

1.3 The review of the Lake Wellington Catchment Salinity Management Plan

The Lake Wellington Catchment Salinity Management Plan was prepared by the Lake Wellington Catchment Salinity Management Plan Community Working Group in 1993. The Government formally endorsed the Plan in March 1995. The plan area covered the Macalister Irrigation District and surrounds incorporating the catchments of the Latrobe, Thomson, Macalister, Avon and Perry Rivers. The primary focus of the plan was the irrigation induced salinity occurring in and around the Macalister Irrigation District.

The recommended programs in the Lake Wellington Catchment Plan were:

- Groundwater Pumping Program including the encouragement of private pumping and the installation of public groundwater control pumps;
- Recharge Control Program primarily related to increasing irrigation efficiency;
- Living with Salinity Program involving the planting of salt tolerant pastures in saline affected areas;
- Surface Drainage Program including the recommendation of additional drainage in key undrained areas;
- Environmental Management Program including investigation of wetlands, streams and lakes and the expansion of the groundwater monitoring system; and
- Implementation Support Program – This includes community education, monitoring of groundwater levels and salinity and research into interactions between groundwater, surface water, wetlands and nutrients.

A review of the plan by Nolan ITU (2002) concluded that installing groundwater pumps was the main implementation activity undertaken since the plan's inception. The groundwater pumping program has achieved a substantial decrease in water table levels and land salinity in the Nambrok/Denison and Clydebank regions. Since the inception of the plan in 1993, the groundwater pumping program has installed and operated 11 new public groundwater control pumps in addition to the 6 already in existence with a further 3 currently being installed and another 5 in various stages of investigation. In addition, there has been one landowner contracted to privately pump for water table control and drilling investigations for 40 landowners wanting to install private irrigation bores in high water table areas. The area of influence of the currently operating Groundwater Control Pumps is approximately 16,600 ha. The viability of irrigated agriculture particularly in the Nambrok/Denison area and, to a lesser extent, the Clydebank area is highly dependent on the continued operation of these pumps. To this end, the Lake Wellington Catchment Salinity Management Plan has been one of the most successful in the State for reducing land salinity.

The review of the Lake Wellington Catchment Salinity Management Plan also noted the following additional achievements of the plan's implementation:

- Hydrogeological review of the MID resulting in a changed understanding of the groundwater flow systems
- Development of groundwater models for the Nambrok, Heyfield, Clydebank and Maffra groundwater subregions (Boisdale was not considered a high priority due to the limited extent of salinity in the area)
- Development of the Draft MID Salinity Mitigation Procedure flow chart and policy for the assessment of proposed groundwater pumps on a site by site basis

- Support for the Nutrient Reduction Program for the conversion from flood to spray irrigation infrastructure for recharge control (which has an additional salinity benefit)
- Salinised land mapping throughout the MID and surrounds
- Studies into the cause of salinity in specific areas (eg Clydebank, Heyfield, Nambrok and Kilmany-Pearsondale)
- Wetland health and trend monitoring
- Drain and river quality and quantity monitoring
- Limited trials for the establishment of salt tolerant pasture
- Wetland water and salt balance studies completed for Dowd Morass and Clydebank Morass
- Regional and Subregional Salt Disposal and Drainage Plans
- Continued groundwater monitoring program and installation of additional monitoring bores

Major issues identified arising from the review process that are important in the development of the second generation plan are (Nolan ITU, 2002):

- Identification and quantification of the regional impact of salinity on the region's assets;
- The future balance for the allocation of resources between dryland and irrigation areas for salinity control;
- Quantification of the impacts of different control measures on short and long-term reduction of accessions to the water table;
- The need to strengthen linkages with other programs;
- The need to re-evaluate the existing emphasis on sub-surface drainage compared to the impact of recharge control and improved irrigation management (e.g. water use efficiency); and
- The need for outcome-focussed annual reporting with implementation indicators, such as area protected and recharge reduction, as primary measures of performance.

The identified shortcomings of the Lake Wellington Plan are taken into account in the development of the management actions in this plan. Specifically, the need to place a higher priority on recharge control rather than groundwater pumping is a key focus of the management actions to address irrigation induced salinity.