0 2.5 5 10
Kilometres



For more information

Historical Context

[Drain and Reclaim Youtube Video](#) - A short video from the late 1950's/early 1960s depicting the development of surface and sub-surface drainage in the Nambrok-Denison area of the Macalister Irrigation District to combat water logging and salinisation of the land. See also:

<http://www.srw.com.au/environment/mid-salinity/>

Current Management

[Lake Wellington Land and Water Management Plan](#)