Soil Moisture & Climate Information to Better Manage Climate Variability

Maximising Profit in a Variable Climate Workshop

22 June 2017, Moculta

Barossa Improved Grazing Group

www.biggroup.org.au

1. Some background……

- 3 demo soil moisture & weather stations installed in 2013
- Measures soil moisture & soil temp/rainfall/air temp/RH/wind
- Key measurement- Plant Available Water (*i.e. how much water the plant can access*)

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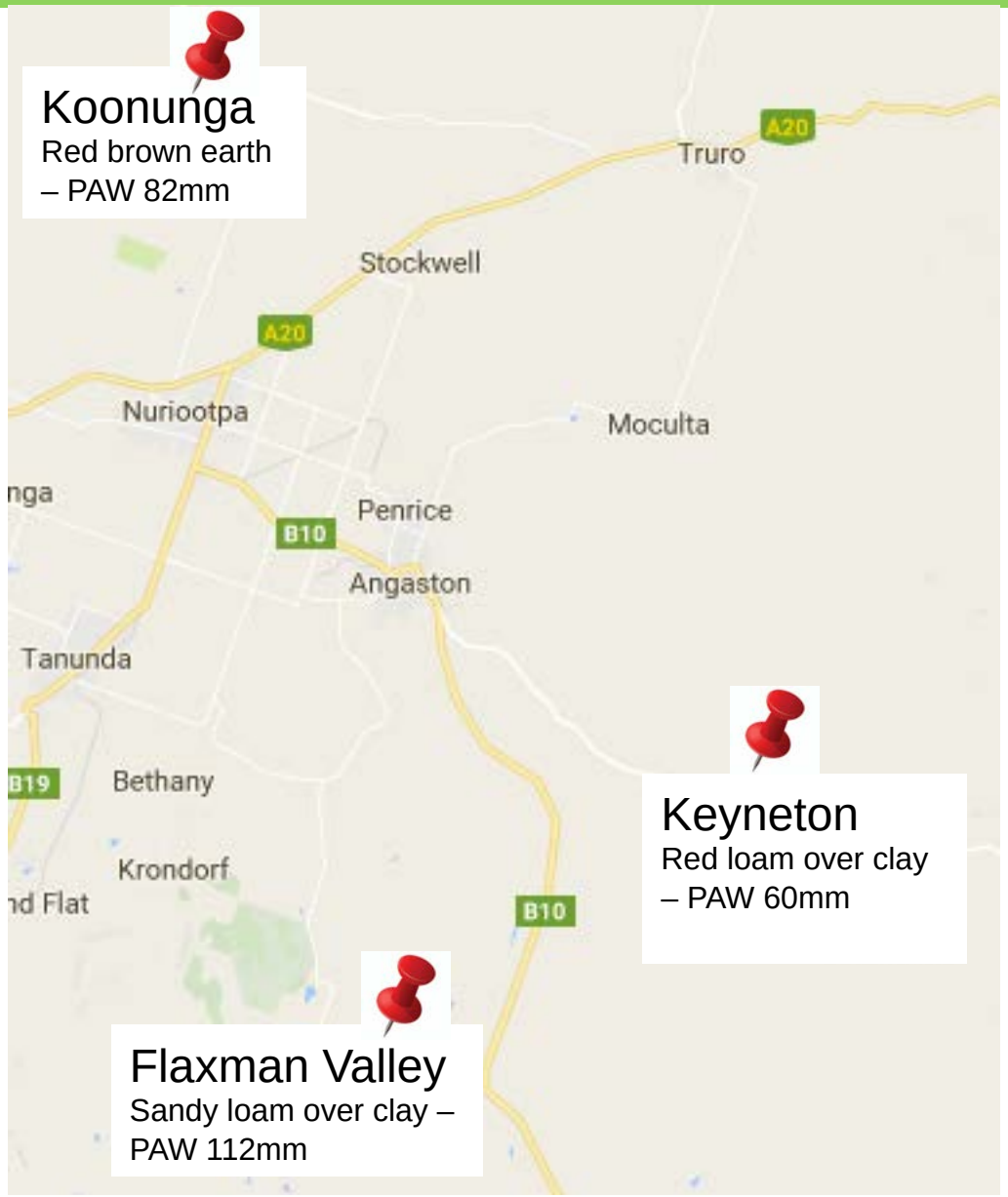
Natural Resources Management Board



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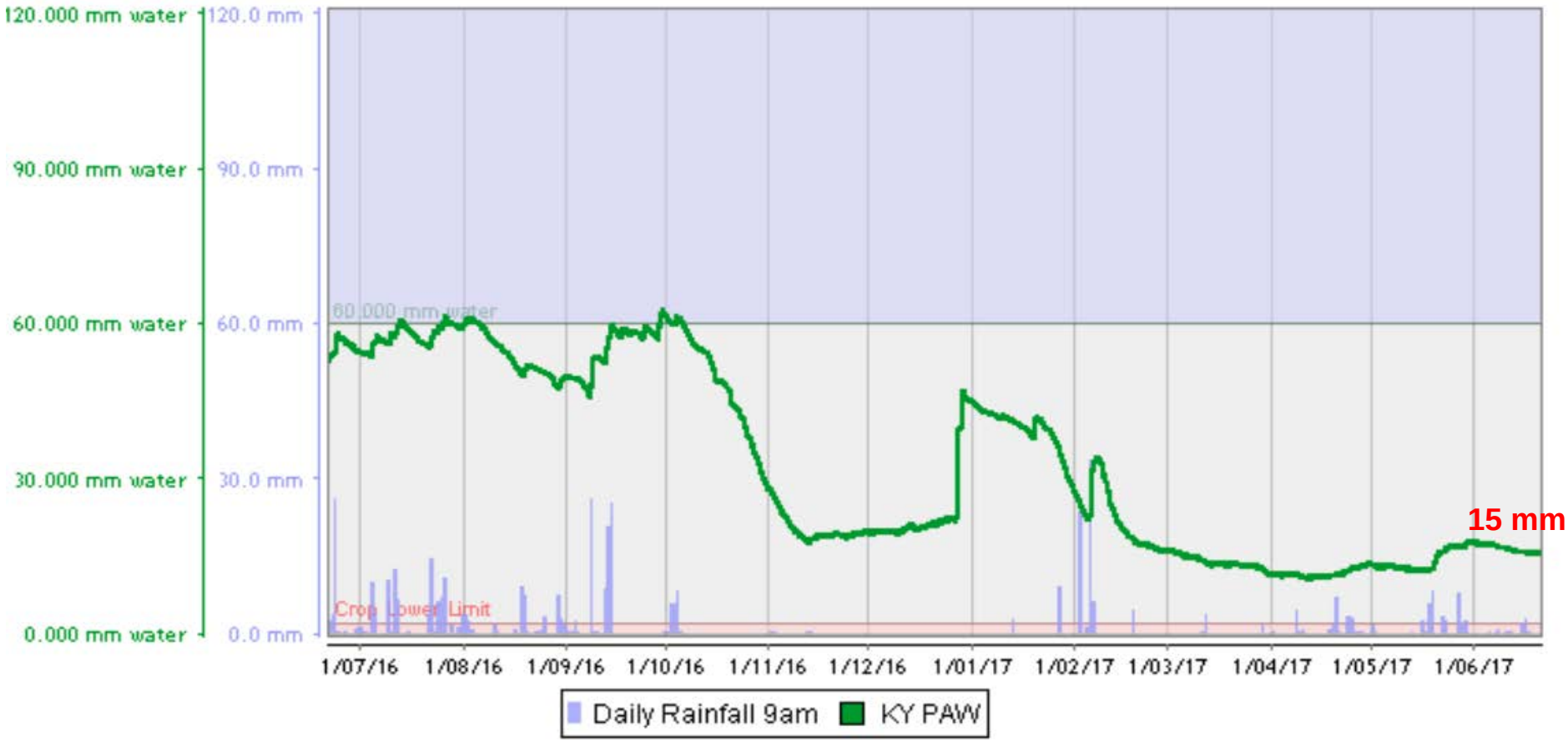
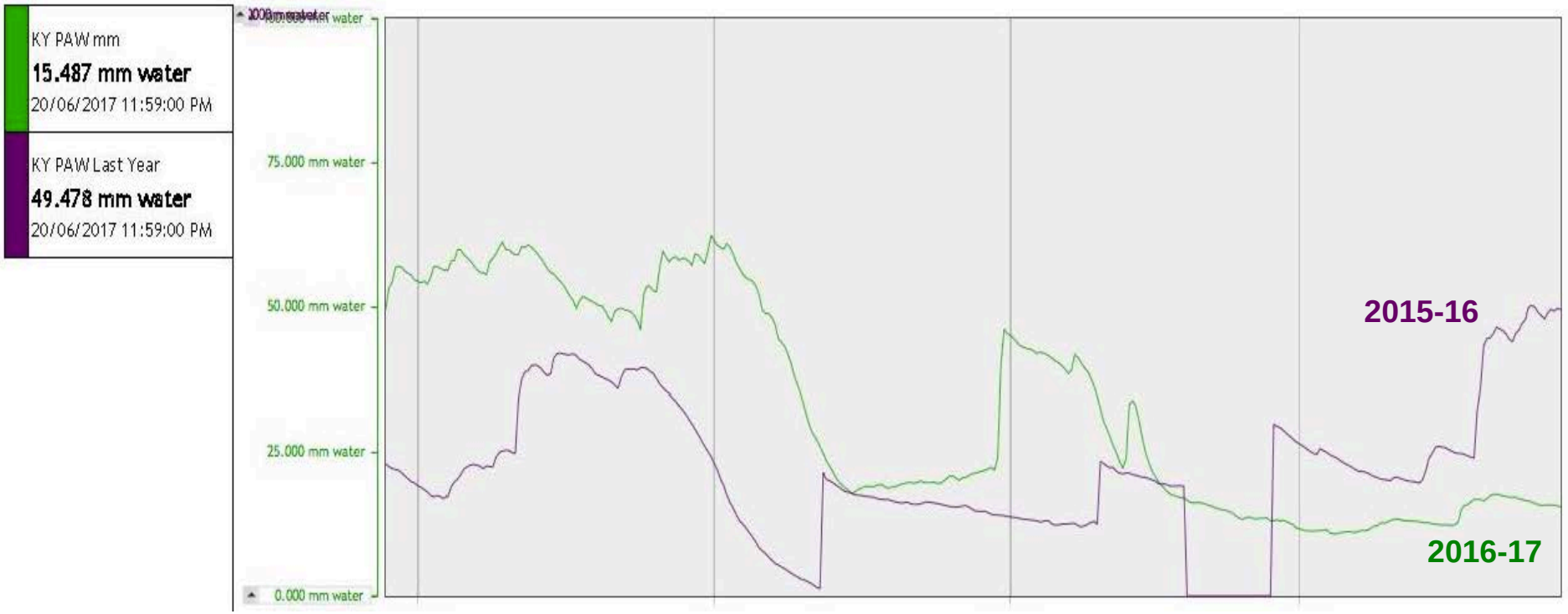
Todays plant available water - Keyneton

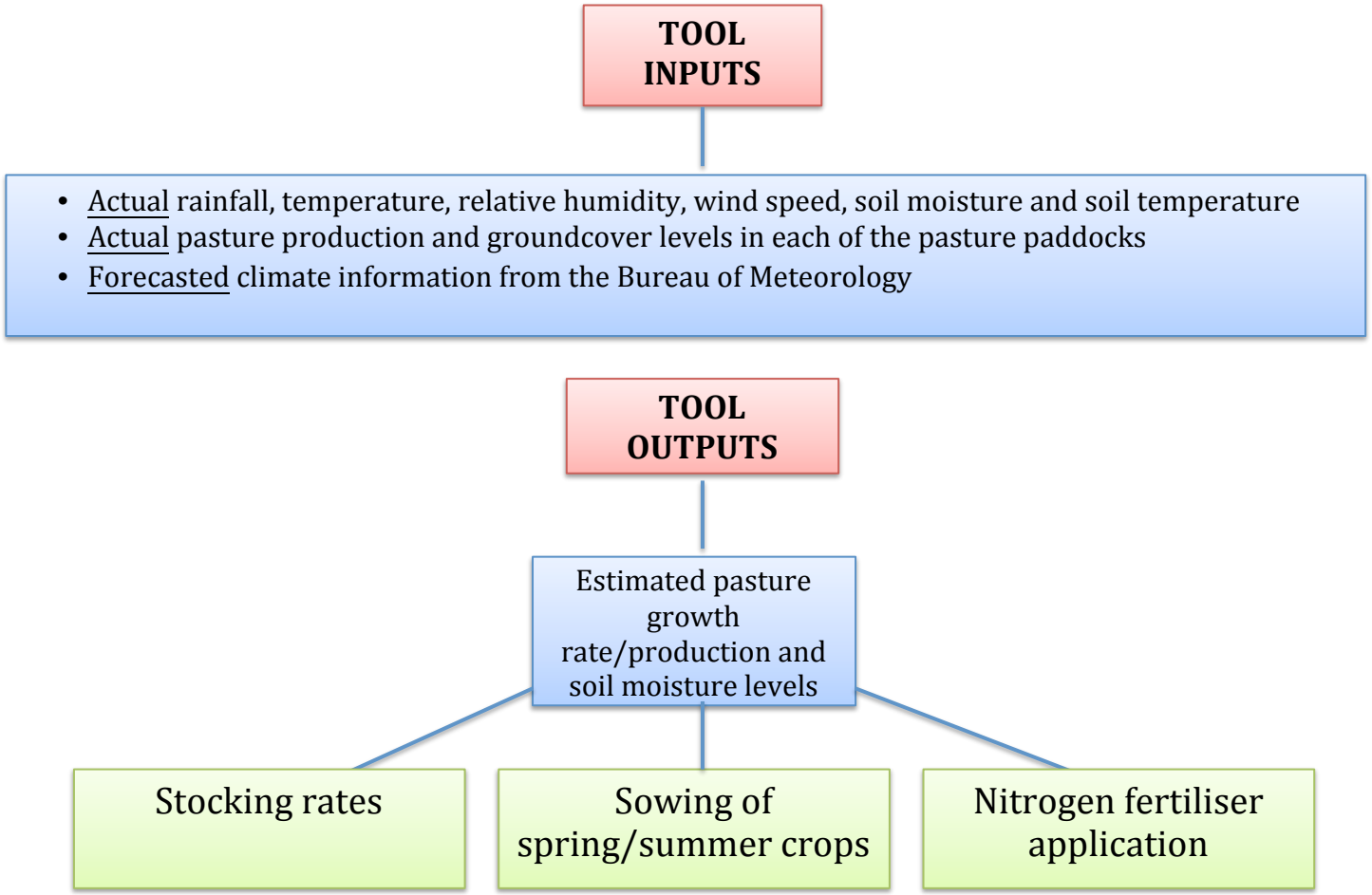


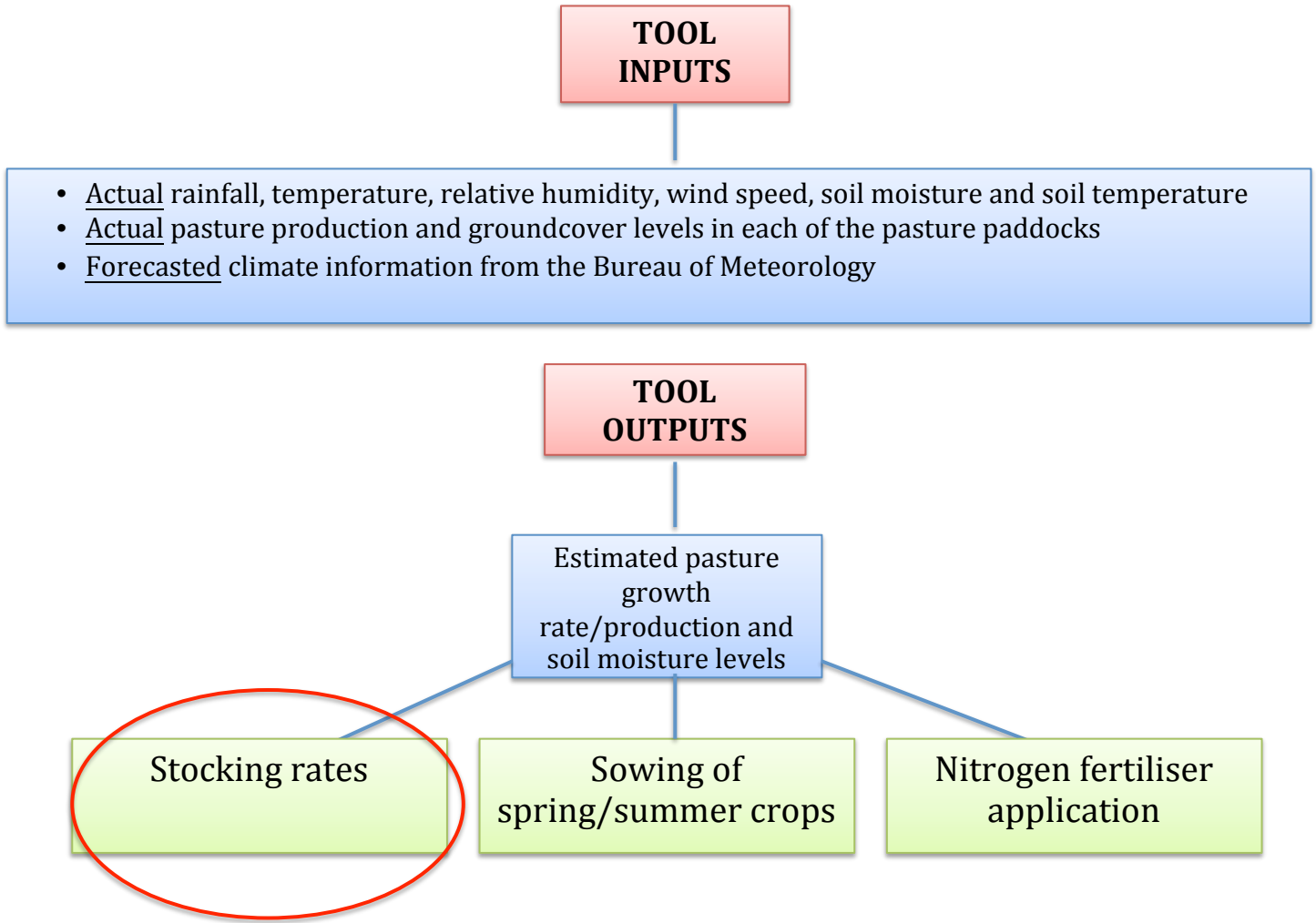
Plant available water estimate across years - Keyneton



2. Current project – what is planned

- Index models
  - Spray conditions, sheep chill
  - Integrate with BOM forecast info - harvest fire, frost, sheep blowfly risk
- Develop a pasture model for a decision tool
  - Marry actual data with forecasting data


TOOL INPUTS
• Actual rainfall, temperature, relative humidity, wind speed, soil moisture and soil temperature
• Actual pasture production and groundcover levels in each of the pasture paddocks
• Forecasted climate information from the Bureau of Meteorology
TOOL OUTPUTS
Estimated pasture growth rate/production and soil moisture levels
Stocking rates
Sowing of spring/summer crops
Nitrogen fertiliser application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The pasture model

- Develop and validate it
- Could we put our model into other existing decision tools?

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Summary -
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- Keep an eye on BIGG's existing PAW graphs
  - How much water is currently in the bank?
  - How quick is it being used?
- Watch this space for BIGG's pasture production model