

Groundwater Modelling

In 2007 ecoMarkets initiated a state-wide program to develop groundwater models for each of Victoria's

A staged approach was adopted during the development of each groundwater model. The initial phase

The development of each groundwater model had to conform to the following minimum specifications:

- Finite difference gridding at a maximum of 200 metre cell size;
- Multi-layer groundwater model;
- Common boundary conditions and consistent aquifer parameters with adjacent models (as appropriate);
- A normalised (scaled) RMS of less than 5 per cent for steady-state based on matching mapped data;
- A normalised (scaled) RMS of less than 10 per cent for the transient model based on matching mapped data;
- A calibration period of no less than 10 years;
- A sensitivity analysis to assess the variability of modelled outputs to variations in key model inputs;
- Catchment groundwater water balance error of less than 2 percent;
- All catchment water balance features to be considered and reported;
- The source and a statement of quality of all input data sets to be reported;
- At least 500 groundwater monitoring observation bores used for calibration (if > 500 present);
- Model domain represents the entire extent of the catchment management area, and
- The steady-state and transient groundwater recharge layers developed and provided by DSE

At the end of each phase the models were independently reviewed in accordance with the Murray Darling

The review process was conducted via direct informal communication between developer and reviewer

- Informal review workshop - following collation of all relevant data sets and development of preliminary model;
- State-wide groundwater modelling workshop - Carried out post preliminary conceptualisation to finalise model structure;
- Phase 1 model review workshop - Formal presentation of the final aquifer conceptualisation and model structure;
- Phase 2 model review workshop - Formal presentation of the calibrated Phase 2 transient model;
- Final State-wide groundwater modelling workshop - Presentation of the final groundwater model.

Each of the model development reports are available for download below (Warning. Large file sizes)

For more information on the [Good Markets groundwater models](#) please contact:

[North East - developer Hocking et al, reviewer Parson Brinkerhoff](#)

[Goulburn Broken - developer Hocking et al, reviewer SKM](#)

[North Central - developer Hocking et al, reviewer Parson Brinkerhoff](#)

[Mallee - developer Aquaterra, reviewer Australian Water Environments](#)

[Wimmera - developer Hocking et al, reviewer Aquaterra](#)

[East Gippsland - developer GHD, reviewer Parson Brinkerhoff](#)

[West Gippsland - developer GHD, reviewer Parson Brinkerhoff](#)

[Port Phillip and Western Port - developer GHD, reviewer Aquaterra](#)

[Glenelg Hopkins - developer SKM, reviewer URS](#)