

### 6.13 Conflicts and synergies with other natural resource management programs

The salinity management plan has links to many other natural resource management plans in the region. Some of the key linkages, synergies and conflicts are given in Table 77.

The key conflicts with other natural resource management issues include:

- Groundwater pumping and disposal conflicting with the aims of the nutrient reduction program in the Macalister Irrigation District. Disposed groundwater into drains can increase salinity to the extent that it becomes unusable for drain diverters. The nutrient program aims to increase drain water use prior to being discharged to rivers and ultimately the Gippsland Lakes.
- Groundwater pumping and disposal can conflict with groundwater resource management programs. Groundwater pumping for salinity control aims to reduce groundwater levels over the long term (by “mining” the “resource”) whereas groundwater resource management programs aim to ensure long term sustainability of the resource. This is an issue for the Denison and Wa De Lock Groundwater Management Areas that cover the shallow alluvial aquifer in the Macalister Irrigation District and surrounds. The State Government’s *Our Water Our Future* (DSE, 2004) identified the need to make special consideration of groundwater extraction for salinity purposes in high watertable areas of Groundwater Management Areas.
- Recharge control can conflict with groundwater resource management/use because less water is recharging the aquifer and less groundwater is available for sustainable use.
- Conversion from flood to spray irrigation may involve the removal of trees, which may conflict with native vegetation management and biodiversity objectives. However, provided the requirement of ‘Net Gain’ is fulfilled, this may result in an enhancement of the area of native vegetation, particularly if it is replaced with vegetation of local provenance.
- The increased power needs of spray irrigation relative to flood irrigation (and therefore increased carbon dioxide emissions) may conflict with the need to reduce greenhouse gas emissions. However, increased power usage by spray irrigation may be balanced by the reduction in nitrous oxides (a more harmful greenhouse gas) due to the reduction in waterlogging but requires more investigation to confirm.

Some of the key multi-benefits achieved from implementing salinity control options include:

- Increased irrigation efficiency saves water and reduces irrigation runoff resulting in decreased nutrient loads being discharged to rivers and the Gippsland Lakes. This is a key synergy with the Macalister Irrigation District Nutrient Reduction Plan.
- Tree planting and protecting, enhancing and restoring native vegetation maintains or increases biodiversity, reduces soil erosion, provides a sink for greenhouse gases, provides shelter for stock and reduces nutrient loads to the rivers and Gippsland Lakes.
- Decreasing the salinity of wetlands increases biodiversity.
- Farm forestry and private groundwater pumping for irrigation provides an additional revenue source for farmers.

Also, the tree planting options recommended in this plan will provide a range of ecological benefits depending on the way in which they are implemented. Although commercial and farm forestry and alley farming rarely include understorey species and generally use non-indigenous species, numerous studies have shown that plantations have much greater species diversity than pasture dominated agricultural land. However, the species diversity in plantations is generally less than in native forests. Stands of indigenous trees of local provenance with understorey planting will result in greater ecological benefits. Some ecological benefits may also arise from Government buy-back of saline land for rehabilitation depending on the nature of the revegetation.

Actions for exploiting multi-benefit outcomes while addressing key conflicts between programs are listed in Table 77.

■ **Table 77: Linkages with other land and water management plans**

Land and water management plan	Synergies	Conflicts	Actions
Draft West Gippsland Native Vegetation Management Plan	Tree planting in recharge areas can have recharge reduction benefits as well as increasing biomass and biodiversity	Spray irrigation implementation can sometimes require the clearing of native vegetation though this needs to be done in compliance with the Native Vegetation Framework which should result in 'Net Gain'.	<ul style="list-style-type: none"> <li>Future revegetation projects to be integrated combining biodiversity and salinity objectives (WGCMA)</li> <li>Managers of current revegetation projects to be provided with information on priority areas for tree planting for salinity control (WGCMA, Landcare and Greening Australia)</li> <li>Planning controls on clearing of existing vegetation and planting of new vegetation need to have information on recharge areas (Department of Primary Industries)</li> </ul>
Denison WSPA –groundwater management plan		Maintaining groundwater levels for resource sustainability vs reducing watertable levels for salinity control	Assist Southern Rural Water address conflicting issue of sustainability and salinity control (WGCMA)
Macalister Irrigation District Nutrient Reduction Plan	More efficient irrigation results in less nutrient runoff and reduced recharge	<p>1) Reduced flow in drains leads to less dilution of saline water from Groundwater Control Pumps</p> <p>2) Public pump disposal can increase salinity of drain water leading to decreased opportunity to divert drain water</p>	Ensure Groundwater Control Pumps do not increase salinity of drain water to the extent that it can't be used for irrigation purposes (Southern Rural Water)
West Gippsland Regional Drainage Plan	Drainage can alleviate salinity and waterlogging problems		Ensure coordination of surface drainage works for salinity control with implementation of Regional Drainage Plan (WGCMA)
Regional Floodplain Management Plan	Improved floodplain management can reduce recharge (especially sea wall and flood gate management)		Ensure coordination of flood plain management works for salinity control with implementation of Regional Drainage Plan (WGCMA)
West Gippsland Water Quality Strategy (in prep)	Improvement in waterway salinity objectives of both programs		Ensure salinity objectives are coordinated and included in the water quality plan and implementation of the plan (WGCMA)
Gippsland Lakes Future Directions and Actions Plan	As for MID nutrient reduction plan	As for MID nutrient reduction plan	As for MID nutrient reduction plan
Draft McLennan Straits Management Plan			Aid Parks Vic to assess the feasibility of an engineering control structure at McLennan Straits to reduce saline lake water entering Lake Wellington (WGCMA)
Management of Victoria's Ramsar Wetlands Strategic Directions Statement			Coordinate with Parks Victoria on feasibility study into engineering options for Clydebank Morass and Dowd Morass following on from recommendations of salt and water balance studies (Parks Vic and WGCMA)
West Gippsland Regional River Health Strategy	Salinity an important part of river health		Provide input into technical investigations and policy decisions on environmental flows (WGCMA)
Lake Wellington Wetlands Management Plan	Salinity an important part of wetland health		Coordinate plan implementation with key salinity projects such as: 1) feasibility study into engineering options for Clydebank Morass and Dowd Morass 2) Investigation into feasibility of engineering structure in McLennan Straits (WGCMA)
Gippsland Regional Farm Forestry and Plantations Strategy	Forestry has salinity benefits if targeted appropriately		Coordinate delivery of farm forestry programs so that available public cost sharing funds are targeted towards strategic sites for recharge control (GPF)