Salinity and Water Quality Management in the Inman River, Waitpinga and Coolawang Creek Catchments

Craig Liddicoat, Bill New and Tim Herrmann

Produced by
Rural Solutions SA

for
Land and Biodiversity Services Division
Department of Water, Land and Biodiversity Conservation

and the
Inman River Catchment Group

March 2004

Report DWLBC 2004/05
ISBN 0-9751462-9-7
Acknowledgements

This publication has been funded through a partnership between Land and Biodiversity Services Division, Department of Water Land and Biodiversity Conservation, the Inman River Catchment Group, and the National Action Plan for Salinity and Water Quality.

Special thanks to Graham Webster (IRCG) for his valuable input.

Land and Biodiversity Services Division
Land Management and Revegetation Group
Department of Water, Land and Biodiversity Conservation
Soil and Water Environs Centre, Waite Rd, Urrbrae
GPO Box 2834, Adelaide, SA, 5001

Telephone
National (08) 8303 9500
International +61 8 8303 9500

Fax
National (08) 8303 9555
International +61 8 8303 9555

Website www.dwlbc.sa.gov.au

Inman River Catchment Group
c/- City of Victor Harbor
Bay Rd, Victor Harbor
PO Box 11, Victor Harbor, SA, 5211

Telephone
National (08) 8551 0500
International +61 8 8551 0500

Fax
National (08) 8551 0501
International +61 8 8551 0501

Disclaimer

Department of Water, Land and Biodiversity Conservation (DWLBC), the Inman River Catchment Group (IRCG) and Rural Solutions SA, and their employees, do not warrant or make any representation regarding the use, or results of the use, of the information contained herein as regards to its correctness, accuracy, reliability, currency or otherwise. DWLBC, IRCG and Rural Solutions SA, and their employees, expressly disclaim all liability or responsibility to any person using the information or advice.

© Department of Water, Land and Biodiversity Conservation and Inman River Catchment Group 2004

This work is copyright. Apart from any use as permitted under the Copyright Act 1968 (Cwlth), no part may be reproduced by any process without prior written permission from the Department of Water, Land and Biodiversity Conservation or the Inman River Catchment Group. Requests and inquiries concerning reproduction and rights should be addressed to the Director, Land and Biodiversity Services Division, Department of Water, Land and Biodiversity Conservation, GPO Box 2834, Adelaide SA 5001; or the Inman River Catchment Group, c/- City of Victor Harbor, PO Box 11, Victor Harbor SA 5211.

CONTENTS

CONTENTS .................................................................1

EXECUTIVE SUMMARY ................................................1

1 INTRODUCTION .........................................................6

2 DESCRIPTION OF THE STUDY AREA .................................9
   2.1 Climate .................................................................9
   2.2 Land Use .............................................................13
   2.3 Native Vegetation ..................................................13
      2.3.1 Remnant vegetation across the catchments ..........13
      2.3.2 Pre-European vegetation across the catchments ...15
      2.3.3 Vegetation group descriptions ..........................16
      2.3.4 Protected swamps of the Southern Fleurieu .........18
   2.4 Geology ...............................................................19
   2.5 Soils .................................................................21
   2.6 Water Resources ..................................................21

3 OVERVIEW: ISSUES AND POLICY .....................................25
   3.1 Water Use ...........................................................25
   3.2 Water Quality ......................................................29
   3.3 The Role of Perennial Vegetation in Salinity and Water Quality ...33

4 SALINITY .............................................................35
   4.1 Salinity Issues .....................................................35
   4.2 Salinity Status .....................................................36
   4.3 Salinity Management ............................................43

5 NUTRIENTS ............................................................49
   5.1 Nutrient Issues ...................................................49
   5.2 Nutrient Status ...................................................49
   5.3 Nutrient Management ............................................52
   5.4 Watercourse Management .....................................57

6 ACIDITY (pH) ........................................................58
   6.1 Acidity Issues ....................................................58
   6.2 Acidity Status ....................................................59
   6.3 Acidity Management ............................................61

7 OTHER SOIL ISSUES ................................................62

8 PATHOGENS AND POLLUTANTS ....................................64

9 CONCLUSIONS AND RECOMMENDATIONS ..........................65
List of Tables
Table 1. Summary of issues discussed ................................................................. 8
Table 2. Catchment areas and native vegetation cover ....................................... 15
Table 3. Bore salinities and yields ..................................................................... 23
Table 4. Dam volumes ....................................................................................... 23
Table 5. Summary of estimated water balance components .............................. 28
Table 6. Relative water quality for dominant land uses compared to native vegetation .... 29
Table 7. Relative mean yields from dominant land uses compared to native vegetation ........ 30
Table 8. Areas of land currently salt affected and at risk .................................... 39
Table 9. Summary of salinity management options .......................................... 44
Table 10. Salinity control strategies ................................................................... 46
Table 11. Range of nutrient concentrations observed upstream and downstream of the Victor Harbor WWTP ................................................................. 50
Table 12. Management approaches to reduce nutrient exports ......................... 53
Table 13. Areas of land susceptible to acidity ..................................................... 59

List of Figures
Figure 1. Location of the study catchments ....................................................... 10
Figure 2. Rainfall ............................................................................................... 11
Figure 3. Cumulative deviations from mean monthly rainfall for gauging stations .... 12
Figure 4. Native vegetation and land use ............................................................. 14
Figure 5. Detailed land use information ............................................................... 13
Figure 6. Mapped vegetation groups ................................................................. 17
Figure 7. Geology ............................................................................................. 20
Figure 8. Dominant soils ................................................................................... 22
Figure 9. Components of a catchment water balance ....................................... 27
Figure 10. Salinity induced by watertable ......................................................... 37
Figure 11. Salinity risk in the event of rising watertables .................................... 38
Figure 12. Borehole salinities, yields and geology .......................................... 40
Figure 13. Borehole salinities and standing water levels ................................... 41
Figure 14. Surface water salinities and geology .............................................. 42
Figure 15. Priority zones for salinity management .......................................... 47
Figure 16. Water erosion potential and landslip .............................................. 54
Figure 17. Susceptibility to acidity ................................................................. 60
Figure 18. Susceptibility to water repellence ............................................... 63
List of Appendices

APPENDIX 1. The roles and responsibilities of government agencies and other stakeholders in water management .......................................................... 75

APPENDIX 2. Vegetation mapping – methodology & species lists ....................... 76

APPENDIX 3. Protected swamps of the Southern Fleurieu ................................... 102

APPENDIX 4. Soil land systems ............................................................................. 106

APPENDIX 5. Southern Pygmy Perch .................................................................. 111

APPENDIX 6. Water balance method ..................................................................... 114

APPENDIX 7. Land use and water quality .............................................................. 121

APPENDIX 8. Biological monitoring & AUSRIVAS results ................................. 122

APPENDIX 9. Summary of water quality guidelines (selected parameters & uses) ... 124

APPENDIX 10. Tolerance of plants to salinity ......................................................... 128

APPENDIX 11. Tolerance of livestock to salinity ...................................................... 129

APPENDIX 12. Soil structural degradation caused by irrigation water quality ........ 130

APPENDIX 13. Trigger values for thermotolerant coliforms in irrigation waters used for food and non food crops .............................................................. 131

APPENDIX 14. Revegetation: principles, planning, techniques and species selection .. 132

APPENDIX 15. Salinity time records for the Inman River catchment .................... 166

APPENDIX 16. Suitability for farm forestry ............................................................. 171

APPENDIX 17. Example recharge reduction targets ............................................. 172

APPENDIX 18. Total water use factsheet ................................................................. 173

APPENDIX 19. Nutrient and E. coli time records for the Inman River catchment ... 174
EXECUTIVE SUMMARY

The combined catchments of the Inman River, Waitpinga and Coolawang Creeks (and minor catchments of Newland Cliffs and Parsons Beach) are typical of the agriculture based catchments found in the Southern Fleurieu Peninsula. With a combined area of around 32,230 ha, roughly 80% of the land is involved with agricultural production and the balance largely comprises protected/conservation areas, residential land use and forestry. Interspersed among these land uses, native vegetation covers around 17% of the study area.

The mix of rural and urban land uses in these catchments place significant demands on land and water resources while their associated activities have the potential to degrade these resources. Those who rely for a living on the natural resources of the region, owe their future to the sustained health of the soils, waterways and natural habitats that provide the foundations for economic production and our social well being. Land managers are also increasingly recognised as custodians of that other important ‘user’ of our natural resources, the environment itself.

The regularly competing demands and pollution pressures acting on our natural resources (particularly water), and threats to our native biodiversity are only likely to intensify with future development and increasing populations. The information contained in this report will assist with an integrated approach to natural resource management that will hopefully enable sustainable catchment management and development.

This report compiles and summarises information and data from various sources, with a focus on salinity and water quality issues. Management options to address these issues are also presented. The following topics are discussed in more detail:

Salinity and Water Resources

Highly salinised land occupies less than 1% of the landscape, however some catchments (eg. Waitpinga) have significantly larger areas affected by moderate levels of salinity.

Surface water salinity is a significant issue in some catchments (eg. Inman River, Halls Ck, Waitpinga Ck) and generally varies in seasonal cycles. The highest salinities occur during reduced summer flows, due to the dominance of higher salinity baseflows.

Extraction of water directly from watercourses (reducing dilution flows), and on-stream dams (intercepting dilution flows and concentrating saline baseflows) are thought to contribute to elevated surface water salinities. Elsewhere, dam siting issues can significantly impact on the salinity of harvested water.

Underground water is of variable quality and yield. Low yields or elevated salinities generally limit usage, however there is potential for further use of this resource where locally suitable groundwater, and land suitable for the intended use, can be found.

Priority areas for the management of salinity have been identified and management options/strategies are suggested for a range of different scenarios.

Estimates of water balance components (rainfall, evapotranspiration, runoff and recharge) were calculated for each of the catchments using approximate GIS based techniques (see Appendix 6). They show reasonable agreement with existing previously calculated values determined for the Inman River catchment.
The impact of farm dams and direct extraction from watercourses, on overall catchment streamflows, requires further investigation. Previous estimates of farm dam volumes (determined using aerial photography) are approximately 10-20% of calculated estimates for annual streamflows. This indicates there may be potential for further development, under the policy of dam volume limits equivalent to 50% median annual runoff and assuming dams fill once per year. However better information on actual surface water harvesting and extraction regimes is required before an accurate assessment can be made.

The need to establish environmental flow requirements is also recognised and it is likely that water use/ dam volume limits will be reviewed when better information becomes available (see section 3.1). Ideally, decisions regarding further dam development should be based on better knowledge of current diversions and environmental flow requirements.

Dam developments, and other ‘new or intensified activities’, occurring in sub-catchments containing protected swamps, require approval in accordance with requirements of the Federal EPBC Act (see section 2.3.4).

**Acidity**
Acidity is an important issue in the study catchments (see section 6). Over one third of the landscape has surface and subsoils susceptible to acidity combined with surface soils of a low capacity to resist acidification. Acidification of soils reduces productivity and economic returns. In addition, poor crop performance lowers water use, giving rise to potential salinity impacts.

Acid soils also have the potential to cause environmental harm through acidic runoff (and associated pollutants), however there is no evidence of this occurring in the study area.

**Nutrients and Pathogens**
Agricultural effluent from intensive industries, land and stream bank erosion, inefficient use of fertilisers, poorly managed stock access to waterways, lack of buffering for watercourses from agricultural activities and poorly maintained septic tanks are among the potentially significant sources of nutrient and pathogen pollution to watercourses. Appropriate management practices, codes of best practice and legislation (where applicable) are discussed.

Nutrient rich discharge to the lower Inman River from the Victor Harbor Waste Water Treatment Plant (WWTP) will be discontinued in the near future when the plant is replaced by a new facility capable of producing high quality recycled water for irrigation.

**The role of native vegetation**
Protection and enhancement of existing vegetation (including riparian zones), revegetation of cleared land, linking of vegetation corridors, and weed and feral animal threat abatement will have multiple benefits for salinity, water quality and biodiversity (see section 3.3).

Vegetation mapping has been undertaken, to provide an indication of pre-European vegetation across the study area. Species lists and guidelines are presented to assist with revegetation activities (see from section 2.3.2 and Appendix 14).
Implementation of integrated natural resource management
Successful implementation of INRM objectives requires partnerships between the community, land managers and all levels of government. The development of community understanding of, and capacity to tackle, the NRM issues is an important step. Property based planning will also play a fundamental role in ensuring that relevant NRM issues are addressed while also achieving objectives related to the continued operation of respective farming systems.

Stakeholders should be mindful of the different time scales over which NRM issues can operate and try to achieve balanced, positive outcomes. For example, recharge reduction through planting perennials ( revegetation, farm forestry, etc.) in saltier sub-catchments may have short-term negative impacts on stream flows (and salinity), but is more likely to produce improved water quality in the longer term through reduced groundwater discharge (baseflow) to streams.

This study has highlighted some of the major issues that need to be considered by existing land users and those who will come in the future. Sustainable development will only be achieved when the impacts on our natural environment are minimised and economic outputs contribute to sustaining local communities and the land on which they depend.

Summary of the Report’s Recommendations

ASSESSMENT OF WATER RESOURCES AND ENVIRONMENTAL FLOWS

Recommendation 1: Water resources
That study of water resources be undertaken, to develop greater understanding of:

- water use by property owners, especially rates of extraction directly from watercourses, and
- environmental flow requirements.

Findings should be incorporated into a Water Plan for the Southern Fleurieu.

Recommendation 2: Monitoring
Monitoring programs continue or be expanded to adequately monitor stream salinity. At selected locations additional parameters (including flow) should also be measured. Locations of sampling points need to be strategically placed to enable ease of sampling and to capture information relevant to the various sub-catchments. At selected sites, the adequacy of environmental flows should be monitored, once requirements have been established.

It is also suggested that a comprehensive survey/ audit be conducted to determine the salinity of farm dams. Ideally this would be undertaken in spring and autumn to obtain information on seasonal variability.

These measures require funding and capacity building for ongoing work.
IMPROVEMENT OF LAND MANAGEMENT

Recommendation 3: Building landowner understanding of NRM issues
Programs that develop and build landowner understanding of NRM issues and appropriate management options be continued and expanded.

Recommendation 4: Property-scale planning
Landholders be encouraged to develop basic property plans that enable them to clearly target the key NRM issues on their property and identify actions to manage and address them. Appropriate technical assistance needs to be available to support this process, which is an important preliminary step before undertaking on-ground works.

Recommendation 5: Rubbish disposal
Landholder awareness/education programs be implemented to discourage (and clean up) on-property disposal of refuse.

ON-GROUND WORKS

Recommendation 6: Actions to address NRM issues
Programs be established to assist landholders to address identified NRM issues on their property. Activities should be based on appropriate planning at the property scale, and are likely to include:

- Salinity control measures in priority areas (see Tables 9,10 & Figure 15).
- Soil acidity mitigation measures in priority areas (see Figure 17 & section 6.3).
- Erosion potential reduction in priority areas (see Figure 16).
- Addressing the decline and fragmentation of native vegetation (see section 3.3).
- Revegetation for economic and environmental outcomes (see section 3.3 & Appendix 14).
- Addressing declining water quality, including potential nutrient and other pollution sources (see Table 12 & sections 5.3, 8). This includes fencing off watercourses to buffer and control stock access.
- Addressing water repellent soils in priority areas (see Figure 18).

WATER RESOURCE MANAGEMENT

Recommendation 7: Management of effluent
A program be implemented to advise and assist operators of intensive agricultural industries to meet the recommended EPA guidelines regarding effluent management and disposal (see section 5.3).

Recommendation 8: Dams
Low-flow bypass structures be installed on dams that are on-stream and collect baseflows during summer. Future dams be sited with regard to issues of salinisation associated with interception of saline groundwater flows (see section 4.3, p48).
Recommendation 9: Septic tanks
An education program be conducted to inform property owners of their responsibilities regarding the operation of septic tanks. This may include an audit on septic tanks, particularly where they are located adjacent to watercourses.

Recommendation 10: Farm forestry and water balance
Impacts of farm forestry on catchment water balance (and salinity) be investigated. Studies undertaken should include comparisons with sub-catchments under remnant native vegetation cover. Findings should be incorporated into a Water Plan for the Southern Fleurieu.

BIODIVERSITY PROTECTION

Recommendation 11: Swamps
Management of swamps follow accepted protocols in accordance with their protection under the Federal Environment Protection and Biodiversity Conservation Act (see section 2.3.4).

Investigate the opportunities for establishing or enhancing swamps for biodiversity, education and/ or ecotourism.

Recommendation 12: Farm forestry and biodiversity
The value of farm forestry in complementing biodiversity conservation be investigated.

Recommendation 13: Southern Pygmy Perch
A specific program to secure and conserve the critically endangered Southern Pygmy Perch be undertaken, in the tributary of the Inman River where it has been found (see Appendix 5). [Also see Recommendations 1 and 2.]

ADDITIONAL RESEARCH RELEVANT TO THE GREATER MOUNT LOFTY RANGES REGION (AND OTHER PARTS OF SOUTH AUSTRALIA)

Recommendation 14: Long-term riparian management
Research / adaptive management methods be undertaken to develop improved management options and practices for riparian areas once stock are excluded. Issues include weeds, haven for feral animals, fence maintenance, access, impact on farm operations and water supply regimes, impact on workloads, role of strategic grazing, etc.

Recommendation 15: Impacts of salinity management
Research be performed into the impact of implementing high water use options across the catchments for management of salinity and the impact of this on stream flow patterns and subsequent implications for stream health and quantities of water available for irrigation, etc.
1 INTRODUCTION

Overview
The natural resources of the Inman River, Waitpinga and Coolawang Creeks (and minor catchments of Newland Cliffs and Parsons Beach), underpin the social well-being and economic productivity of local communities, while typifying the valuable environmental assets common to the Southern Fleurieu Peninsula.

Significant demands have already been placed on these resources from both rural and urban populations, and continued development is likely to intensify the pressure on land, water and biodiversity resources.

The importance of protecting the region’s natural assets has been recognised in particular by the members of the Inman River Catchment Group (IRCG). This report grew from this community group’s desire for a better understanding of salinity and water quality issues in the area, and a call for information to assist with natural resource management (NRM) planning and allocation of funding for on-ground works.

The resulting report sets out to consolidate existing information, and identify options and priority areas for addressing a range of NRM issues. Advances in revegetation planning and salinity management have been achieved through the careful analysis of existing natural resource information (including spatial datasets) and the application of expertise, accumulated by many experienced workers in these fields. This has included key inputs from the Department of Water, Land and Biodiversity Conservation (DWLBC), Rural Solutions SA and local knowledge from members of the IRCG.

This report has been made possible, and we believe highlights the value that can be attained, through successful partnerships between community/catchment groups, State Government agencies and the Commonwealth (National Action Plan for Salinity and Water Quality).

Background
With the release of the Integrated Natural Resource Management Plan for the Mt Lofty Ranges and Greater Adelaide Region (MLR Interim INRM Group, 2003), a concerted effort is now required to bring together existing data on the natural resources of the Southern Fleurieu Peninsula as well as filling many information gaps, such as quantifying our water resources and determining the health of those resources.

This study aims to fill some of these gaps, while building on the recent valuable work undertaken by:

- Burston and Good (1995) Watercourse Management Guidelines for the Inman River Catchment,
- Yeatman (1999) Plan for Wildlife Corridors in the Inman River Catchment,
- Carmichael (2000) Master’s thesis - An Assessment of Water Resources and Recharge in the Hindmarsh River, Inman River and Currency Creek Catchments, which was further built on by,
Supplementing the *Southern Fleurieu Peninsula Salinity Management Plan* (Liddicoat and Herrmann, 2002), this study provides a detailed look at selected aspects of water quality, water balances and management options within the study catchments of the Inman River, Coolawang and Waitpinga Creeks and the minor catchments of Newland Cliffs and Parsons Beach. Also included is a compilation of relevant data gathered by community groups, and Local and State Government bodies. This study continues to build the necessary data that will enable sustainable, whole of catchment planning, seen as essential as population numbers increase, and bring accompanying pressures for more intensive land uses.

The authors of this report value the principles of ‘integration’ which are being increasingly embraced by natural resource managers, and are reflected in the current legislative and organisational reform being undertaken by the State Government. By applying the knowledge and resources of multiple groups, and with prioritised focus and coordinated action we will have the best chance of reaching the best overall outcome. This type of approach to NRM optimises the value obtained from limited funding and ensures solutions to one issue minimise flow-on impacts. And when catchment health problems can be viewed from multiple perspectives, it is often possible to address many issues at once.

This report provides information on selected catchment health issues, management options and recommendations for future work. However detailed plans for on-ground action should be developed by the local community, with consideration given to suggested management options. For only with local input and ownership will catchment health issues be successfully addressed in the long term.

Understanding the problems and processes, effectively coordinating effort and having the capacity to act are all essential in striving to maintain the health of the soils, watercourses and natural habitats that provide the foundations for economic production and the social well being of our community. Commonwealth, State and Local Government help to make this possible through the provision of financial grants and technical support, but without community involvement, such as by members of the Inman River Catchment Group, and other dedicated landholders, little preservation or restoration work would be undertaken.

**Scope of the study**

The main issues discussed include salinisation of land and watercourses, nutrient and pathogen pollution, and sustainable levels of water use. Also described are management options and recommendations aimed at addressing these issues.

Due to the complex interactions between terrestrial and aquatic ecosystems, land management problems will typically impact on watercourses. Hence the impacts of upstream land management practices can be deduced by studying the health of waterways. However care is required to consider the full range of activities that will influence down stream water quality.

Threats to catchment health can be discussed on the basis of cause (eg. source of a pollutant) or impact (eg. degradation of a resource). Where impacts are transient, not obvious in nature, or accompanied by a suite of other impacts, the use of key indicators (eg. pollutant, presence of sensitive organisms, etc.) can provide a useful and cost efficient means of detecting a problem. A summary of the problem impacts and potential causes to be discussed in this report are shown in Table 1.
Table 1. Summary of issues discussed

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Potential cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salinised land</td>
<td>• Natural water balance of landscape disrupted due to clearance of native deep-rooted perennial plants.</td>
</tr>
<tr>
<td>Saline streamflows</td>
<td>• Natural water balance of landscape disrupted due to clearance of native deep-rooted perennial plants.</td>
</tr>
<tr>
<td></td>
<td>• Increased proportion of saline baseflow in streamflow.</td>
</tr>
<tr>
<td></td>
<td>• Over-extraction of diluting streamflows and surface runoff in upper catchment</td>
</tr>
<tr>
<td>Nutrient pollution of streams</td>
<td>• Poor management of intensive animal-based industries.</td>
</tr>
<tr>
<td>(Nitrogen &amp; Phosphorus)</td>
<td>• Soil erosion.</td>
</tr>
<tr>
<td></td>
<td>• Over-application or poor timing of fertiliser application.</td>
</tr>
<tr>
<td></td>
<td>• Stock access to waterways.</td>
</tr>
<tr>
<td></td>
<td>• Insufficient buffering of watercourses from stock.</td>
</tr>
<tr>
<td></td>
<td>• Waste Water Treatment Plant input in lower Inman.</td>
</tr>
<tr>
<td>High levels of microbial</td>
<td>• Poor management of intensive animal-based industries.</td>
</tr>
<tr>
<td>pathogens (E. coli) in streams</td>
<td>• Insufficient buffering of watercourses from stock.</td>
</tr>
<tr>
<td></td>
<td>• Leaking septic tanks.</td>
</tr>
<tr>
<td>Low pH levels</td>
<td>• Acidification of agricultural soils.</td>
</tr>
</tbody>
</table>

**Coordinating action**

It is worth remembering that individuals and community groups are not alone in their desire to protect catchment health. The table in Appendix 1 provides an overview of some of the roles and responsibilities of the various community groups, Local and State government planning, regulatory and extension agencies involved in catchment management. With the absence of a Catchment Water Management Board in the study area, this means that greater responsibility is passed onto local government.

Most of the actions suggested in this report will be aimed at landholders and community catchment groups who are able to do the on-ground work. Adopted management options should form part of an integrated approach and therefore be compatible with a range of NRM issues. Some examples will illustrate this principle:

- Strategic revegetation to address salinity may also tackle potential erosion and provide benefits for biodiversity and aesthetics.
- Introducing efficient water use measures in irrigated areas will minimise wasteful deep drainage (past the root zone), reducing recharge to watertables and allow better quality (and quantity) of water for downstream users and the environment.
2 DESCRIPTION OF THE STUDY AREA

The study area, as shown in Figure 1 consists of:

- The Inman River catchment, 19526 ha, includes the sub catchments of the Boundy, Strangways, Back Valley and Halls Creek. Terrain ranges from steep hills on the northern and southern boundaries of the catchment, through rolling hills to the gently sloping floor of the Inman Valley (SCRN, 1999).

- The Waitpinga catchment, 6115 ha, includes a ‘land locked’ area bordered by Newland Head which is at the western extremity of Encounter Bay. In the eastern fringe of this catchment there appears to be linking of the groundwater systems to Halls Creek, within the Inman River catchment. Waitpinga contains well defined valleys grading to an undulating landscape near the coast (SCRN, 1999).

- The Coolawang Creek catchment to the west, 4077 ha, includes Willow Creek Swamp, a significant perched watertable swamp that was a habitat for the endangered Mt Lofty Ranges Southern Emu-wren. (The protected swamps of the Southern Fleurieu are further discussed in section 2.3.4).

- Newland Cliffs, 1909 ha, a small coastal catchment containing significant areas of remnant vegetation in a National Park to the south and residential areas to the north.

- Parson’s Beach catchment, 600 ha, links the Coolawang Creek to the Waitpinga Creek catchment.

Further background information can be obtained from Liddicoat and Hermann (2002).

2.1 Climate

The region has a wet and cool climate with predominantly winter rainfall. Average annual rainfall in the region varies from above 900mm in the headwaters of the Boundy (between Spring Mount and Clarke Hill), and also around 900mm near Weymouth Hill in the northwest of the Coolawang Creek catchment, to around 500-550mm along the coast between Victor Harbor and Newland Head.

Rainfall isohyets and rainfall gauging stations of relevance to the study catchments are shown in Figure 2. The Mount Alma station has been excluded due to its short term monitoring record. The Spring Mount (Hindmarsh Valley) is included as it is considered representative of the high rainfall received in the top of the Inman River catchment.

Plots of the cumulative deviation from mean monthly rainfall for the rain gauging stations are shown in Figure 3. These graphs always start and end on zero cumulative deviation from the long term average, however where the plot rises and falls it indicates whether there has been a series of wet or dry years, respectively. This allows recent rainfall trends to be placed in a historical perspective.
Figure 1. Location of the Inman, Waitpinga, Coolawang and Newland Cliffs Catchments

- LOCATIONS
- ROADS
- STUDY CATCHMENTS
- LOCAL GOVERNMENT BOUNDARIES
- MOUNT LOFTY RANGES WATERSHED

INMAN RIVER
WAITPINGA CREEK
COOLAWANG CREEK
NEWLAND CLIFFS
Figure 2. Rainfall in the Inman, Waitpinga, Coolawang and Newland Cliffs catchments
Figure 3. Cumulative deviations from mean monthly rainfall (in mm) for stations in the study area.
2.2 **Land use**

Consistent with the broader Fleurieu Peninsula, land use (see Figure 4) is dominated by grazing of livestock, with dairy cattle (likely to be around 50% improved pasture), protected areas and residential being other major land uses. Grazing of other improved pastures occupies only a minor proportion of the area and there is much scope for increasing catchment water use by improving annual pastures or switching to perennials. Figure 5 (and the associated table) give the breakdown of land uses for the study area (based on 1999 data).

**Figure 5. Detailed land use information for individual catchments and the study area (areas in ha; based on 1999 data)**

![Diagram showing land use distribution]

<table>
<thead>
<tr>
<th>Catchments</th>
<th>Inman River</th>
<th>Waitpinga Creek</th>
<th>Coolawang Creek</th>
<th>Newland Cliffs</th>
<th>Parsons Beach</th>
<th>Total area</th>
<th>% of Total study area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other minor land uses</td>
<td>40</td>
<td>25</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>78</td>
<td>0.2</td>
</tr>
<tr>
<td>Cultural &amp; Rec. Areas</td>
<td>176</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>0</td>
<td>256</td>
<td>0.8</td>
</tr>
<tr>
<td>Horses</td>
<td>75</td>
<td>111</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>169</td>
<td>0.6</td>
</tr>
<tr>
<td>Field Crops</td>
<td>0</td>
<td>102</td>
<td>0</td>
<td>27</td>
<td>58</td>
<td>187</td>
<td>0.6</td>
</tr>
<tr>
<td>Forest Plantation</td>
<td>306</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>306</td>
<td>1</td>
</tr>
<tr>
<td>Improved Pasture</td>
<td>206</td>
<td>302</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>508</td>
<td>1.6</td>
</tr>
<tr>
<td>Residential</td>
<td>793</td>
<td>9</td>
<td>2</td>
<td>367</td>
<td>0</td>
<td>1170</td>
<td>4</td>
</tr>
<tr>
<td>Protected Areas</td>
<td>1948</td>
<td>725</td>
<td>385</td>
<td>493</td>
<td>163</td>
<td>3890</td>
<td>11</td>
</tr>
<tr>
<td>Dairy Cattle</td>
<td>5145</td>
<td>967</td>
<td>1262</td>
<td>3</td>
<td>0</td>
<td>7400</td>
<td>23</td>
</tr>
<tr>
<td>Livestock/ Grazing</td>
<td>10829</td>
<td>3874</td>
<td>2428</td>
<td>932</td>
<td>386</td>
<td>16450</td>
<td>57</td>
</tr>
</tbody>
</table>

2.3 **Native Vegetation**

2.3.1 **REMNANT VEGETATION ACROSS THE CATCHMENTS**

Since European settlement of the Inman River, Coolawang and Waitpinga Creek Catchments the area has been extensively cleared of remnant vegetation for agricultural purposes. Areas cleared include the valley floors, flood plains, hill slopes and the hilltops where deeper soils have developed. This pattern of remnant vegetation is evident in Figure 4.
Figure 4. Native Vegetation and Landuse of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

Land use data from Soil and Land Information, DWLBC

Datum GDA 94 - Map Projection MGA Zone 54
Approximately 5,540 ha of remnant vegetation exists on the less accessible and rocky shallow soiled slopes and hill tops where the use for agricultural pursuits were of little value, and on roadside reserves. These remnants cover 17% of the 32,200 ha land area of the study catchments.

Significant stands of native vegetation occur in Newland Head Conservation Park in lower rainfall sandy country on the south coast, and in the headwaters of the Inman River around Inman Hill and between Spring Mount Conservation Park and Moon Hill. Catchment areas and coverage of native vegetation are shown in Table 2.

Table 2. Catchment areas and native vegetation cover

<table>
<thead>
<tr>
<th>Sub-catchment</th>
<th>Area (ha)</th>
<th>Area of Veg. Cover (ha)</th>
<th>% Veg. Cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19526</td>
<td>3375</td>
<td>17</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>928</td>
<td>15</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4077</td>
<td>576</td>
<td>14</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1909</td>
<td>520</td>
<td>27</td>
</tr>
<tr>
<td>Parson’s Beach</td>
<td>608</td>
<td>142</td>
<td>23</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>32234 ha</strong></td>
<td><strong>5540 ha</strong></td>
<td><strong>17 %</strong></td>
</tr>
</tbody>
</table>

Remnant vegetation on reserves, private property and roadsides persist in varying degrees of degradation, and scattered trees exist across the landscape. Approximately 24% of the area of remnants is held in Conservation Parks with an area of 1,351 ha. With a further 19% privately managed under 44 Heritage Agreements. The remaining areas of remnants have no registered protection covering them.

These remnants have varying degrees of degradation resulting from a number of factors such as fragmentation, weed invasion, grazing and salinity. Because of this pattern of clearing the existing remnants give a misrepresentation of what the pre-European vegetation would have been across the whole area prior to clearance.

It is therefore important to build a picture of what the pre-European vegetation across the region was prior to clearing in order to assist with revegetating areas appropriately.

2.3.2 PRE-EUROPEAN VEGETATION ACROSS THE CATCHMENTS

The pre-European vegetation of the study area is strongly influenced by changes in soil type and wetter sites such as creeklines, and the coast has significant influence along this margin.

From remnant vegetation mapping of the study region and its correlation with soil type, creeklines and coastal factors, an indication of the pre-European vegetation has been determined for this area. The following vegetation groupings are based on the vegetation mapping and GIS analysis methodology described in Appendix 2. Associated species lists for the vegetation groups were determined through this process and are also included in this Appendix.
These Vegetation Groups are displayed in Figure 6. This map is intended to provide a guide to the changes in vegetation across the study area and should be used in conjunction with the following vegetation group descriptions, on ground observations and local knowledge of remnant vegetation.

2.3.3 VEGETATION GROUP DESCRIPTIONS

Mixed stringybark forests:
*Eucalyptus obliqua* and *E. baxteri* form low forest to open forest formations on a range of well-drained depleted soils of the upper catchments in the region. These are high rainfall areas and soils include shallow to moderately deep acidic soils on rock, ironstone soils and shallow soils on rock.

Other associated dominants include *E. cosmophylla* and *E. fasciculosa*. Patches of *E. baxteri* and *E. cosmophylla* exist on the drier northern and westerly aspects of the Back Valley catchment on sand over clay soils with these drier aspects.

Coastal shrublands:
These occur on southern facing exposed sites on shallow and deep sands and rocky sections of coastline. *Acacia paradoxa* exists at the Bluff forming shrublands on shallow soils on rock. *Sarcornia sp.* and *Sclerostegia arbuscula* exists on the deep sands of the Newland head area with shrubland of *Olearia axillaris* and *Acacia longifolia var sophorae* blending through to coastal mallee of *E. diversifolia* and *E. cosmophylla*. This coastal mallee formation extends inland and along the coast on sand over clay soils.

The high coastal exposure of these sites form the frontline vegetation into shrubland that grades to low mallee moving inland as coastal exposure drops off and soils develop.

Perched swamps¹:
The formation of forest by *E. ovata* (and sometimes sharing dominance with *E. leucoxylon*) occurs on high rainfall sites with poorly drained soils. These generally occur as linear features following the creek lines of the upper catchments where wet soils have developed.

*Leptospermum continentale*, *L. lanigerum* and *A. retinodes* form shrublands on similar sites to the forest formations and extend to highly leached soils of these upper catchments.

¹ More detailed description and mapping of the Southern Fleurieu swamps (which are protected under the Federal EPBC Act) has been undertaken by the The Mount Lofty Ranges Southern Emu-Wren Recovery Program and the SA Department for Environment and Heritage, as discussed in section 2.3.4. The ‘Perched swamps’ vegetation group (of section 2.3.3) has included a subset of these swamps while the accompanying species lists include transitional species (eg. *Eucalyptus*) that have been found at the edge of swamps.
This map depicts vegetation mapping for pre-European vegetation and revegetation zones based on the analysis of vegetation surveys from biological survey data and its extrapolation across the study area in correlation with Dominant Soil Types.

The development of this map was carried out using data available at the time and does not claim to be complete and exhaustive.

The use of this map should be indicative only and local knowledge of vegetation and on-ground observation should be taken into consideration at each site.
Pink gum woodlands:
These occur on well drained, soils and slopes of the ridgelines of the catchments. *Eucalyptus fasciculosa* is predominantly found alongside the Mixed Stringybark Forests of the upper catchments on shallow soils on rock and on shallow to moderately deep acidic soils on rock. Pink gum woodlands will often share dominance with *E. cosmophylla*, *Allocasuarina verticillata* and *Allocasuarina mulleriana* on these sites. On several of the south facing creeklines on the northern ridgeline, *E. fasciculosa* shares dominance with *E. viminalis cygnetensis*.

Blue gum woodlands:
Small isolated pockets of blue gum woodland exist on the well-drained fertile soils of the region and can be have grassy or shrubby understorey. These remnants are very fragmented across the landscape, often surviving along creeklines and less accessible sites where clearance was difficult. Blue gum woodlands would have predominantly extended across the hill slopes on the sand over clay soils of the central region and deep loamy texture contrast soils with brown or dark subsoils of the Waitpinga area, stretching into the shallow to moderately deep acidic soils on rock along the creek lines.

Red gum woodlands:
Some remnants of *E. camaldulensis* form woodlands on the deep loamy texture contrast soils with brown or dark subsoils of the valley floors and lower creeks extending from Victor Harbor to the upper Inman. Branching out from these heavier soils *E. camaldulensis* exists on sand over clay soils along the lower creek lines.

2.3.4 PROTECTED SWAMPS OF THE SOUTHERN FLEURIEU
The swamps of the Southern Fleurieu are localised wetlands occurring in high rainfall areas. They are densely vegetated and occur adjacent to waterlogged soils around low-lying creeks and flats. They are typified by their reedy or heathy vegetation growing on peat, silt, peat silt, or black clay soils (DEH, 2003). Characteristics of the swamps are further described in Appendix 3.

The swamps are a natural part of the landscape. They provide valuable ecosystem services (eg. water filtration and flood mitigation), and are home to a number of rare and endangered species. Some of these species are unique to the swamps. This includes the nationally endangered Mount Lofty Ranges Southern Emu-wren (Duffield and Hill, 2002).

Land use change, clearing, drainage and filling have reduced the extent of the swamps substantially, with estimates of as little as 500ha [under 25% of original swamps] remaining (Duffield and Hill, 2002). Due to the small patches of remaining swamps, their vulnerability to ongoing threats, and their importance as habitat for a range of rare and endangered species, the swamps of the Fleurieu Peninsula were listed as a ‘critically endangered ecological community’ in amendments to the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Listing under the EPBC Act is aimed at protecting against further decline, and assisting community efforts toward the recovery of the swamps (DEH, 2003).
Protection under the EPBC Act takes into account pre-existing land use, however any new or intensified activities likely to impact on the swamps (eg. drainage, land use change in upper sub-catchment, change in sub-catchment hydrology, etc.) need to be referred to the Federal Department of the Environment and Heritage (DEH). Such activities also require approval at State level. The Federal Environment Minister may require an assessment process to enable a decision based on more detailed information, however strict timeframes in the EPBC Act ensure the assessment and decision process is conducted in a timely manner (DEH, 2003).

Further information on the swamps is available from the Australian Government DEH website, the information sheet (DEH, 2003), or from the Mount Lofty Ranges Southern Emu-wren Recovery Program (MLRSEWRP) on 8223 7437 or email: emuwren2@ccsa.asn.au, (website: www.ccsa.asn.au/EmuWren/wren.html ).

The MLRSEWRP have produced swamp management guidelines (Duffield and Hill, 2002) and can offer technical advice to landholders on best practice/adaptive management of the swamps to maximise biodiversity outcomes (pers. comm. Rebecca Duffield, MLRSEWRP, 25 Feb 2004).

Detailed mapping of the Fleurieu swamps from aerial photography (including indicative condition scores) has been recently completed, however this information is yet to be ground-truthed (pers. comm. Claire Harding, Wetlands Project Officer, Department for Environment and Heritage (SA), 27 Feb 2004). Ground-truthing activities are likely to occur in the months up to around mid 2004.

Due to the potential for impacts to the hydrology of swamps from salinity management activities, this mapping of the Fleurieu swamps has been included in Figure 15 (Priority zones for salinity management), in section 4.3 – ‘Salinity Management’.

Mapping of salt affected land and salinity risk (as discussed in section 4.2) are also of interest for the protection of the swamps. These issues are explored further in Appendix 3 and section 4.3.

### 2.4 Geology

As shown in Figure 7, the Inman River catchment is dominated by Permian glacial sediments deposited in U-shaped valleys carved into mostly Kanmantoo Group basement rock. In the Waitpinga, Coolawang and Newland Cliffs catchments, the Kanmantoo basement rocks outcrop over much of the area but have been subjected to deep chemical weathering (producing lateritic profiles) between Wilson Hill and Mount Desert and buried beneath Quaternary alluvial and aeolian deposits around Waitpinga. Deeply weathered lateritic profiles, preserved from the erosion that impacted much of their surrounding landscapes, are remnants of a time when the land was very flat and the climate much wetter. These weathered lateritic profiles also occur at the northern bounds of the Inman catchment at Clarke Hill and Spring Mount, occurring from the weathering of Barossa Complex and Adelaide Geosyncline rocks, respectively.
Figure 7. Geology of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

CADASTRAL BOUNDARIES

LOCATIONS

DRAINAGE LINES

GEOLOGY

Quaternary Sediments
- Sands, silts and clays (alluvial deposits & aeolian sands)
- Laterised deposits, ferruginised sands and gravels
- Glacio-marine and fluvioglacial sediments and erratics (Cape Jervis Formation)
- Kanmantoo Trough: Sandstone, siltstone, with minor phyllites and greywacke
- Sandstone to greywacke, with minor sulphidic siltstone (Tapanappa Formation)
- Limestone

Tertiary Sediments
- Kanmantoo Trough: Sandstone, siltstone, with minor phyllites and greywacke
- Sandstone to greywacke, with minor sulphidic siltstone (Tapanappa Formation)
- Permian: Sandstone, siltstone, with minor shale, dolomite and limestone
- Barossa Complex: Schists, gneisses and minor granite intrusives
- Adelaide Geosyncline: Siltstone, sandstone, with minor shale, dolomite and limestone
- Granite

Datum GDA 94 - Map Projection MGA Zone 54

Kilometers
2.5 Soils

Dominant soil types (Figure 8) largely reflect the outcropping geology. In the Inman, where Permian sediments dominate, soils are mostly sand over clays, with deep loamy texture contrast soils infilling the drainage lines and broad valley flats. Where basement rock outcrops in steep hilly country, soils are shallow over rock. Undulating rises and low hills may be formed on soft unconsolidated clay or sandy clay. These clays are sodic, highly dispersive and prone to landslip and erosion, particularly around Bald Hills (Burston and Good, 1995).

In the Coolawang and Waitpinga catchments, shallow to moderately deep acidic soils have formed on Kanmantoo Group rocks. North of Waitpinga deep loamy texture contrast soils with brown or dark subsoils have formed at the verge of Kanmantoo rocks and their overlying Quaternary sediments. South of Waitpinga Quaternary sand over clay and deep sands dominate.

Soil Land Systems (groupings of similar soil types, landforms and geology for the purpose of aiding land description) are shown in Appendix 4. This Appendix includes summary descriptions, while more detailed information is available from PIRSA Land Information (2001); now called ‘Soil and Land Information’, in the Department of Water, Land and Biodiversity Conservation (DWLBC).

This group has made detailed assessments of the state’s agricultural soils and developed maps of various soil attributes, many of which represent real and potential limitations to production. Several soil attribute maps (covering issues including acidity, water repellence, landslip, water erosion and salinity) are discussed in later sections.

2.6 Water Resources

The poor quality of groundwater in the study catchments is a limitation to potential development and highlights the area’s reliance on good quality surface water.

Groundwater

SA GEODATA records (updated in 2002) were analysed for salinity and yield information. As shown in Table 3, groundwater quality in the area is, on average, not suitable for irrigation except for relatively salt tolerant plants. However, average salinity levels indicate that much of this groundwater is suitable for stock watering.

Groundwater salinity and yield information is also shown graphically in section 4.2.
This map depicts the distribution of generalised soil groups. The map is based on an interpretation of soil landscape units. Soil landscapes invariably comprise several soils. The most commonly occurring soil group in each landscape is delineated on this map.
Table 3. Bore salinities and yields (from SA GEODATA records)

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Total records</th>
<th>Salinity (mg/L)</th>
<th>Yield (L/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Range</td>
<td>Mean</td>
</tr>
<tr>
<td>Inman River</td>
<td>208</td>
<td>680 - 15000</td>
<td>2738</td>
</tr>
<tr>
<td>Waitpinga Creek</td>
<td>85</td>
<td>578 - 17692</td>
<td>5018</td>
</tr>
<tr>
<td>Coolawang Creek</td>
<td>30</td>
<td>79 - 7657</td>
<td>1242</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>43</td>
<td>167 - 9255</td>
<td>2252</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>17</td>
<td>2542 - 13423</td>
<td>5648</td>
</tr>
</tbody>
</table>

Note: Not all bore records have salinity and/or yield information. The number of bores with each type of data are shown.

Carmichael (2000) analysed bore salinities in relation to geology of bore completion for the Inman catchment and found that the majority of the bores (with completed bore logs) were completed in the river valleys of the Cape Jervis Beds (Permian). The Cape Jervis Beds (mean TDS = 3496 mg/L) had the highest salinity levels, followed by the Kanmantoo Group (mean TDS = 1737 mg/L) and Quaternary sediments (mean TDS = 1023 mg/L). Groundwater of better quality is often limited due to low yields.

Surface water
Surface water is an important resource for the region, and is harvested in dams or extracted directly from the rivers. Uses include stock watering, irrigation and domestic applications.

The capacity of dams throughout the Mt Lofty Ranges has been estimated from aerial photography (pers. comm., Doug McMurray, DWLBC) and volumes for the study catchments are shown in Table 4.

Table 4. Dam volumes

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Volume stored in dams (ML)</th>
<th>Number of dams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>2758</td>
<td>1219</td>
</tr>
<tr>
<td>Waitpinga Creek</td>
<td>658</td>
<td>276</td>
</tr>
<tr>
<td>Coolawang Creek</td>
<td>291</td>
<td>198</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>85</td>
<td>52</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Totals</td>
<td>3804</td>
<td>1756</td>
</tr>
</tbody>
</table>
Degradation of water quality has the potential to limit the usefulness of surface water resources. Excessive extractions can adversely impact on downstream users, including stream ecosystems (some of which are dependent on groundwater supplied permanent pools and dry season flows). These issues are expanded in following sections.

Section 4.2 contains further information on the salinity of surface waters.
3 OVERVIEW: ISSUES AND POLICY

3.1 Water Use

The economic, social and environmental future of the region depend on the sustainable use of natural resources, one of the most important of which, is water. Due to the variable quality of groundwater, surface water has been widely exploited. Collected in dams or extracted from streams, surface water is used for irrigation, stock and domestic purposes. Increasing levels of residential development in the catchments will place greater pressure on surface water resources, with each farmlet (or rural living block) within a subdivision often demanding its own dam for a water supply.

Farm dam development, as well as direct pumping from watercourses, can impact on the water available to downstream users, including water-dependant ecosystems. Dams have the potential to impact on the size and duration of low and medium flows and may increase the frequency and duration of no flow periods. Excessive direct pumping from permanent pools impacts on the ability of many plants and animals to survive over seasonal or episodic drought (DWR, 2000).

However in recent years, awareness among communities is growing for the need to treat the environment as an important user of water. A balance must be struck between the different users of water including irrigators, graziers, domestic users and the environment. In agricultural pursuits the increasing value of a limited water resource will be recognised as more emphasis is placed on higher water efficiencies, recycling, reuse, and higher value end products.

According to the State Water Plan (DWR, 2000), the management and allocation of water resources should occur in a manner that achieves:

- ecologically sustainable development;
- provision for environmental water needs;
- promotion of efficient and effective water use;
- account of existing use; and
- provision of flexibility to deal with new information, technology and uses.

A policy was developed within the Mt Lofty Ranges Regional Strategy Plan 1993 whereby landholders were restricted to capturing 50% of the runoff generated from their properties. While this policy has been useful, it is being reviewed in the light of environmental water requirements and the significant development of farm dams in some areas.

Current policy (DWR, 2000) states that:

"Outside of prescribed areas, and until there is additional information, 25% of median annual adjusted catchment yield should be used as an indicator of the sustainable limit of the catchment surface water and watercourse water use. ‘Adjusted’ is defined as the annual catchment discharge with the impact of farm dams removed."

However, in practice this means no change to pre-existing policy. A dam volume limit (of 50% median annual runoff) has been replaced by a water use limit (of 25% median annual runoff), but DWR (2000) considers that only about half of a dam’s
volume is actually used, the rest being lost to evaporation and seepage. This loss of water is considered acceptable. Thus, for example, if an irrigation dam had a 10 ML capacity, the area to be irrigated should not require more than 5 ML of water. However any direct pumping from watercourses would need to be included within the 25% usage limit.

The “50% rule” can be varied in prescribed areas, or where water allocation plans operate (e.g. in the eastern Mt Lofty Ranges where a 30% average annual runoff limit applies for the total capacity of sub-catchment dams [RMCWMB, 2003]).

On-stream dams, while the most common, create problems for downstream users and ecosystems. They have little flexibility of management, capturing all flow until full. In contrast, off-stream dams provide greater flexibility, as the extraction mechanism (e.g. pump and/or gravity fed diversions) can be varied to allow capture of water at different times or flow rates. This has the added benefit of improving control over the quality of water collected.

Direct extraction of water from permanent or near permanent pools can have severe impacts on dependant plants and animals if pool levels fall below critical levels. Such pools in this region are important refuges for aquatic organisms over summer or prolonged dry periods (McEvoy et al., 2003).

In a tributary of the Inman River, a critically endangered population of the Southern Pygmy Perch is threatened by the loss of available habitat (pools) over summer, that can be attributed at least in part to surface water harvesting altering the timing and delivery of environmental flows (Hammer, 2002).

Further examples of permanent pools are found on the alluvial floodplain of the Inman Valley between Sawpit Rd and Swain’s Crossing (pers. comm. Graham Webster, Inman River Catchment Group).

**Impacts of Farm Forestry**

Catchment clearance has resulted in many natural resource management problems including increased levels of erosion, rising watertables often bringing greater saline discharges to streams, and loss of habitat and biodiversity. Farm forestry has the potential to address some of these issues as well as providing other on farm benefits (e.g. windbreaks, stock shade & shelter). As expected, afforestation will have impacts on the catchment water balance, making less water available for runoff and recharge to groundwater (i.e. less yield).

In a forested area, increased levels of water use will occur due to the greater depth of soil accessed by roots (which creates a greater soil moisture deficit requiring replenishment before runoff can occur) and the interception and direct evaporation of rainfall from tree canopies. Water use (and hence yields) will vary according to factors including tree species (rooting & canopy structure), planting density, maturity, health, regrowth and, of course, the area of planting. Studies have shown that

---

2 The Southern Pygmy Perch is also threatened by other factors causing degradation of its habitat, including poor water quality, sedimentation, impacts from stock in creeks, exotic fish species and loss of riparian vegetation. Further information on this endangered species and activities required to encourage its recovery are contained in Hammer (2002), and summarised in Appendix 5.
impacts to streamflows from afforestation of up to 20% of a grassland catchment can be difficult to discern from natural variations in flow. But where catchments have afforestation levels of 30-60%, yield changes of the same order can be expected, with the full effects on catchment water balance taking 15-50 years to develop (O'Shaughnessy and Moran, 1983).

In the study area it has been estimated that, due to factors such as small land holdings, land tenure, existing land use and soil/land constraints, farm forestry is only likely to be established on up to a maximum of 20-30% of any catchment (pers. comm. Martyn England, Adelaide Blue Gums Pty. Ltd., Mar 2004).

**Catchment Water Balance**

The concept of a catchment water balance provides a framework for studying the hydrological behaviour of a catchment and is useful for estimating components of the water balance that are potentially available for, or could be impacted by, human activities.

A simple water balance for a catchment can be written as: $Inputs = Outputs + Change in Storage$, or $P = ET + R + D + \Delta S$ (or shown diagrammatically below)

Where $P$ is precipitation (rainfall), $ET$ is evapotranspiration, $R$ is streamflow, $D$ is recharge to groundwater (analogous to deep drainage below the root zone), and $\Delta S$ is the change in soil water storage.

There are inherent difficulties in estimating these water balance components. In particular it is difficult to separate runoff and recharge, as transfer between streamflow and groundwater can occur with changing hydrological conditions along a stream. Estimating ‘available water’ ($P - ET$) is typically the most certain step, with the remainder then allocated between recharge and runoff. In hilly terrain a greater proportion of recharge will re-enter streamflows (as water courses provide good drainage for groundwater), compared to flatter landscapes.

Water balance components have been previously derived for the Inman River (Carmichael, 2000; Barnett and Zulfic, 2002) however given time constraints a simplified procedure was adopted so that water balance components could be estimated for the other catchments. This procedure is based on selected catchment characteristics and approximate formulae, and is outlined in Appendix 6. The results are summarised in the table below.
Table 5. Summary of estimated water balance components for the major catchments

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Inflows</th>
<th>Outflows</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type</td>
<td>Amount (ML)</td>
</tr>
<tr>
<td>Inman River</td>
<td>Annual Rainfall</td>
<td>141113</td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>141113</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>141113</td>
</tr>
<tr>
<td>Waitpinga Creek</td>
<td>Annual Rainfall</td>
<td>38494</td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>38494</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>38494</td>
</tr>
<tr>
<td>Coolawang Creek</td>
<td>Annual Rainfall</td>
<td>31591</td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>31591</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Totals</td>
<td>31591</td>
</tr>
</tbody>
</table>

These values should serve as a guide, but are not expected to be highly accurate. Prior to making an assessment about the true status of water resources in the area more rigorous methods may need to be applied. In addition, further information is required, in particular the best available knowledge (on an annual basis) of:
- water captured in dams,
- surface water extractions (direct pumping from watercourses),
- artificial transfers into or out of the catchments, and
- use of reclaimed water.

Estimates of catchment groundwater and surface water use can be compared with sustainable limits, which have been estimated at:
- for surface water – 25% median annual catchment yield (with effect of dams removed);
- for groundwater – 50-75% of annual recharge.

Questions of over-allocation of a water resource are often raised in times of low rainfall. However it should be remembered that in Australia’s climate, such dry periods should be expected. It does not necessarily mean that a resource is over-exploited if surface water flows drop, due to a lack of rain.

On a regional basis, surface and groundwater resources have been assessed as not being over-committed (pers. comm. Karla Billington and Steve Barnett).
Notwithstanding this statement, individual development proposals will still need to consider the availability of both suitable water and land.

### 3.2 Water Quality

Water quality is a very important and multi-faceted measure of catchment health. Degradation of water quality will limit the available uses for a water resource, and can adversely impact the health of humans, stock, agricultural systems and the environment.

**Pollutant sources**

Water quality is influenced by many factors, both natural and human-induced, including soil and vegetation types, climate, land use and management practices. Pollution sources are generally divided into two types:

- **Point sources** – locally significant, with a defined point of entry to a catchment, and
- **Diffuse sources** – generated over a large area.

While point sources of water pollution (e.g. waste water treatment plants, dairy shed effluent) can be important, many catchment studies have found that diffuse sources are the main contributor of pollutants (Camp Scott Furphy et al., 1992; NLWRA, 2003).

Different land use types will represent different examples of diffuse sources, with pollutant yields within a land use type largely dependant on management practices and climatic factors. Wood (1986) presents a study of 5 catchments in the Mt Lofty Ranges, each with a dominant land use type, and compares pollutant concentrations and pollutant yields (kg/ha/yr) based on 12 years of data. While the results are based on 1970-1982 management techniques, this data (summarised in Tables 6 and 7) provides a useful guide to the influence that land use has on catchment water quality. A summary of actual values from the study are provided in Appendix 7.

**Table 6. Relative water quality for dominant land uses compared to native vegetation (native veg. = 1), using median concentration values (Wood, 1986)**

<table>
<thead>
<tr>
<th>Land use</th>
<th>TDS</th>
<th>NOx</th>
<th>TN</th>
<th>Sol P</th>
<th>TP</th>
<th>TOC</th>
<th>Total coliforms</th>
<th>E. coli</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>1.1</td>
<td>25.5</td>
<td>3.2</td>
<td>8.0</td>
<td>4.4</td>
<td>2</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Intensive horticulture</td>
<td>1.8</td>
<td>230</td>
<td>14.1</td>
<td>14.2</td>
<td>8.9</td>
<td>1</td>
<td>22</td>
<td>4.4</td>
</tr>
<tr>
<td>Mixed agriculture</td>
<td>1.9</td>
<td>13.5</td>
<td>2.1</td>
<td>2.2</td>
<td>1.9</td>
<td>1</td>
<td>8.5</td>
<td>6.1</td>
</tr>
<tr>
<td>Grazing</td>
<td>5.5</td>
<td>2.5</td>
<td>3.3</td>
<td>4.0</td>
<td>3.1</td>
<td>3</td>
<td>2.2</td>
<td>3.1</td>
</tr>
</tbody>
</table>

(For Tables 6 & 7: TDS = total dissolved solids, NOx = oxidised nitrogen, TN = total nitrogen, Sol P = soluble phosphorus, TP = total phosphorus, TOC = total organic carbon)
Table 7. Relative mean yields from dominant land uses compared to native vegetation (native veg. = 1) using mean loads/ha/year (Wood, 1986)

<table>
<thead>
<tr>
<th>Land use</th>
<th>TDS</th>
<th>NOx</th>
<th>TN</th>
<th>Sol P</th>
<th>TP</th>
<th>TOC</th>
<th>Total coliforms</th>
<th>E. coli</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>2</td>
<td>25</td>
<td>4</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>52</td>
<td>25</td>
</tr>
<tr>
<td>Intensive horticulture</td>
<td>4</td>
<td>196</td>
<td>17</td>
<td>30</td>
<td>27</td>
<td>3</td>
<td>56</td>
<td>10</td>
</tr>
<tr>
<td>Mixed agriculture</td>
<td>3</td>
<td>24</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>42</td>
<td>28</td>
</tr>
<tr>
<td>Grazing</td>
<td>4</td>
<td>12</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>10</td>
<td>14</td>
</tr>
</tbody>
</table>

Also Clark (1988) conducted a multiple regression analysis of 31 catchments throughout the Mt Lofty Ranges in an attempt to develop a predictive model for 5 water quality parameters based on a breakdown of catchment land use types, building density (a measure of urban development) and catchment runoff rates.

Based on the findings of Wood (1986) and Clark (1988), the lowest concentrations of nitrogen, phosphorus and turbidity were consistently associated with uncleared catchments. The highest concentrations and pollutant yields (loads per ha) were associated with intensive horticulture and animal husbandry. Urbanisation is associated with moderately high pollutant yields, but its impact will be moderated by the typically low percentage of a catchment that it occupies. Activities associated with grazing will be a significant contributor of pollutant loads to a catchment, particularly when areas under this land use are high.

Studies have generally found that most pollutants in catchment runoff are transported in association with particulate matter, particularly following high rainfall events (Chittleborough, 1983; Clark, 1988; Camp Scott Furphy et al., 1992). An important component of particulate matter is suspended sediment, with pollutants attached to fine soil fractions and colloidal suspensions. Catchment soil properties (and variability) also impact on stream water quality, with higher clay content soils able to adsorb more organic matter from throughflows, thereby reducing stream organic carbon and nutrient concentrations (Camp Scott Furphy et al., 1992).

The main pollutant generating processes are (Camp Scott Furphy et al., 1992):

- washoff of material accumulated on impervious surfaces since the previous storm;
- dislodgement of soil with associated material (eg. nutrients, pesticides); and
- dissolution of anions and cations of the soil as a result of infiltration to and interception of groundwater.

Of particular relevance to our study area, the important land use, management (diffuse sources) and point source pressures impacting on the quality of surface waters include:

- Insufficient buffering of livestock or access to watercourses, causing erosion and movement of sediment, nutrients and pathogens into waterways.
- Poor management of dairy shed and feedlot effluent, with high nutrient and pathogen loads entering streams particularly during high rainfall events.
Poorly maintained and inadequately sized septic tanks, discharging effluent which may eventually reach rivers and streams.

Pesticides and herbicides causing diffuse pollution particularly when applied near watercourses.

Excessive or poorly timed fertiliser applications causing nutrient rich runoff.

Intensive agricultural practices causing acidification of soils.

Overgrazed paddocks or inappropriate agricultural practices on steeper valley slopes causing soil erosion and delivering large amounts of sediment to waterways.

Flow reductions caused by in-stream dams and extraction directly from waterways, increasing pollutant concentrations.

Increased salinity levels due to increased deep drainage beneath low water use landscapes and the increased saline baseflow component of streamflows.

Runoff from sealed and gravel roads.

Earthworks associated with housing and other developments.

Groundwater – surface water interactions
Salinity is the obvious catchment pollutant associated with groundwater. However groundwater can also contribute significantly to the nutrient (particularly nitrogen) load of some surface water ecosystems (Lamontagne et al., 2003). Difficulties arise in predicting the contribution of nutrients from groundwater due to:

- a poor understanding of the impact of groundwater/surface water interactions (eg. with spatial and temporal variation in redox and hydrological conditions) on the load and form in which nutrients are discharged;
- The impacts of riparian zones on nutrient biogeochemistry – which under certain situations have potential for greater plant uptake, or transformations mediated by microbial activity; and
- significant time lags – associated with establishing the new groundwater equilibrium under a change in land use, and the transport of nutrients in groundwater from source to discharge sites.

However continuing research will help to build this developing area of knowledge.

Monitoring and future trends
Physical and chemical measurements provide ‘snapshots’ of water quality. To obtain meaningful information often long-term and strategic monitoring must be undertaken, which may include a biological component. Such a monitoring campaign should reflect:

- seasonal variations in flows and water quality;
- variations between years (eg. wet versus dry years); and
- the influence of storm events (and their ability to transport the bulk of pollutants, often during events of short duration, particularly in relatively highly cleared catchments).
Biological monitoring (eg. using macroinvertebrates, native fish, etc) is increasingly seen as an essential component in the assessment of river and stream health with studies often implemented to directly assess impacts to ecological systems or detect transient disturbances that are typically missed by physico-chemical sampling programs. Further details on this field of monitoring and results from the AUSRIVAS monitoring program for the study area are contained in Appendix 8.

Biological surveys are also important when determining environmental water requirements. Fish surveys, in particular, would help to set flow targets and better understand regional aquatic biodiversity (pers. comm. Michael Hammer, Environmental Biologist, Mar 2004).

A limited amount of physical, chemical and biological monitoring data has been collated for this study, much of which is summarised in spreadsheet format on the attached data CD, with highlights shown in the Appendices.

From a biological perspective, the major threats to river health in the Mt Lofty Ranges relate to factors known to impact on water quality – flow modification, sediment characteristics and riparian condition. Each of these can produce conditions in local waterways that make the persistence of some species impossible or limits their ability to maintain large enough population sizes to persist in the long term. Given the range of land uses and increasing pressure of urban encroachment it is inevitable that continued changes to the landscape will degrade river health measurements. Hence programs such as AUSRIVAS are very important for providing baseline knowledge of river health, for use in following future catchment changes and informing management authorities of the likely outcomes of planning and development decisions (McEvoy et al., 2003).

Water quality policy and guidelines
The principle legislation concerning pollution in South Australia is the Environment Protection Act 1993. Section 25 of this Act imposes the general environmental duty on all people undertaking activities with potential to pollute, to take all reasonable and practicable measures to prevent or minimise any resulting environmental harm. The Act also provides for the creation of environment protection policies, which may include both recommended and mandatory requirements to enable protection of a particular aspect of the environment, such as water quality (EPA, 2003b).

The recently released Environment Protection (Water Quality) Policy (EPA, 2003a) offers a statewide approach to the protection of all inland, surface, groundwater and marine waters and covers a range of issues including:

- management principles for control of point and diffuse sources of pollution,
- obligations relating to particular industrial and agricultural activities,
- water quality values and objectives,
- water quality criteria, discharge limits and listed pollutants.

Implications of the water quality policy (EPA, 2003a) for local government are summarised in the fact sheet EPA (2003c), available from the EPA website.

Water quality guidelines (eg. ANZECC & ARMCANZ, 2000; NHRMC & ARMCANZ, 1996; EPA, 2003a) and various industry codes of best practice (eg. EPA, 1997) exist in a variety of forms. While not all water quality guidelines are particularly suited to South Australian conditions, they nonetheless serve as a guide, indicating when
problems might be expected. Such general guidelines (including EPA, 2003a) are likely to be updated by more detailed local knowledge when it becomes available.

Focus of this report
The following aspects of water quality will be discussed in more detail:
- salinity,
- nutrients (nitrogen and phosphorus),
- pathogens (E. coli), and
- pH.

Water quality guidelines for these selected parameters are summarised in Appendices 9 - 13, for various uses of water, comprising: aquatic ecosystems, drinking water, primary industries, and recreation and aesthetics.

3.3 The role of perennial vegetation in salinity and water quality
Perennial vegetation (eg. protected remnants, regeneration, revegetation, and farm forestry3) plays an important role in salinity reduction and water quality of catchments. This land use can assist to:
- reduce ground water recharge, impacting on dryland salinity and waterlogging;
- reduce water run off and associated sediment loads of surface flowing water;
- provide wind protection reducing wind erosion and wind exposure;
- provide water quality and catchment management benefits;
- protect coastal waters from nutrient loading and provide fresh water flush for near coastal ecosystems; and
- provide forage and habitat for biodiversity outcomes.

Perennial native vegetation and remnant vegetation can intercept up to 100% of rainfall therefore having a significant impact on recharge, with potentially zero recharge occurring. Fencing off remnant vegetation and restoring these areas along with appropriate revegetation activities on recharge areas are high priority activities for implementation to reduce waterlogging and dryland salinity.

The Mount Lofty Ranges (MLR) Regional Revegetation Strategy outlines a range of revegetation options for the MLR region; those identified as high priority have high to medium recharge and water quality benefit. Revegetation options identified as priority in the MLR region include:
- protection of remnants,
- natural regeneration in degraded remnants and around isolated trees,
- local native species blocks,
- local native species shelterbelts,
- woodlots,

3 Guidelines have been developed to minimise the risk of impacts from farm forestry operations on the environment, including consideration of soil erosion and water quality (Forestry SA, 1997).
• timberbelts,
• product blocks,
• fodder blocks, and
• managed native grass pastures.

These revegetation options have significance for the study area where a combination of activities can be applied strategically across the landscape to assist in ameliorating salinity and water quality issues in the region.

Priority zones for salinity management are identified in Section 4.3 - Salinity Management (see Figure 15). Particular native vegetation activities for salinity management are identified for recharge and discharge areas.

Recharge reduction activities include:
• enhance and protect remnants;
• avoid further fragmentation of remnants;
• revegetate adjacent to remnant vegetation to buffer and connect existing patches;
• protect and revegetate riparian areas and swamps; and
• establish strategic revegetation on properties such as vegetation blocks and windbreaks.

Discharge zone vegetation activities include:
• establishing salt tolerant native species on salt affected areas.

Remnant vegetation biodiversity principles
Protecting and managing remnant vegetation provides an important base to biodiversity conservation where natural flora, fauna, and ecosystems constitute the biodiversity of an area. These areas are the last hold for remnant species and the genetic remnants of the region.

Priority order principles for biodiversity conservation are:
• Retain existing remnant vegetation areas, including degraded remnants and scattered trees;
• Remove threats of weeds, livestock and vermin from these areas;
• Restore the natural processes in remnant vegetation; and
• Revegetate appropriately.

These principles are known as the “4R’s” and are covered in more detail in the fact sheet Biodiversity (Ecological Evaluation, 2000).

Revegetation principles
Further information on revegetation principles, species selection, planning and establishment techniques can be found in Appendix 14.
4 SALINITY

4.1 Salinity Issues

Salinity can be described as the accelerated accumulation of salts in land and water to sufficient levels to cause adverse impacts on natural and human assets. This can occur through natural processes (primary salinity) or as a result of land use changes made by human activity (secondary salinity).

Secondary salinity is generally attributed to an increase in recharge to groundwater (following clearing, or with irrigation) and mobilisation of stored salt towards the surface with rising watertables. However the particular mechanism of salinisation is likely to vary between sites. While increased lateral groundwater flows or particular soil properties can sometimes play an important role, in most cases excessive deep drainage (potential recharge), of water below the root zone, would be expected to be a critical factor.

The high rainfall and hilly landscapes typical of much of this region ensure that salinity problems are not as dramatic or widespread as seen in other parts of the state. However salinity has significant impacts on stream water quality and on limited areas of agricultural land in flats and sluggish drainage lines (often associated with waterlogging). In the Inman River it is thought that streams are impacted by a combination of incision (bed deepening due to erosion) and rising watertables, which has resulted in elevated levels of saline groundwater discharging to the river (Burston and Good, 1995).

Salinisation of watercourses is of great concern in this region due to the importance of stream water quality:

- where water is extracted directly, or collected in dams for stock drinking water, irrigation or other commercial enterprises (eg. inland aquaculture); and
- for the health of in-stream and riparian ecosystems;

Salinity levels of harvested water supplies may limit potential land use, particularly irrigation activities. Both livestock and irrigated plants vary in their tolerance to salinity. Appendices 8 and 9 provide salinity tolerance information for selected agricultural plants and livestock. It should be noted that tolerance of plants to salinity will vary with soil type, drainage, levels of flushing and soil moisture levels.

Salinity also has impacts on the biodiversity of freshwater ecosystems, with elevated salt concentrations causing physiological stress in non-tolerant plants and animals. Studies have shown that the total number of species in aquatic ecosystems declines with salinities greater than 1000 mg/L (ppm). However it is also noted that saline ecosystems are often natural (some being transient in nature) and the suite of tolerant species that flourish in such waters are important contributors to the overall biodiversity of the state (McEvoy and Goonan, 2003).
Irrigation induced salinity

Irrigation of horticultural crops or pastures can lead to salinity impacts through:

- the accumulation and concentration of salts from irrigation water in the root zone, with potential impacts on plant growth and/ or soil structure (including sodicity – see Appendix 12).
- over irrigation leading to raised watertables, bringing potential for waterlogging or salinisation.

Salts from irrigation water that have accumulated in the root zone during the dry season can be flushed by winter rains in regions with sufficient rainfall (ie. most of the study area). Where rainfall is inadequate, leaching fractions should be applied with due consideration given to soil type, plant rooting depth, impacts to the watertable, offsite impacts, and conservation of water resources.

Best practice irrigation techniques that will help minimise environmental impacts include:

- soil moisture monitoring,
- irrigation system design according to soil type and rooting depth,
- water efficient irrigation practices (eg. delivery systems, uniformity of irrigation, time of day, and period of watering to reduce wastage from evaporation or deep drainage),
- regular maintenance of irrigation systems,
- periodic salinity testing of irrigation water and soil,
- consider water balances for the annual production cycle (eg. for vineyards - cover crops between rows can prevent excessive groundwater recharge beneath winter dormant grape vines, and are often cut or sprayed off when soil moisture is needed. [Some species of native grasses are ideal for this purpose]).

4.2 Salinity Status

Figures 10 and 11 respectively show the varying degrees by which land is affected by salinity and at risk of salinisation. Where affected land is adjacent to waterways this indicates areas where saline baseflow, or salt wash-off, is entering streams. While there are only minor areas of highly affected land throughout the study area, large areas of Waitpinga are affected by moderate salinity. Much of the salt affected land occurs in Kanmantoo, Quaternary infill, or Permian sediments with poor drainage and high potential to accumulate, store and release salt.

Areas of land affected and at risk are shown in Table 8. While the area of land at risk of salinisation is low, in the event of rising water tables stream salinity would be expected to rise with increased groundwater discharge to streams in incised landscapes.

Further information regarding the status of salinity in the broader Fleurieu Peninsula is contained in Liddicoat and Herrmann (2002).
Figure 10. Salinity induced by watertable in the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

NOTES ON THE USE OF THIS MAP:
1. This information is derived from limited field inspection, and is subject to amendment as and when more data become available.
2. Boundaries between mapping units should be treated as transition zones.
3. The map is intended to provide a regional overview and should not be used to draw conclusions about conditions at specific locations.
4. Under no circumstances must the scale of the map be enlarged beyond its scale of publication.
5. Advice from DWLBC Soil and Land Information should be sought prior to using this information for commercial decision making.
6. Under no circumstances may the data or information associated with this map or any accompanying report be altered in any way without the express permission of DWLBC Soil and Land Information.

IMPORTANT NOTICE: Although all reasonable care has been taken in preparing this information, neither DWLBC nor its officers accept any liability resulting from the interpretation or use of the information displayed on this map or presented in any accompanying document. Information on the map or any accompanying document is subject to change without notice.

LAND ASSESSMENT: Soil and Land Information, Department of Water, Land and Biodiversity Conservation

The classes of water table induced salinity shown in this map account for the degree of salinity of the landscape as a whole, and for the proportion of land affected by discrete saline seepages. The classes do not distinguish between primary (natural) salinity and secondary (European induced) salinity.

SALINITY (induced by water table)
- Negligible
- Slight salinity, or less than 2% of land affected by highly saline seepage
- Moderate salinity, or 2-10% of land affected by highly saline seepage
- Moderately high salinity, or 10-30% of land affected by highly saline seepage
- Moderately high to high salinity, or 30-50% of land affected by highly saline seepage
- High salinity affects more than 50% of the land
- Not Applicable

Soils data from Soil and Land Information, DWLBC
Figure 11. Salinity Risk in the event of rising watertables in the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

This map shows six classes of salinity risk related to the occurrence of rising watertables. In addition, there is one class where the land is already mostly highly to extremely saline. Classes are based on an interpretation of soil landscape units. Each map unit is classified according to the salinity risk of its component areas, on a proportional basis. Classes are determined from existing salinity attribute ratings, position in the landscape, and the salinity status of adjacent map units and the encompassing land system.

NOTES ON THE USE OF THIS MAP:
1. This information is derived from limited field inspection, and is subject to amendment as and when more data become available.
2. Boundaries between mapping units should be treated as transition zones.
3. The map is intended to provide a regional overview and should not be used to draw conclusions about conditions at specific locations.
4. Under no circumstances must the scale of the map be enlarged beyond its scale of publication.
5. Advice from DWLBC Soil and Land Information should be sought prior to using this information for commercial decision making.
6. Under no circumstances may the data or information associated with this map or any accompanying report be altered in any way without the express permission of DWLBC Soil and Land Information.

IMPORTANT NOTICE: Although all reasonable care has been taken in preparing this information, neither DWLBC nor its officers accept any liability resulting from the interpretation or use of the information displayed on this map or presented in any accompanying document. Information on the map or any accompanying document is subject to change without notice.

LAND ASSESSMENT: Soil and Land Information, Department of Water, Land and Biodiversity Conservation

RISK OF INCREASED SALINISATION
LOW - Land which shows little to no evidence of salinisation, and is considered to have little risk of becoming saline.
MODERATELY LOW - Land which presently shows little to no evidence of salinisation but is at possible risk of becoming increasingly saline if watertables rise significantly.
MODERATE - Land which already has somewhat raised subsoil salinity levels, which may be the result of relatively shallow watertables, and is at risk of becoming increasingly saline if watertables rise.
MODERATELY HIGH - Land which already has raised subsoil salinity levels resulting from relatively shallow saline watertables, and is at risk of becoming increasingly saline if watertables rise.
HIGH - Land which is already too saline for some field crops and is at risk of becoming increasingly saline if watertables rise.
VERY HIGH - Land which is already too saline for many field crops, typically including significant areas of highly saline to extremely saline land, and is at risk of becoming increasingly saline if watertables rise even a small amount.
EXISTING MOSTLY HIGHLY SALINE LAND
NOT Applicable

Soils data from Soil and Land Information, DWLBC
Table 8. Areas of land (in ha) currently salt affected and at risk

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Catchment area</th>
<th>Secondary salinity</th>
<th>Primary salinity</th>
<th>Total salinity</th>
<th>At risk of salinisation (with rising water- tables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19526</td>
<td>38</td>
<td>0</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>103</td>
<td>1</td>
<td>104</td>
<td>16</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4077</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1909</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>608</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>32234</td>
<td>151</td>
<td>1</td>
<td>152</td>
<td>23</td>
</tr>
</tbody>
</table>

Figures 12 to 14 show the geology overlain with indicative salinity measurements of groundwater and surface water. Groundwater salinities were obtained from the SA GEODATA (Drillhole) database, with samples often taken at the time of drilling. Figure 12 also displays information on bore yields, showing that wells with better quality water are often limited by low yields. Figure 13 depicts borehole salinity with borehole standing water level (SWL). This provides an indication of the hydrostatic pressure acting on the water in the aquifer(s), at the depth over which the well is screened. It should be noted that bore SWL is not the same as the ‘depth to watertable’. Surface water salinities, shown in Figure 14, include sampling conducted by Graham Webster, Victor Harbor Council, Inman River Catchment Group, Peter Goonan (EPA) as part of the AUSRIVAS program, and ‘Water Point’ data held in the SA GEODATA database.

Elevated salinities are found most noticeably in sediments derived from Kanmantoo Group rocks (eg. in the Halls Ck subcatchment; to the north of Waitpinga and in the southern Coolawang catchment) and in the Quaternary alluvial infill sediments (eg. in the southern half of the Waitpinga catchment). Permian sediments show varying salinities from fresh (eg. in the headwaters of Coolawang Creek and parts of the Inman Valley) to highly saline (eg. in the valley flats of the Inman River). This variability likely reflects local differences in drainage, geology (eg. Kanmantoo or Adelaide Geosyncline), rainfall and soil texture (eg. clayey sediments will store more salts washed in from the upland areas compared to more easily draining sands).

Limited time series salinity records have been collected (by groups including the Inman River Catchment Group; EWS and EPA at the Inman River gauging station; and Camp Scott Furphy et al., 1992) for several locations in the Inman River catchment. This data is presented in Appendix 15 and is also contained on the data CD attached to this report.

4These salinity measurements provide only an indication of surface and ground water salinities and can not be directly compared. Measurements have been taken at different times of the year and with different operators and instruments. Ground water salinities are taken at different depths and in aquifers which may not correspond to outcropping geology.
Figure 12. Borehole Salinities, Yields and Geology of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

GEOLOGY
Quaternary Sediments
- Sands, silts and clays (alluvial deposits & aeolian sands)
- Laterised deposits, ferruginised sands and gravels
Tertiary Sediments
- Glacio-marine and fluvioglacial sediments and erratics (Cape Jervis Formation)
Kanmantoo Trough
- Sandstone, siltstone, with minor phyllites and greywacke
- Sandstone to greywacke, with minor sulphidic siltstone (Tapanappa Formation)
Permian
- Limestone
- Sandstone, siltstone, with minor shale, dolomite and limestone
- Quartzite, sandstone and minor siltstone
- Schists, gneisses and minor granite intrusives
- Granite

LOCATIONS
- CATCHMENT BOUNDARY
- CADASTRAL BOUNDARIES
- DRAINAGE LINES

GROUNDWATER SALINITIES (mg/L)
- Less than 500
- 500 - 1000
- 1000 - 2000
- 2000 - 4000
- 4000 - 10000
- More than 10000
- Drillholes without TDS information

BORE YIELD (L/S)
- 0 - 1
- 1 - 5
- 5 - 20
- 20 - 75

Datum GDA 94 - Map Projection MGA Zone 54
Figure 13. Borehole Salinities and Standing Water Levels of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

GEOLOGY

Quaternary Sediments
- Sands, silts and clays (alluvial deposits & aeolian sands)

Tertiary Sediments
- Laterised deposits, ferruginised sands and gravels

Permian
- Glacio-marine and fluvioglacial sediments and erratics (Cape Jervis Formation)

Kanmantoo Trough
- Sandstone, siltstone, with minor phyllites and greywacke

- Sandstone to greywacke, with minor sulphidic siltstone (Tapanappa Formation)

- Limestone

Adelaide Geosyncline
- Siltstone, sandstone, with minor shale, dolomite and limestone

Barossa Complex
- Schists, gneisses and minor granite intrusives

Igneous Rocks
- Granite

LOCATIONS

CATCHMENT BOUNDARY

CADASTRAL BOUNDARIES

DAMS

DRAINAGE LINES

GROUNDWATER SALINITIES (mg/L)

Less than 500

500 - 1000

1000 - 2000

2000 - 4000

4000 - 10000

More than 10000

Drillholes without TDS information

DEPTH TO WATER (m)

All or above ground level

within 2

2 - 5

5 - 10

10 - 20

20 - 50

50 - 103

Kilometers

Datum GDA 94 - Map Projection MGA Zone 54
Figure 14. Surfacewater Salinity and Geology of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

GEOLOGY
- Quaternary Sediments
  - Sands, silts and clays (alluvial deposits & aeolian sands)
- Tertiary Sediments
  - Laterised deposits, ferruginised sands and gravels
- Permian
  - Glacio-marine and fluvioglacial sediments and erratics (Cape Jervis Formation)
  - Limestone
- Kanmantoo Trough
  - Sandstone, siltstone, with minor phyllites and greywacke
  - Sandstone to greywacke, with minor sulphidic siltstone (Tapanappa Formation)
  - Limestone
- Adelaide Geosyncline
  - Siltstone, sandstone, with minor shale, dolomite and limestone
  - Quartzite, sandstone and minor siltstone
- Barossa Complex
  - Schists, gneisses and minor granite intrusives
- Igneous Rocks
  - granite

SURFACE WATER SALINITIES (mg/L)
- Less than 500
- 500 - 1000
- 1000 - 2000
- 2000 - 4000
- 4000 - 10000
- More than 10000
These records exhibit seasonal salinity cycles, peaking in summer when surface runoff is negligible and more saline baseflow dominates. Some of the highest salinities occur high in the catchment (eg. as measured at Millard Reserve) before dilution of streamflow occurs from tributaries draining higher rainfall country. The extent of this data is insufficient to detect long-term salinity trends.

Significant stream salinity issues observed in the region occur in:

- the Inman River – where every summer salinity rises quite dramatically, with the dominance of saline baseflows (see Appendix 15). At the time of European settlement, the Inman was reported to support an expanse of freshwater wetlands, hence salinity in this developing watercourse may be a recent phenomena (Burston and Good, 1995). Burston and Good (1995) also report that flow of water in the Inman River during the summer months appears to be sensitive to the extraction of large volumes of surface water.

- all water courses draining the Permian glacial sediments – these are reported to become brackish during the summer months (Burston and Good, 1995).

- water courses draining the Bald Hills Land System – This landscape comprises of very clayey Permian glacial sediments from Bald Hills through Torrens Vale (in the western headwaters of the Inman).

- Halls Creek – this tributary of the Inman River drains sediments derived from Kanmantoo Group rocks which surround the deeply weathered lateritic capping atop Wilson Hill. (Field EC measurements of 9dS/m were recorded in this creek during low flows in August 2002 after a light rain the night before.)

- in-stream dams – particularly when watercourses drain sediments with high salt storage. In-stream dams tend to capture a greater proportion of the undesirable saline baseflows, while off-stream dams are designed to captured fresher peak flows.

### 4.3 Salinity Management

The range of salinity management options generally fall into 3 categories:

- **Recharge reduction** – increasing water use over the catchment.

- **Living with salt** – using saline resources productively.

- **Engineering** – pumping and drainage options to increase discharge mainly for protection of valuable assets.

Prior to producing a plan for on-ground works it is vital to have a conceptual understanding of processes occurring in the catchment. The likely effectiveness of management options, and the scale at which they need to be applied, can be determined, and will depend on the type of groundwater system causing the problem. It is then necessary to evaluate actions according to various economic, social, moral and environmental criteria.

Salinity management options appropriate for the study catchments are discussed in detail in the *Southern Fleurieu Peninsula Salinity Management Plan* (Liddicoat and Herrmann, 2002). There is a copy of this report on the attached data CD.
Summary of Management Options

Effective salinity management will often require a mix of the three strategies. Table 9 lists the types of options that might be suited to a range of scenarios likely to be encountered in the study area.

Table 9. Summary of salinity management options (adapted from Liddicoat and Herrmann, 2002)

<table>
<thead>
<tr>
<th>Situation</th>
<th>Where examples are found</th>
<th>Suggested Management Options</th>
</tr>
</thead>
</table>
| Stream salinity       | Mostly in clayey Permian, Kanmantoo and infill sediments (eg. Inman River in summer)     | • Regulate surface water harvesting regimes (timing and volumes of extraction) to maintain acceptable ratios of runoff : saline baseflow.  
• Recharge reduction across catchments contributing to groundwater baseflow – via productive pastures (see Fairbrother et al., 1999), or woody perennials (eg. native vegetation, farm forestry*, see Appendices 14 and 16).  
• Control stream bank erosion, where bed deepening processes are draining increasing volumes of saline groundwater into streams.  
• Ensure new dams are constructed off-stream.  
• Relocate in-stream dams that contribute to high stream salinity. |
| Poorly drained valley floors | (eg. Inman Valley, Waitpinga)                              | • Establish or enhance swamps/ wetlands [Noting that swamps are protected under the EPBC Act – see section 2.3.4, and Appendix 3].  
• Improve surface drainage (with shallow drains).  
• Seepage interceptor drains.  
• Forestry, revegetation and/or well managed pastures in upper parts of landscape, or at break of slope. |
| Hillside seeps        | Mostly in Permian sediments and Kanmantoo rocks. (eg. Inman Valley, Waitpinga)         | • Local recharge reduction strategies.  
• ‘Living with salt’ – plant salt/ waterlogging tolerant trees, shrubs or forage plants and fence off to manage impacts of livestock.  
• ‘Engineering’ – siphon groundwater from behind flow barriers (with appropriate disposal method if high salinity groundwater) |
| High recharge zones (eg. rocky or sandy ridges and hillslopes) | Sandy Permian and infill sediments, shallow or rocky soils, mostly in Kanmantoo Group sediments. | • High water use perennial vegetation – native species, agroforestry, or highly productive well managed pastures. |
| Irrigation induced Salinity | Sandy Permian and infill sediments, shallow or rocky soils, mostly in Kanmantoo Group sediments. | • Adopt best practice irrigation techniques (eg. soil moisture monitoring, system design for soil type, maintainence, etc.) |
| Waterlogging on perched watertables | In sediments with a shallow, low - permeability layer (eg. sodic clay subsoils). | • Seepage interceptor drains. • Apply lime or gypsum to address sodicity problems. • Introduce tolerant pastures and livestock management to avoid pugging. |
| Saline sulphidic seeps | Mostly in Kanmantoo Group Sediments (Tunkalilla Formation) (eg. Coolawang Ck) | • Fence off, plant waterlogging / salt tolerant perennial vegetation. • Add lime if acidic. • Exclude stock completely in highly saline, sulphidic or waterlogged areas. • Stabilise eroded areas with tolerant trees, shrubs, or grasses (including native grasses), or construct simple control weirs to reduce gully gradients. • Establish or enhance wetland. • (refer to Fitzpatrick (1999) for more information on acid sulphate soils.) |
| Salinisation of Groundwater resources (eg. Valley floor of Inman River) | • Avoid over extraction of groundwater resources (& drawing in saline water from aquifer fringes) • Avoid over- or under-irrigation, particularly with saline water. |

(Note* - Areas with basic suitability for farm forestry are mapped in Appendix 16.)

**Identifying priority areas**

Priorities for on-ground action should be targeted:

- In areas of high recharge potential that contribute to salinity problems. This is where recharge reduction measures will be most cost effective. (As shown in Liddicoat and Herrmann (2002), higher recharge potential occurs in sands and alluvial sediments south of Waitpinga and in shallow soils over rock near the coast in Coolawang Creek catchment and in the uplands of the south and north Inman River catchment area.)
- Where the risk of spreading salinity is high (see Figure 11 – ‘Salinity Risk’).
- In sub-catchments contributing to high stream salinity levels (see Figure 14 – ‘Surface water salinity’).
• In areas of existing native vegetation as these contribute significantly to catchment water use (see Figure 4 – ‘Native vegetation & land use’).

Hence the following priority zones (as shown in Figure 15) have been identified:
• Sub-catchments with existing salinity.
• Sub-catchments with some existing salinity and a moderately high risk of becoming more saline.
• Areas of native vegetation located near or in high recharge potential areas.
• Other areas contributing to localised saline land and catchment stream salinity.

In other salinity studies it has been shown that to halt the spread of saltland or stabilise stream salinity levels it is necessary to achieve reductions in recharge of around 50%. Appendix 17 presents an example of how this type of recharge reduction might be achieved using combinations of the various management options that should be considered. The water use and hence reduction in recharge under various land uses can be estimated using the ‘Total Water Use’ factsheet, contained in Appendix 18.

Strategies adopted in the priority areas will depend on factors such as existing salinity levels, risk of salt spread, existing land use, the presence of native vegetation (including protected swamps [also see section 2.3.4]), landholder intentions for the property, the value of the asset at risk and the role an area plays in the salinity process (eg. recharge, discharge zones). In short, adopted strategies should follow the principles outlined in the table below.

Table 10. Salinity control strategies for priority areas

<table>
<thead>
<tr>
<th>Recharge Reduction (Catchment high water use)</th>
<th>For existing native vegetation</th>
<th>For pasture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance / protect</td>
<td>Avoid fragmentation of native vegetation.</td>
<td></td>
</tr>
<tr>
<td>Establish adjacent additional revegetation to buffer / connect existing stands.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance riparian areas (eg. protect and revegetate where appropriate; establish wetlands)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Living with salt</th>
<th>For salt-affected/ discharge areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protect from over-grazing and erosion.</td>
<td></td>
</tr>
<tr>
<td>Establish salt tolerant pastures and / or native vegetation.</td>
<td></td>
</tr>
<tr>
<td>Protect / develop wetlands (see Section 2.3.4)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engineering</th>
<th>To protect high value assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>groundwater pumping, siphoning,</td>
<td></td>
</tr>
<tr>
<td>drainage works.</td>
<td></td>
</tr>
</tbody>
</table>
Figure 15. Priority Zones for Salinity Management in the Inman, Waitpinga, Coolawang and Newland Cliffs catchments.

LOCATIONS
- Catchment Boundary
- Cadastral Boundaries
- Dams
- Drainage Lines
- Native Vegetation Cover
- Forest Plantation

PRIORITY ZONES
- Sub-Catchments with existing salinity
- Sub-Catchments with some existing salinity and a moderately high risk of becoming more saline
- Existing native vegetation and/or higher recharge potential
- Other areas with localised salinity & catchment stream salinity

PROTECTED SWAMPS
- SWAMPS PROTECTED UNDER THE EPBC ACT (DRAFT)
  Determined from interpretation of aerial photography, and yet to be ground-truthed (pers. comm. Claire Harding, Wetlands Project Officer, Department for Environment and Heritage, Feb 2004).
Protected swamps
The protected swamps of the Southern Fleurieu (previously discussed in section 2.3.4) are highlighted in Figure 15 due to the potential for hydrological impacts on swamps from salinity management activities.

Where swamps are being degraded by salinity (as suggested in Appendix 3) there may be scope for some salinity management measures, however such activities should be only be undertaken in accordance with requirements of the EPBC Act and relevant State legislation, as discussed in DEH (2003).

Additional measures to prevent water salinisation
For the protection of surface and groundwater resources from salinity the following practices are recommended:

- Siting dams off-stream. Avoid poorly draining valleys, and immediately above ‘break of slope’ situations.

- Regulating surface water extraction regimes (seasonality and volumes of water harvesting both into dams and directly from watercourses). Extraction of water directly from watercourses over summer potentially has the greatest impact on seasonal increases in stream salinity. This is because the saline baseflow becomes more dominant in watercourse pools as water is extracted. New dam construction may also require regulation. However regulation requires a greater understanding of:
  
  (i) acceptable levels of stream salinity (for the community and environment), and
  (ii) the hydrology of surface water, unsaturated zone and groundwater flows for respective catchments.
5 NUTRIENTS

5.1 Nutrient issues

Surface water nutrients are essential for aquatic food chains however excessive inputs lead to nutrient pollution. Resulting impacts can include excessive growth of nuisance aquatic plants, algae and cyanobacteria, which can smother streambed habitats and choke waterways and estuaries. Flow on effects can occur where waterways discharge to the sea and algal growth smothering sea grasses can cause the loss of important coastal feeding and breeding habitats.

Produced in conditions of warm, still, nutrient-rich water, blooms of blue-green algae (cyanobacteria), upon decomposition, release compounds toxic to humans and stock. In addition, nutrient rich waters provide an environment more suitable to the survival of microbial pathogens, increasing the risks of infection and disease in exposed animals and humans.

Once nutrients are depleted or settle out of the water column, decomposing organic matter, resulting from excessive aquatic weed and algal growth, will deplete oxygen levels, and in some cases lead to fish kills. Nutrient rich waters have depleted levels of biodiversity, with tolerant organisms dominating what remains of aquatic communities.

Simple measurement of dissolved nutrient concentrations in the water column may not accurately reflect the status of a waterway. Polluted water bodies will have significant nitrogen and phosphorus stores in the sediments (where the larger plants are likely to obtain nutrients) and associated with suspended particulate matter (that is often overlooked during sampling). There are a multitude of physical, chemical and biological processes that cycle nutrients between different molecular and bound (or adsorbed) forms, and also between sediments and the water column. The most bio-available (ie. available for nuisance plant growth) forms of nitrogen and phosphorus are generally ammonia ($\text{NH}_4^+$), nitrate ($\text{NO}_3^-$) and phosphate ($\text{PO}_4^{3-}$). It is generally found that phosphorus is the nutrient limiting plant growth in fresh waters, while nitrogen limits plant growth in marine and estuarine waters (ANZECC & ARMCANZ, 2000).

Social and economic impacts of nutrient pollution include increased costs of water treatment, public health risks, loss of amenity values (fishing, swimming, boating, aesthetics), reduced fisheries productivity and impacts on tourism.

5.2 Nutrient Status

At a local scale point sources (such as sewage treatment plants) can be significant contributors to surface water nutrient loads. However other studies have generally found a more significant contribution is made from sources such as soil erosion* and domestic animal wastes* (*NLWRA, 2003), and fertiliser applications (Chittleborough, 1983), which accumulate over large areas of the catchment. The contribution of these types of diffuse sources (ie. land use and management practices) is discussed in section 3.2. In the case of the lower Inman River a highly significant point source of nutrient pollution is currently present. In the region, intensive animal based
industries (eg. dairies) have also been identified as potentially significant sources of nutrient pollution.

While some studies have shown groundwater to be a significant contributor of nutrients (particularly nitrogen) to surface waters (Lamontagne et al., 2003), there is insufficient information available to determine if this is an issue in the study catchments. As mentioned in section 3.2, the time lags associated with groundwater movement mean that the full extent of this potential pollution source may not be realised until some time in the future when past catchment management practices will show their impact.

Victor Harbor Waste Water Treatment Plant (WWTP)

The main concerns arising out of the WWTP discharge to the lower Inman are high loadings and concentrations of nitrogen and phosphorus, high concentrations of ammonia, and chloramines (formed when chlorine is used in the disinfection process), which can be toxic to aquatic fauna.

For the purpose of assessing the impacts of the WWTP discharge, monitoring was conducted on the Inman River on a weekly basis for the period Feb 1990 – May 1991, at Swains Crossing (upstream of WWTP discharge), the Footbridge below the discharge, and at the River Mouth (Kent Reserve) (Camp Scott Furphy et al., 1992). Monitoring of the Hindmarsh River (deemed to have similar land use and expected water quality) was also used as a comparison.

Total nitrogen and total phosphorus levels upstream of the discharge were thought to be within the general range observed for pasture grazing land use. Increases in total nitrogen (TN) and total phosphorus (TP) due to the WWTP discharge are evident from the range of concentrations observed at upstream and downstream sites, on an annual basis, and during summer – the period of greatest ecological concern.

<table>
<thead>
<tr>
<th></th>
<th>Total nitrogen (mg/L)</th>
<th>Total phosphorus (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range</td>
<td>Median</td>
</tr>
<tr>
<td>Annual basis</td>
<td>Upstream</td>
<td>0.31 - 8.81</td>
</tr>
<tr>
<td></td>
<td>Downstream</td>
<td>1.66 - 41.35</td>
</tr>
<tr>
<td>Over summer</td>
<td>Upstream</td>
<td>0.71 – 1.88</td>
</tr>
<tr>
<td></td>
<td>Downstream</td>
<td>3.55 – 41.35</td>
</tr>
</tbody>
</table>

(* N/A = Not available)

On an annual basis the effluent contributes approximately 11% of the total nitrogen and 46% of the total phosphorus load to the river. The remainder is mainly derived from catchment agricultural activities. From December to January (when diluting flows from the catchment are low) the WWTP contributes 63-87% of total nitrogen load and 93-96% of total phosphorus load to the river (Camp Scott Furphy et al., 1992).
Because of the high nutrient concentrations it is not unexpected that nuisance algal blooms have occurred, including toxic cyanobacteria blooms. These blooms are most likely to occur during the summer, with combined conditions of higher temperatures, low flow conditions and abundant nutrient supply. Resulting high organic loads deplete dissolved oxygen, while discharged ammonia (in conditions of elevated pH) and chloramines (in sufficient concentration) are potentially toxic. While fish kills can occur due to natural phenomena, the water quality impairment caused by the WWTP discharge is likely to be the major contributing factor to past observed fish kills in the lower Inman River (Camp Scott Furphy et al., 1992).

The estuarine reach is regularly declared unfit for recreational use during the summer months and the unpleasant odours have been a cause of community concern for some years, affecting both locals and tourists (Burston and Good, 1995). (Disinfection enables the WWTP discharges to meet the faecal coliform standards for primary contact recreation all year round.)

SA Water is in the process of upgrading this facility to tertiary treatment via the construction of a new plant at a new site, with the storage of treated water in the disused Hindmarsh Valley Reservoir. Tenders have been called for the construction of the new $28 million plant capable of producing high quality treated water for irrigation of horticultural crops, parks and sports fields (SA Water, 2003). Treatment and diversion of the reclaimed water will result in significant reductions in nutrient loads to the lower Inman.

**Septic Tanks**

Septic tanks have been identified as a key contributor to nutrient problems in the Adelaide Hills (DWR, 2000), with poor maintenance, lack of regular pump-outs and under-sized systems largely at fault. These poorly maintained systems discharge effluent, containing nutrients and potentially harmful micro-organisms, into local streams. Similarly, throughout the non-sewered areas of the Fleurieu Peninsula, septic tanks are likely to be an important threat to water quality.

**Monitoring data**

Some data has been collected from the study area (by the Inman River Catchment Group; and Camp Scott Furphy et al., 1992). Selected parts are presented in Appendix 19, with further data contained in spreadsheet form on the data CD.

From work undertaken by Camp Scott Furphy et al. (1992), upstream of the Victor Harbor WWTP (Appendix 19, Location 9) nutrients (Total Phosphorus/ Soluble Phosphorus and Total Nitrogen/ Oxidised Nitrogen) in the Inman River show good correlation with E.coli levels. This would be expected with faecal contamination of watercourses in the upstream catchment.

At sampling locations in the upper Inman catchment, nutrients, particularly soluble phosphorus, are commonly found at levels higher than recommended guideline values (refer to data CD). There appears to be a reduction in maximum recorded phosphate concentrations towards downstream sites (prior to the WWTP), suggesting that episodically high nutrient input occurs in the upper Inman catchment which is being diluted as flows make their way downstream. However the limited extent of data makes it difficult to reach any solid conclusions. Low levels of nitrates have
been detected from the tributary catchment of Back Valley Creek, sampled near the confluence with the Inman.

Downstream of the WWTP (Appendix 19, Location 10 & 11) there is no correlation between nutrients and E.coli. This is consistent with high nutrient, disinfected input from the WWTP.

### 5.3 Nutrient Management

Determining the sources and relative contribution of nutrient types from different land uses is the key to any management strategy. Previous sections (see 3.2) have discussed the importance of land use and management practices in determining the quality of surface water runoff, in particular:

- levels of soil disturbance leading to erosion – from cultivation, over-grazing, unsuitable land use, etc.
- intensity and timing of fertiliser applications – in inorganic and organic forms (including animal wastes).

Phosphorus is largely transported in association with fine particulate matter, particularly during high rainfall / storm events. Recognition of the link between nutrients (particularly phosphorus) and turbidity is very important for effective management of nutrient loads to waterways. Because phosphorus binds to particulate matter (eg. suspended sediments) soil erosion contributes to both turbidity and nutrient pollution.

Nitrogen is more soluble and largely mobilised by leaching processes, rather than erosion processes, and will move down the profile to groundwater or laterally in texture contrast soils into waterways.

Management practices (see Table 12) should firstly aim to minimise the problem at the source, and then try to intercept and assimilate nutrients within the catchments they originate from. This will also help to ensure that nutrient exports from a catchment remain within ecologically sustainable limits (NLWRA, 2003).
Table 12. Management approaches to reduce nutrient exports (from NLWRA, 2003)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce nutrient sources</td>
<td>● Reduce soil erosion.</td>
</tr>
<tr>
<td></td>
<td>● Adoption of agricultural effluent disposal best management practices</td>
</tr>
<tr>
<td></td>
<td>(see section* on page 55).</td>
</tr>
<tr>
<td></td>
<td>● Development and adoption of fertiliser best management practices</td>
</tr>
<tr>
<td></td>
<td>(rates, timings, buffer zones).</td>
</tr>
<tr>
<td></td>
<td>● Tertiary and/or land based sewerage treatment.</td>
</tr>
<tr>
<td></td>
<td>● Septic tanks are to be correctly sized and properly installed and</td>
</tr>
<tr>
<td></td>
<td>operated. This will include high standards of maintenance and regular</td>
</tr>
<tr>
<td></td>
<td>pump outs.</td>
</tr>
<tr>
<td></td>
<td>● Restrict and buffer stock access to waterways.</td>
</tr>
<tr>
<td>Intercepting and assimilating nutrients</td>
<td>● Maintain and rehabilitate buffering riparian vegetation</td>
</tr>
<tr>
<td></td>
<td>● Maintain and rehabilitate wetland areas.</td>
</tr>
<tr>
<td></td>
<td>● Maintain, design and construct catchment scale sediment and nutrient</td>
</tr>
<tr>
<td></td>
<td>retention/ trap features including artificial wetlands and detention</td>
</tr>
<tr>
<td></td>
<td>basins within urban and agricultural landscapes.</td>
</tr>
</tbody>
</table>

Soil erosion
Measures undertaken to reduce erosion will reduce nutrient and sediment loss from land, and transport to waterways, and may include:

● Planning to protect unsuitable soils, steep slopes, and riparian buffers from inappropriate clearing and use.

● Rehabilitation of areas affected by severe sheet, gully and bank erosion by land use retirement, contouring and revegetation.

● Development and adoption of best management practices / codes of conduct by agricultural industries eg, timing (in relation to rainfall) and frequency of cultivations; adopting minimum tillage techniques, use of contouring and stubble / ground cover blanketing.

● Development and adoption of best management practices by pastoral industries eg. conservative grazing intensities and frontage and erodable slope exclusion fencing.

● Improved design and implementation of erosion control during road construction and maintenance, including buffer strips to collect sediment eroded from dirt roads.

Figure 16 shows the potential for water erosion and landslip in the study catchments, based on soil attribute mapping undertaken by Soil and Land Information, DWLBC.

Water erosion potential depends on slope and soil type (and rainfall), however the risk of an actual erosion event also depends on existing land use/ condition. In Figure 16, all land is assumed to be in a bare, clean cultivated state for the purpose of making a consistent interpretation. The inherent potential of a soil type to erode (for a given slope class) is influenced by its capacity to absorb falling rain, and the
Figure 16. Water Erosion Potential and Landslip in the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

NOTES ON THE USE OF THIS MAP:
1. This information is derived from limited field inspection, and is subject to amendment as and when more data become available.
2. Boundaries between mapping units should be treated as transition zones.
3. The map is intended to provide a regional overview and should not be used to draw conclusions about conditions at specific locations.
4. Under no circumstances must the scale of the map be enlarged beyond its scale of publication.
5. Advice from DWLBC Soil and Land Information should be sought prior to using this information for commercial decision making.
6. Under no circumstances may the data or information associated with this map or any accompanying report be altered in any way without the express permission of DWLBC Soil and Land Information.

IMPORTANT NOTICE: Although all reasonable care has been taken in preparing this information, neither DWLBC nor its officers accept any liability resulting from the interpretation or use of the information displayed on the map or presented in any accompanying document. Information on the map or any accompanying document is subject to change without notice.

LAND ASSESSMENT: Soil and Land Information, Department of Water, Land and Biodiversity Conservation

Water Erosion Potential - classes are based on an interpretation of the slope and erodibility of soil landscape units. Map units are classified according to the dominant water erosion potential class occurring in the unit. No account is taken of land cover or land use - i.e. the assessment is made on the inherent characteristics of the land.

Landslip - classes are based on an interpretation of soil landscape map units. Each map unit is classified according to the proportion of land affected by or susceptible to landslip (mass movement).
resistance to raindrop impact and to being dragged along (entrained) by overland flow. Soil infiltration rates, permeability and the stability of the soil surface are key properties. Soil surface stability is largely determined by its texture and organic matter content (DWLBC SALI, 2002).

Mass movement (landslide) occurs on sloping ground where large slabs of soil slide or flow downhill. This is thought to be caused by the loss of binding in the soil mass following clearing of woody vegetation, and triggered by excessive wetness in the soil producing simultaneously loss of strength and increased mass. Soils particularly prone to this phenomenon include those on unconsolidated and slowly permeable substrate materials, such as the clays and sand to sandy loam over clays of the old glacial valleys of the Fleurieu Peninsula (DWLBC SALI, 2002).

*Agricultural effluent management
Activities undertaken by a variety of industries are covered by best management practice codes. These codes may include guidelines for dealing with effluent derived from production activities.

Of relevance to the study area, such a code of practice pertains to dairy operations and is outlined in the Code of Practice for Milking Shed Effluent (EPA, 2003b) which updates the Environment Protection (Milking Shed Effluent Management) Policy 1997 (EPA, 1997). This policy document summarises requirements for dairies to:

- prevent their effluent from entering adjacent waterways, or land where risk of runoff to waterways is high, or contaminating groundwater resources;
- construct suitably designed containment and treatment facilities (eg. protecting against inundation and damage from storms and floods);
- observe buffer distances between such features and adjacent land, houses and waterways; and
- implement sustainable effluent disposal practices (eg. spreading on land in accordance with approved procedures).

This policy contains valuable guidelines on protecting waterways and other landholders from the potential pollution associated with dairy operations, however to date it has had little impact on existing dairies throughout most of the Southern Fleurieu (pers. comm. Graham Webster, Victor Harbor Council, Mar 2003). Notwithstanding this, both new and existing dairies are required to incorporate effluent management systems that meet the minimum design requirements as outlined in EPA (2003b). The EPA is responsible for enforcing this policy requirement and complaints are investigated on a priority basis, with the resources available (pers. comm. Phil Hazell, EPA, July 2003). Areas containing sensitive resources (ie. catchments for water supply reservoirs) are given a higher priority, however more stringent enforcement of the guidelines, in other areas, is likely with the Environment

5 Selected industry codes of practice (particularly relating to the protection of water resources) can be downloaded from the EPA website at: http://www.environment.sa.gov.au/epa/water_protect.html
Also, Section 2.14 in the ‘Explanatory Report’ of EPA (2003a) lists industries that are required to effectively manage their wastewater.

Legal requirements aside, the land application of dairy shed wastes on areas growing crop or pasture is considered the most effective and beneficial means of utilising the nutrients contained in these by-products (Clark, 2003), and an approved effluent management system will be the safest way to capture, store and treat this resource for later reuse.

Effluent disposal, for many agricultural activities (not just dairies), will often take the form of spreading over the land to make productive use of nutrients in the waste. Clark (2003), through a cross-agency project involving PIRSA, EPA and DWLBC (with NHT funding), has compiled a manual (in CD format) promoting best management practices for the spreading of nutrient rich wastes on agricultural land. The manual deals with a range of industries such as dairies, feedlots, wineries, piggeries, broiler sheds, olive processing and fruit and vegetable processing. Information is presented on the composition of various waste types, typical amounts produced, buffer distances relevant to spreading areas, health issues and legislation. It incorporates an Excel spreadsheet model for calculating sustainable loading rates of effluents and manures. Model calculations are based on site data (eg. soils, climate and land use), effluent type, and on the rates at which critical constituents within the wastes are removed from the system (eg. by plant uptake and harvest).

Also of interest to the study area, the author of the abovementioned manual (Trevor Clark, Senior Cattle Consultant with Rural Solutions SA), has also been involved in the compilation of a best practice management plan covering a wide range of environmental impacts for dairy farms in the Barossa Valley (BDDG, 2002). Adoption of best practices reduces harm to the environment while minimising costs to producers associated with wasted inputs. The issues covered in this plan would be applicable in other areas of the state and include:

- Fertiliser (N & P) applications - forms, timings, rates, and buffer zones;
- Management of intensive feeding areas – nutrient buildup & stormwater runoff;
- Management of dairy shed wastes;
- Property management by land capability – optimising productive potential and sustainability, while avoiding land degradation and nutrient losses to waterways;
- Management of watercourses; and
- Management of pasture irrigation – scheduling, optimising nutrient & waste recycling, and minimising buildup of salinity.

As discussed in BDDG (2002), irrigated pastures are capable of recycling more nutrients than dryland pastures and are an important way to maximise the utilisation of dairy shed wastes. Also the control of wastes associated with supplementary feeding is better where the conserved fodder is fed to the cows on irrigated pastures rather than dryland pastures. Aside from the more rapid recycling of nutrients on the irrigated pastures, because of the better ground cover, there is less risk of rainfall carrying wastes and nutrients into waterways than there would be with supplementary feeding in dryland paddocks.

While irrigated pastures can better utilise the nutrients in wastes to produce large amounts of quality feed throughout the year, capable of supporting high stocking rates, there is potential for negative impacts such as increased risk of salinisation (as discussed in section 4.1 – Irrigation induced salinity ).
5.4 Watercourse Management

Appropriate management of watercourses is an important aspect of the management of stream water quality. Best practice management guidelines have recently been updated (URTLCG, 2003).

Activities such as fencing off watercourses, providing a buffer zone from agricultural activities, protecting and enhancing riparian vegetation, restricting stock access and erosion control will contribute to improving stream water quality and aquatic ecosystem health.

Such measures would also assist efforts to protect threatened biodiversity in the region, such as the critically endangered Southern Pygmy Perch (Hammer, 2002; also see Appendix 5).

Adaptive management methods may be required to address some management issues that arise following fencing of watercourses (eg. weed and feral pest control perhaps through the use of strategic grazing, alternative stock watering arrangements, etc.)
6 ACIDITY (PH)

6.1 Acidity Issues

pH is a measure of the acidity or alkalinity of water and has a scale from 0 (extremely acidic) to 14 (extremely alkaline), with a neutral pH of 7. Most fresh natural waters have a pH in the range 6.5 – 8.0, while the pH of most marine waters is close to 8.2. Most waters have some capacity to resist changes in pH, which is generally provided by the carbonate–bicarbonate buffer system. This buffering capacity is particularly strong in marine waters (ANZECC & ARMCANZ, 2000).

Adverse effects to stream organisms are noticed particularly at low pH when:
- several pollutants (eg. ammonia, cyanide & aluminium) become increasingly toxic to aquatic organisms, and
- fish and aquatic insects suffer diminished reproductive success, thereby impacting on aquatic food chains.

Recommended guidelines for the pH of waters for a variety of uses are contained in Appendix 9.

Of the factors that can cause acidification of natural waters, the most important for our study area comprise (ANZECC & ARMCANZ, 2000):
- geology – which influences the chemistry of base flow;
- soil acidification due to agricultural practices - which may lead to lower pH levels in streams.
- drainage from acid sulfate soils – which occur when soils containing iron sulfides are exposed to air, oxidation of the sediment produces acid and subsequent rainfall leaches this into waterways (also see Fitzpatrick, 1999).

Soil acidity can vary with management practices, soil type and climate. Soils with low clay/ low organic matter content are more susceptible to acidification than other soils, and are described as having low buffering capacity (ie. low capacity to resist acidification). Some soils, particularly those with low clay and/or low organic matter contents, in high rainfall areas, are naturally acidic. Induced acidification is a more widespread problem, and is caused by accelerated accumulation of hydrogen (H+) ions under certain land management practices.

Acidification of agricultural soils is caused by (DWLBC Soil and Land Information, 2002 – CD containing report: ‘Assessing agricultural land’):
- accumulation of organic matter, producing organic acids.
- addition of nitrogen to the soil by fertilisers or fixation of atmospheric nitrogen by legumes. Nitrate nitrogen in excess of plant requirements combines with base elements such as calcium and magnesium and is readily leached. Hydrogen ions replace the bases on the cation exchange complex, increasing acidity.
- inappropriate fertiliser use - fertilisers with ammonium or elemental sulphur can react to directly acidify the soil, and all fertilisers can indirectly contribute to soil acidification because they increase productivity and hence the amount of product removed.
- Removal of alkaline farm products such as legume hay.
Hence, acidity problems should be expected in high nitrogen fertiliser input, high production systems, with high levels of product removal (eg. hay production, dairying).

Acid soils will lead to acidification of waterways only where runoff flowing from the surface soil horizons contains elevated concentrations of hydrogen (H\(^+\)) ions or aluminium (ANZECC & ARMCANZ, 2000). In the latter situation, if receiving waters are rich in organic matter (eg. humic acid), inorganic aluminium will form complexes that release H\(^+\) ions. Where H\(^+\) ions leach into waterways, the rate of soil acidification is slowed, at the expense of stream ecosystems.

6.2 Acidity Status

Figure 17 is a map of ‘Susceptibility to acidity’, highlighting areas where soil acidity is, or could become, a significant problem. This figure shows large areas of agricultural land in the study area with potential for acidity problems, which may in turn impact on waterways. All land that is inherently susceptible to acidity, regardless of current land use or management, is classified accordingly (DWLBC SALI, 2002). Table 13 shows areas of land in the study catchments with higher levels of susceptibility to acidity.

Table 13. Areas of land (in ha) susceptible to acidity

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Catchment area</th>
<th>Surface acidity only, Low surface buffering</th>
<th>Surface &amp; subsoil acidity, Moderate to high surface buffering</th>
<th>Surface &amp; subsoil acidity, Low surface buffering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19526</td>
<td>99</td>
<td>4776</td>
<td>10,761</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>1398</td>
<td>1360</td>
<td>0</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4077</td>
<td>0</td>
<td>2517</td>
<td>0</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1909</td>
<td>331</td>
<td>0</td>
<td>863</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>608</td>
<td>0</td>
<td>69</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>32234</td>
<td>1828</td>
<td>8722</td>
<td>11,624</td>
</tr>
</tbody>
</table>

Inspection of limited water quality testing results throughout the study area (see data CD), indicates stream pH values are within the acceptable range (6.5 – 9) for aquatic ecosystems (ANZECC & ARMCANZ, 2000 – see Appendix 9).
Figure 17. Susceptibility to Acidity of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

Classes are based on an interpretation of soil landscape map units. Acidity varies within soil classes (depending on management practice and climate), and within mapping units (which often include a complex of soils). Rankings are made according to pH measurements and extrapolation between similar environments. All land which is inherently susceptible to acidity is classified accordingly, regardless of land use or management. The susceptibility to acidity of each component of a mapping unit is assessed. The units are then classified according to the acidity of the most ‘at risk’ component, provided that it accounts for more than 30% of the area of the map unit. Limited occurrences of susceptible soils (which account for 10-30% of the area of a map unit) are indicated as an additional class.

Classes take account of both surface and subsoil (ie deeper than 30 cm) acidity, and the buffering capacity of the surface soil (buffering capacity is an indication of the soil’s capacity to resist acidification).

NOTES ON THE USE OF THIS MAP:
1. This information is derived from limited field inspection, and is subject to amendment as and when more data become available.
2. Boundaries between mapping units should be treated as transition zones.
3. The map is intended to provide a regional overview and should not be used to draw conclusions about conditions at specific locations.
4. Under no circumstances must the scale of the map be enlarged beyond its scale of publication.
5. Advice from DWLBC Soil and Land Information should be sought prior to using this information for commercial decision making.
6. Under no circumstances may the data or information associated with this map or any accompanying report be altered in any way without the express permission of DWLBC Soil and Land Information.

IMPORTANT NOTICE: Although all reasonable care has been taken in preparing this information, neither DWLBC nor its officers accept any liability resulting from the interpretation or use of the information displayed on this map or presented in any accompanying document. Information on the map or any accompanying document is subject to change without notice.
6.3 Acidity Management

Most agricultural plants prefer soils with approximately neutral pH levels. The application of lime is the most widely adopted method of remediation. Application rates will depend on current pH, target pH, clay content and intended land use. Typical application rates range from 2 – 3 tonnes/ha. A soil test is recommended to determine the current pH and most appropriate liming material.

Land affected by acid soils are also a major contributor to salinity, with poorer performing pastures using less water and contributing greater recharge to groundwater. This provides another motivation for the issue of acidity to be addressed.
7 OTHER SOIL ISSUES

As previously discussed, limitations to productivity also limit water use, and the resulting increased recharge to groundwater can have salinity implications.

Another soil attribute, with potential to impact on production activities in the study catchments is water repellence. Water repellence is caused by hydrophobic organic materials (mainly waxes) contained in plant remains in the soil. Wax coated soil particles cause water to bead on the surface and result in uneven wetting of the upper soil profile, patchy and poor plant growth. In Figure 18, classes indicate both the severity of potential repellence and the approximate percentage of the landscape that is susceptible (DWLBC SALI, 2002).

Management techniques include clay spreading and delving (mixing in-situ subsurface clays) into the surface soil. Land managers should test the suitability of potential clay sources for this purpose (for the presence of adverse clay properties) and seek advice prior to undertaking these types of activities.
Figure 18. Susceptibility to Water Repellence of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

Classes are based on an interpretation of soil landscape map units. Each map unit is classified according to the proportion of its are susceptible to water repellence. Where more than 10% of land is affected, there is a further subdivision according to the degree of repellence.

NOTES ON THE USE OF THIS MAP:
1. This information is derived from limited field inspection, and is subject to amendment as and when more data become available.
2. Boundaries between mapping units should be treated as transition zones.
3. The map is intended to provide a regional overview and should not be used to draw conclusions about conditions at specific locations.
4. Under no circumstances must the scale of the map be enlarged beyond its scale of publication.
5. Advice from DWLBC Soil and Land Information should be sought prior to using this information for commercial decision-making.
6. Under no circumstances may the data or information associated with this map or any accompanying report be altered in any way without the express permission of DWLBC Soil and Land Information.

IMPORTANT NOTICE: Although all reasonable care has been taken in preparing this information, neither DWLBC nor its officers accept any liability resulting from the interpretation or use of the information displayed on this map or presented in any accompanying document. Information on the map or any accompanying document is subject to change without notice.
8 PATHOGENS AND POLLUTANTS

There are a wide range of potential water-borne microbial pathogens that may affect human and animal health. These are often associated with faecal contamination. It is often not feasible to test waters for all these organisms, however a useful indicator species is *Escherichia coli*, also represented by thermotolerant coliforms or faecal coliforms. The presence and concentration of *E. coli* gives an indication of the extent of faecal contamination and thus the possible presence of other microbial pathogens. Appendix 9 and 13 outline recommended maximum faecal coliform concentrations for various uses.

Sources of faecal contamination include:
- Poorly maintained septic tanks,
- Ineffective effluent management systems associated with dairy sheds or feed lots.
- Livestock, particularly with unrestricted access to waterways,
- Domestic animals and native fauna,
- Direct pumping or discharge of effluent to stormwater drains and waterways,
- Stormwater runoff in urban areas.

Limited data collected on *E. coli* (by the Inman River Catchment Group and Camp Scott Furphy et al., 1992) is presented in Appendix 19 and also contained on the data CD. Graphs of *E. coli* concentrations in the lower Inman show high variability (peaks and troughs). This most likely reflects the episodic nature of pollutant input (eg. associated with high rainfall events), while sampling frequency influences the patterns recorded.

From work undertaken by Camp Scott Furphy et al. (1992), upstream of the Victor Harbor WWTP (Appendix 19, Location 9) nutrients (TP/ Sol P and TN/ Oxidised N) in the Inman River show good correlation with E.coli levels. This would be expected with faecal contamination of watercourses in the upstream catchment.

Downstream of the WWTP (Location 10 & 11) there is no correlation between nutrients and E.coli. This is consistent with high nutrient, disinfected input from the WWTP.

From the limited data available, there is an alarmingly high exceedance rate of the primary and secondary contact guidelines for *E. coli*, at sites from upstream of the WWTP to the mouth.

Management of this issue will take the form of measures already discussed to eliminate faecal contamination of waterways (eg. precautions with effluent (fertiliser) spreading, restricting and buffering stock access to waterways, maintenance of septic tanks, etc.).

Other pollutants
Runoff from roads can be a significant source of pollutants such as hydrocarbons and heavy metals.

On-property disposal of refuse has the potential to result in pollution of watercourses and groundwater.
9 CONCLUSIONS AND RECOMMENDATIONS

Conclusions
The catchments of the Inman River, Waitpinga and Coolawang Creeks, Newland Cliffs and Parsons Beach are typical of the many agriculture based catchments in the Southern Fleurieu Peninsula. From a combined area of 32,230 ha, around 82% of the land is involved with agricultural production, with the balance largely comprising protected (conservation) areas, residential land use and forestry. Native vegetation covers around 17% of the study area.

This report compiles and summarises information and data from various sources. It focuses on salinity and water quality issues, and suggests management options to address them.

Future development and increasing populations in the area are likely to be accompanied by increasing recreational demands and more intensive agriculture. This will place rising demands on water resources and increase the threat of pollution sources impacting on water quality. Among the impacts to the environment will be greater threats to remnant vegetation and biodiversity. The information contained in this report will assist with an integrated approach to natural resource management that will hopefully enable the whole-of-catchment planning required for sustainable catchment management and development.

Salinity and Water Resources
Highly salinised land occupies less than 1% of the landscape, however some catchments (eg. Waitpinga) have significantly larger areas affected by moderate levels of salinity.

Surface water salinity is a significant issue in some catchments (eg. Inman River, Halls Ck, Waitpinga Ck) and generally varies in seasonal cycles. The highest salinities occur during reduced summer flows, due to the dominance of higher salinity baseflows.

Extraction of water directly from watercourses (reducing dilution flows), and on-stream dams (intercepting dilution flows and concentrating saline baseflows) are thought to contribute to elevated surface water salinities. Elsewhere, dam siting issues can significantly impact on the salinity of harvested water.

Underground water is of variable quality and yield. Low yields or elevated salinities generally limit usage, however there is potential for further use of this resource where locally suitable groundwater, and land suitable for the intended use, can be found.

Priority areas for the management of salinity have been identified and management options/strategies are suggested for a range of different scenarios.

Estimates of water balance components (rainfall, evapotranspiration, runoff and recharge) were calculated for each of the catchments using approximate GIS based techniques (see Appendix 6). They show reasonable agreement with existing previously calculated values determined for the Inman River catchment.

The impact of farm dams and direct extraction from watercourses, on overall catchment streamflows, requires further investigation. Previous estimates of farm
dam volumes (determined using aerial photography) are approximately 10-20% of calculated estimates for annual streamflows. This indicates there may be potential for further development, under the policy of dam volume limits equivalent to 50% median annual runoff and assuming dams fill once per year. However better information on actual surface water harvesting and extraction regimes is required before an accurate assessment can be made.

The need to establish environmental flow requirements is also recognised and it is likely that water use/ dam volume limits will be reviewed when better information becomes available (see section 3.1). Ideally, decisions regarding further dam development should be based on better knowledge of current diversions and environmental flow requirements.

Dam developments, and other 'new or intensified activities', occurring in sub-catchments containing protected swamps, require approval in accordance with requirements of the Federal EPBC Act (see section 2.3.4).

Acidity
Acidity is a significant issue in the study catchments. Over one third of the landscape has surface and subsoils susceptible to acidity combined with surface soils of a low capacity to resist acidification. Much of the remaining landscape is susceptible to acidity, to a lesser degree. Acidification of soils will eventually reduce productivity and economic returns. In addition, poor crop performance lowers water use, giving rise to potential salinity impacts. Acid soils also have the potential to cause environmental harm through acidic runoff (and associated pollutants) however there is no evidence of this occurring in the study area.

Areas identified with high susceptibility should adopt least acidifying agricultural practices, and ameliorate acid soils with the application of lime.

Nutrients and Pathogens
The Victor Harbor Waste Water Treatment Plant is a significant source of the plant nutrients, nitrogen and phosphorus, to the lower Inman River. It is planned to discontinue this discharge to the lower Inman, recycle the water and make it available for irrigation. There may be a requirement to monitor and manage salinity issues where recycled water is imported into an irrigation area.

Agricultural effluent from intensive industries (eg. dairies, feedlots, piggeries, wineries, etc.) has potential to cause localised pollution of streams. Appropriate effluent management practices and the relevant literature (policies and management codes) are discussed.

Poorly maintained septic tanks are often an important point source of pollution, supplying pathogens and nutrients to watercourses.

Erosion (including stream bank erosion) provides both sediment and nutrients to catchment waterways. Management measures include fencing for protection of riparian areas and stock control, and revegetation to improve bank stability. In broad-acre situations, erosion control measures include appropriate tillage practices, contour banks, and grazing management.
Adopting best management practices for fertiliser applications (timing and rates), buffering of watercourses and management of stock access will also reduce nutrient pollution of waterways.

**The role of native vegetation**

Threats to native vegetation include fragmentation (due to agricultural activities, urban expansion and subdivision) and the growing presence of woody weeds and feral pests.

Protection and enhancement of existing vegetation (including riparian zones), revegetation of cleared land and weed and feral animal threat abatement will have multiple benefits for salinity, water quality and biodiversity.

Vegetation mapping has been undertaken, to provide an indication of pre-European vegetation across the study area. Species lists and guidelines are presented to assist with revegetation activities.

**Implementation of integrated natural resource management**

Success will require partnerships between the community, land managers, Local Government, and State and Federal Governments. An important and valuable step will be the development of the capacity for the community to manage at the local level. Also important is the property based planning that identifies NRM issues at the property level, assigns priorities, chooses appropriate management options and allocates resources (funds, time and knowledge) to address the issues.

Stakeholders should be mindful of the different time scales over which NRM issues can operate and try to achieve balanced, positive outcomes. For example, recharge reduction through planting perennials (revegetation, farm forestry, etc.) in saltier sub-catchments may have short-term negative impacts on stream flows (and salinity), but is more likely to produce improved water quality in the longer term through reduced groundwater discharge (baseflow) to streams.

This study has highlighted the issues that need to be considered by existing land users and those who will come in the future. Sustainable development will only be achieved when the impacts on our natural environment are minimised and economic outputs contribute to sustaining local communities and the land on which they depend.
Recommendations

The following recommendations are made with specific reference to the catchments included in this study (not necessarily in order of priority).

ASSESSMENT OF WATER RESOURCES AND ENVIRONMENTAL FLOWS

Recommendation 1: Water resources
That study of water resources be undertaken, to develop greater understanding of:

- water use by property owners, especially rates of extraction directly from watercourses, and
- environmental flow requirements.

Findings should be incorporated into a Water Plan for the Southern Fleurieu.

Recommendation 2: Monitoring
Programs continue or be expanded to adequately monitor stream salinity. Locations of sampling points need to be strategically placed to enable ease of sampling and to capture information relevant to the various sub-catchments. At selected locations other water quality parameters (including flow) should also be measured. At selected sites the adequacy of environmental flows should be monitored, once requirements have been established.

It is also suggested that a comprehensive survey/audit be conducted to determine the salinity of farm dams. Ideally this would be undertaken in spring and autumn to obtain information on seasonal variability.

These measures require funding and capacity building for ongoing work.

IMPROVEMENT OF LAND MANAGEMENT

Recommendation 3: Building landowner understanding of NRM issues
Programs that develop and build landowner understanding of NRM issues and appropriate management options be continued and expanded.

Recommendation 4: Property scale planning
Landholders be encouraged to develop basic property plans that enable them to clearly target the key NRM issues on their property and identify actions to manage and address them. Appropriate technical assistance needs to be available to support this process. Property scale planning is an important preliminary step before undertaking on-ground works. (This process has worked successfully in the Barossa Sustainable Farming Project, NABCWMB & Upper Torrens Land Management Program.)
Recommendation 5: Rubbish disposal
Landholder awareness/education programs be implemented to discourage (and clean up) on property disposal of refuse.

ON-GROUND WORKS

Recommendation 6: Actions to address NRM issues
Programs be established to assist landholders to address identified NRM issues on their property. Activities should be based on appropriate planning at the property scale, and are likely to include:

- Salinity control measures in priority areas (see Tables 9, 10 & Figure 15).
- Soil acidity mitigation measures in priority areas (see Figure 17 & section 6.3).
- Erosion potential reduction in priority areas (see Figure 16).
- Addressing the decline and fragmentation of native vegetation (see section 3.3).
- Revegetation for economic and environmental outcomes (see section 3.3 & Appendix 14).
- Addressing declining water quality, including potential nutrient and other pollution sources (see Table 12 & sections 5.3, 8). This includes fencing off watercourses to buffer and control stock access.
- Addressing water repellent soils in priority areas (see Figure 18).

Incentives via a devolved grants process is a suitable means to assist landholders to implement appropriate on-ground works on their property.

WATER RESOURCE MANAGEMENT

Recommendation 7: Management of effluent
A program be implemented to advise and assist operators of intensive agricultural industries to meet the recommended EPA guidelines regarding effluent management and disposal (see section 5.3). This includes dairies, feedlots, piggeries, poultry and any other enterprise where polluting wastewaters are produced or animals are held in sheds or in paddocks that become bare or have low levels of ground cover.

Recommendation 8: Dams
Low-flow bypass structures be installed on dams that are on-stream and collect baseflows during summer.

Future dams be sited with regard to issues of salinisation associated with interception of saline groundwater flows (see section 4.3, page 48).

Recommendation 9: Septic tanks
An education program be conducted to inform all property owners about their responsibilities regarding appropriate siting, establishment, maintenance and management of septic tanks. This may include an audit on septic tanks, particularly
where they are located adjacent to watercourses. Information on location, maintenance and frequency of pump-outs could be collected.

**Recommendation 10: Farm forestry and water balance**
Impacts of farm forestry on catchment water balance (and salinity) be investigated. Studies undertaken should include comparisons with sub-catchments under remnant native vegetation cover. Findings should be incorporated into a Water Plan for the Southern Fleurieu

**Biodiversity Protection**

**Recommendation 11: Swamps**
Management of swamps follow accepted protocols in accordance with their protection under the Federal Environment Protection and Biodiversity Conservation Act (see section 2.3.4).

Investigate the opportunities for establishing or enhancing swamps for biodiversity, education and/or ecotourism.

**Recommendation 12: Farm forestry and biodiversity**
The value of farm forestry in complementing biodiversity conservation be investigated.

**Recommendation 13: Southern Pygmy Perch**
A specific program to secure and conserve the critically endangered Southern Pygmy Perch be undertaken, in the tributary of the Inman River where it has been found (see Appendix 5). [Also see Recommendations 1 and 2.]

**Additional Recommendations Applicable to the Greater Mount Lofty Ranges Region (and Other Parts of South Australia)**

**Recommendation 14: Long-term riparian management**
Research / adaptive management methods be undertaken to develop improved management options and practices for riparian areas once stock are excluded. Issues include weeds, haven for feral animals, fence maintenance, access, impact on farm operations and water supply regimes, impact on workloads, role of strategic grazing, etc.

**Recommendation 15: Impacts of salinity management**
Research be performed into the impact of implementing high water use options across the catchments for management of salinity and the impact of this on stream flow patterns and subsequent implications for stream health and quantities of water available for irrigation, etc.
10 REFERENCES


Bulman, P. (1991) Fact sheet – Species selection: the right plant in the right spot for the right reason, Department of Primary Industries and Resources SA, Number 31191, Revised 2000


Clark, R.D.S (1988) The export of nitrogen, phosphorus and turbidity from catchments with various land uses in the Mt Lofty Ranges of South Australia, EWS Lib Ref 87/17


Dalton, G. (1998) Creating revegetation – Enhancing biodiversity by design, Department of Primary Industries and Resources SA


Also see the Australian Government DEH website: www.deh.gov.au/biodiversity/threatened/communities/fleurieu-swamps.html

DWLBC Soil and Land Information (2002) *Spatial Data – Soil Landscapes of South Australian Agricultural Areas in GIS Format* (CD)


Forestry SA (1997) *Environmental management guidelines for plantation forestry in SA*, Forestry SA in conjunction with The South Australian Forest Industry


Martin, B. (1999a) Fact sheet – Natural regeneration of native vegetation, Department of Primary Industries and Resources SA, Agdex 301/13

Martin, B. (1999b) Fact sheet – Collecting native plant seed, Department of Primary Industries and Resources SA, Agdex 301/42


Murphy, R. and Martin, B.M. (1999a) Fact sheet – Seed pre-treatments for native understorey species, Department of Primary Industries and Resources SA, Agdex 301/21

Murphy, R. and Martin, B.M. (1999b) Fact sheet – Seed collection for native understorey species, Department of Primary Industries and Resources SA, Agdex 301/21


PIRSA (1998a) Fact sheet – Hand direct seeding of native plants, Department of Primary Industries and Resources SA, Agdex 301/21
PIRSA (1998b) *Fact sheet – Growing local plants*, Department of Primary Industries and Resources SA, Agdex 301/30

PIRSA Land Information (2001) *Central Districts Land Resource Information* (CD)

QLD DNR (1996) *Tree facts: Animal repellents* (fact sheet T05), Community Education and Extension Support, Queensland Department of Natural Resources


APPENDIX 1. THE ROLES AND RESPONSIBILITIES OF GOVERNMENT AGENCIES AND OTHER STAKEHOLDERS IN WATER MANAGEMENT (ADAPTED FROM EPA, 2000)

<table>
<thead>
<tr>
<th>Lead Agency</th>
<th>Monitoring and Evaluation</th>
<th>Environmental Control</th>
<th>Water Resource Planning &amp; Control</th>
<th>Bulk Water Management</th>
<th>Development Control &amp; Planning</th>
<th>Education</th>
<th>Restoration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEH (EPA)</td>
<td>DEH (EPA)</td>
<td>Catchment water management boards</td>
<td>SA Water Planning SA</td>
<td>Catchment water management boards</td>
<td>DEH (EPA)</td>
<td>Landowner partnership programmes</td>
<td></td>
</tr>
<tr>
<td>Catchment water management boards</td>
<td>SAHC</td>
<td>DWR (now DWLBC)</td>
<td>Local government</td>
<td>DEH (EPA)</td>
<td>PIRSA</td>
<td>SA Water</td>
<td></td>
</tr>
<tr>
<td>SA Water</td>
<td>Local government</td>
<td>DWR (now DWLBC)</td>
<td>Catchment water management boards</td>
<td>DEH (EPA)</td>
<td>Soil boards</td>
<td>PIRSA</td>
<td></td>
</tr>
<tr>
<td>PIRSA</td>
<td>Soil boards</td>
<td>DWR (now DWLBC)</td>
<td>Catchment water management boards</td>
<td>DEH (EPA)</td>
<td>Mt Lofty Ranges Catchment Program</td>
<td>Local government</td>
<td></td>
</tr>
<tr>
<td>Human Services</td>
<td>DWR (now DWLBC)</td>
<td>DEH (EPA)</td>
<td>Soil boards</td>
<td>DEH (EPA)</td>
<td>Mt Lofty Ranges Catchment Program</td>
<td>Soil boards</td>
<td></td>
</tr>
<tr>
<td>DWR (now DWLBC)</td>
<td>SAHC</td>
<td>DWR (now DWLBC)</td>
<td>DEH (EPA)</td>
<td>Local government</td>
<td>Landowner partnership programmes</td>
<td>SA Water</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Meet water quality objectives</th>
<th>Monitor point source pollution</th>
<th>Monitor streams &amp; reservoirs</th>
<th>Catchment audits</th>
<th>Risk evaluation</th>
<th>Monitor licensed activities</th>
<th>Raise community awareness</th>
<th>Monitor water quantity and flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Protection Act licences</td>
<td>Environment protection policies</td>
<td>Septic tank regulation</td>
<td>Environment protection orders</td>
<td>Development of catchment water management plans</td>
<td>Water transfers</td>
<td>Reservoir management</td>
<td>Water treatment</td>
<td>Mt Lofty Ranges Strategy Plan</td>
</tr>
<tr>
<td>Water Resources Act licences</td>
<td>Water treatment</td>
<td>Water supply</td>
<td>Development applications</td>
<td>Subdivision control</td>
<td>Stormwater control</td>
<td>Codes of Practice</td>
<td>Newsletters</td>
<td>Farm extension</td>
</tr>
<tr>
<td>Development of catchment water management plans</td>
<td>Water treatment</td>
<td>Water supply</td>
<td>Development applications</td>
<td>Subdivision control</td>
<td>Stormwater control</td>
<td>Codes of Practice</td>
<td>Newsletters</td>
<td>Farm extension</td>
</tr>
<tr>
<td>Riparian restoration</td>
<td>Retention of wetlands</td>
<td>Wastewater upgrades</td>
<td>Trash racks</td>
<td>Erosion control</td>
<td>Revegetation</td>
<td>Catchment management plans</td>
<td>Riparian restoration</td>
<td>Retention of wetlands</td>
</tr>
</tbody>
</table>
APPENDIX 2. VEGETATION MAPPING – METHODOLOGY & SPECIES LISTS

I Vegetation mapping and GIS analysis of revegetation zones

Following is a description of the methodology used to analyse floristic mapping, group vegetation types, refine vegetation groups and deduct revegetation zones for the Inman River and associated study catchments.

Thanks to Jo Spencer for assistance with working through this process and access to the DEH vegetation data required (data sourced from DEH Biological Survey Database).

Step 1- GIS Analysis of Floristic Mapping
- Southern Mount Lofty Floristic vegetation mapping data set used to extract 20 vegetation types based on dominant overstorey species.
- Identify structural form description and ecosystem characteristics, such as:
  - Forest;
  - Woodland;
  - Shrubland;
  - Coastal Shrubland;
  - and Coastal Mallee.

Step 2- Group Vegetation Types
- Systematically analyse ecosystem characteristics for vegetation type.
- Broad vegetation group decisions made based on dominant vegetation types and structural information. This simplifies vegetation types into 7 broad categories (vegetation groups).

Step 3- Refine Vegetation Groups
- Display geographical locations of vegetation types to consider a landscape approach. Observed some general patterns when correlated with:
  - Landform;
  - Geology;
  - and Soil Types.
- For example- Acacia paradoxa ± A. pycnantha was identified as sharing ecosystem characteristics with the Coastal Shrublands group and combined together. Resulting in 6 clearly defined key groups.

Descriptions of vegetation groups are included in the main text – Section 2.3.3.

Step 4- Create Vegetation Group Map
- Using GIS and visual analysis, extrapolate remnant vegetation groups across the study area based on correlation with Dominant Soil Types.
- Other factors of consideration included correlation with drainage lines and location in the landscape.
Step 5- Species Lists for Vegetation Groups

- Using GIS, display all known flora records within each vegetation group. This included information from biological survey, reserves and opportune databases.
- Information extracted includes:
  - Species;
  - Common names;
  - and Conservation Status.
- Develop revegetation species lists from all known flora lists based on:
  - ease of propagation and establishment of species;
  - availability of seed and cutting stock;
  - First or second stage revegetation.

II Vegetation Group Species Lists

The following pages list species found in each of the vegetation groups. This data has been compiled from previous vegetation surveys conducted throughout the region by the Department for Environment and Heritage. (The subset of these species that are most suitable for revegetation are listed in Appendix 14.)

Zones occupied by the different vegetation groups are shown in Figure 6 (Section 2.3.3) and comprise:
- Mixed Stringybark Forest
- Coastal Shrublands
- Perched Swamps
- Pink Gum Woodlands
- Blue Gum Woodlands
- Red Gum Woodlands

Conservation status codes used in the species lists are explained in a table that follows the species lists.
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>SPECIES ACT</th>
<th>NPW ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia myrtifolia (NC)</td>
<td>Myrtle Wattle</td>
<td>Bitter Leaf Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia paraadoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td>Silver Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var.</td>
<td>Swamp Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia spinescens</td>
<td>Spiny Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia verticillata</td>
<td>Prickly Moses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia echinata var.</td>
<td>Sheep’s Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia novae-zelandiae</td>
<td>Biddy-biddy</td>
<td>Bidgee-widgee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acaena echinata</td>
<td>Sheep’s Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acaena sp.</td>
<td>Sheep’s Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acianthus pusillus</td>
<td>Mosquito Orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche affinis</td>
<td>Ridged Ground-berry</td>
<td>Prickly Honeypots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche serrulata</td>
<td>Cushion Ground-berry</td>
<td>Honeypots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenantheros terminalis</td>
<td>Yellow Gland-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adiantum aethiopicum</td>
<td>Common Maiden-hair</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis aemula</td>
<td>Blown-grass</td>
<td>Annual Blown-grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis avenacea var. avenacea</td>
<td>Common Blown-grass</td>
<td>Fairy Grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina mackliniana ssp. mackliniana</td>
<td>Macklin’s Oak-bush</td>
<td>Coarse Oak-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp. muelleriana</td>
<td>Common Oak-bush</td>
<td>Slaty Oak-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina paludosa</td>
<td>Swamp Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina pusilla</td>
<td>Dwarf Oak-bush</td>
<td>Heath Oak-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Stalked Oak-bush</td>
<td>Tall Oak-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Scheoak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternanthera denticulata</td>
<td>Lesser Joyweed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema miquelii</td>
<td>Rosy Baeckeaa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia marginata</td>
<td>Silver Banksia</td>
<td>Honeysuckle</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia ornata</td>
<td>Desert Banksia</td>
<td>Sand-heath Banksia</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachyloma ericoides</td>
<td>Brush Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bracteantha bracteata</td>
<td>Golden Everlasting</td>
<td>Tjulpun-tjulpunpa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunonia australis</td>
<td>Blue Pincushion</td>
<td>Tjulpun-tjulpunpa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachyloma ericoides spp.</td>
<td>Brush Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td>South Australian Christmas Bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesia calliantha</td>
<td>Blue Grass-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia carneus</td>
<td>Pink Fingers</td>
<td>Pink Fingers Caladenia</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia dillata complex</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia leptochila</td>
<td>Narrow-lip Spider-orchid</td>
<td>Queen Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia tentaculata</td>
<td>King Spider-orchid</td>
<td>Large Green-comb Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calochilus paludosus</td>
<td>Red Beard-orchid</td>
<td>Swamp Beard-orchid</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calochilus robustior</td>
<td>Purple Beard-orchid</td>
<td>Brown-beard</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calystegia tetragona</td>
<td>Common Fringe-myrtle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex appressa</td>
<td>Tall Sedge</td>
<td>Tussock Sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex brevicalmis</td>
<td>Short-stem Sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex fascicularis</td>
<td>Tassel Sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassytha glabella forma dispar</td>
<td>Slender Dodder-laurel</td>
<td>Tangled Dodder-laurel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassytha melantha</td>
<td>Coarse Dodder-laurel</td>
<td>Large Dodder-laurel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassytha pubescens</td>
<td>Downy Dodder-laurel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centipeda minima</td>
<td>Spreading Sneezeweed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis aristata</td>
<td>Pointed Centrolepis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis striosa</td>
<td>Hairy Centrolepis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamaecalyx corymbosa</td>
<td>Blue Squill</td>
<td>Blue Stars</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheilanthes austrotrinifolia</td>
<td>Annual Rock-fern</td>
<td>Green Rock-fern</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheilanthes triostachya</td>
<td>Hand-flower</td>
<td>Finger-flower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorelle glomerata</td>
<td>Sour-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorelle glomerata var.</td>
<td>White Sour-bush</td>
<td>Common Sour-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDEARED SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>---------------</td>
<td>----</td>
<td>-----</td>
<td>----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Chrysocephalum apiculatum</td>
<td>Common Everlasting</td>
<td>Small Yellow Button</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysocephalum baxteri</td>
<td>White Everlasting</td>
<td>Fringed Everlasting</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man's Beard</td>
<td>Small-leaf Clematis</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comesperma calymega</td>
<td>Blue-spire Milkwort</td>
<td>Heath Milkwort</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conospermum patens</td>
<td>Slender Smoke-bush</td>
<td>Slender Conospermum</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corea aemula s.str.</td>
<td>Hairy Corea</td>
<td>Corea</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corea eburnea</td>
<td>Common Corea</td>
<td>Corea</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corea reflexa</td>
<td>Common Corea</td>
<td>Corea</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corea reflexa var. reflexa</td>
<td>Common Corea</td>
<td>Corea</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corybas dilatatus</td>
<td>Common Helmet-orchid</td>
<td>Corybas</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craspedia glauca</td>
<td>Billy-buttons</td>
<td>Bachelor Buttons</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptandra tomentosa</td>
<td>Heath Cryptandra</td>
<td>Velvet Cryptandra</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cullen australisicum</td>
<td>Tall Scurf-pea</td>
<td>Verbine Scurf-pea</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyanicula deformis</td>
<td>Blue-beard Orchid</td>
<td>Blue Faires</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cynoglossum suaveolens</td>
<td>Sweet Hound's-tongue</td>
<td>Sweet Forget-me-not</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus tenellus</td>
<td>Tiny Flat-sedge</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus vaginatus</td>
<td>Small Flat-sedge</td>
<td>Puta-puta</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyrtostylis reniformis</td>
<td>Small Gnath-orchid</td>
<td>Spring-flowering Gnath-orchid</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia caespitosa</td>
<td>Common Wallaby-grass</td>
<td>White-top</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia eriantha</td>
<td>Hill Wallaby-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia pilosa var. paleacea</td>
<td>Velvet Wallaby-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>Bristly Wallaby-grass</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dannothia sp.</td>
<td>Wallaby-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dannothia tenuior</td>
<td>Short-awn Wallaby-grass</td>
<td>Purplish Wallaby-grass</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daukus globidictus</td>
<td>Native Carrot</td>
<td>Australian Carrot</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia brevifolia</td>
<td>Leafless Bitter-pea</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia lepithylla</td>
<td>Narrow-leaf Bitter-pea</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia ulicifolia(NC)</td>
<td>Gorse Bitter-pea</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denretaia denertaiana</td>
<td>Mt Lofty Speedwell</td>
<td>Derwent Speedwell</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deyeuxia densa</td>
<td>Heath Bent-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deyeuxia quadriseta</td>
<td>Reed Bent-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulis</td>
<td>Short-awn Flax-lily</td>
<td>Coast Flax-lily</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichachiemnina crinita</td>
<td>Long-hair Plume-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichochlaeae sp.</td>
<td>Plume-grass</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichondra repens</td>
<td>Kidney Weed</td>
<td>Tom Thumb</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dilwynia hispida</td>
<td>Red Parrot-pea</td>
<td>Downy Parrot-pea</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dilwynia sercoea</td>
<td>Showy Parrot-pea</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipodium punctatum(NC)</td>
<td>Hyacinth Orchid</td>
<td>Spotted Orchid</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipodium musseum</td>
<td>Pink Hyacinth Orchid</td>
<td>Christmas Orchid</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipodium sp.</td>
<td>Hyacinth Orchid</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuris aff. corbybosa</td>
<td>Wallflower Donkey-orchid</td>
<td>Bulldogs</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa sp.</td>
<td>Sticky Hop-bush</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa sp. spatulata</td>
<td>Sticky Hop-bush</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera auriculata</td>
<td>Tall Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera glanduligera</td>
<td>Scarlet Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera macranthia sp. planchonii</td>
<td>Climbing Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera peltata</td>
<td>Pale Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera pygmaea</td>
<td>Tiny Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera sp.</td>
<td>Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera willkateni ssp.</td>
<td>Sundew</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera willkateni ssp. willkateni</td>
<td>Sundew</td>
<td>Whittaker's Sundew</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eacoris impressa</td>
<td>Common Heath</td>
<td>Health</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilobium billardotii ssp. cinerum</td>
<td>Variable Willow-herb</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilobium pallidiflorum</td>
<td>Showy Willow-herb</td>
<td>U</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriochilus cucullatus</td>
<td>Parson's Bands</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus baxteri</td>
<td>Brown Stringybark</td>
<td>Baxter's Stringybark</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var.</td>
<td>River Red Gum</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var. camaldulensis</td>
<td>River Red Gum</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus crenifolium</td>
<td>Kangaroo Island Narrow-leaf Mallee</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus cosmothrya</td>
<td>Cup Gum</td>
<td>Bog Gum</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fuscusculosa</td>
<td>Pink Gum</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon sp. leucoxylon</td>
<td>South Australian Blue Gum</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon(NC)</td>
<td>South Australian Blue Gum</td>
<td>Yellow Gum</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua</td>
<td>Messmate Stringybark</td>
<td>Stringybark</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua var. obliqua(NC)</td>
<td>Messmate Stringybark</td>
<td>Stringybark</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua var. (NC)</td>
<td>Messmate Stringybark</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus rubida ssp. rubida</td>
<td>Candlebark Gum</td>
<td>White Gum</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus viminalis ssp.</td>
<td>Manna Gum</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus viminalis ssp. cygnetensis</td>
<td>Rough-bark Manna Gum</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euchiton gymnocephalus</td>
<td>Creeping Cudweed</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euchiton gymnocephalus(NC)</td>
<td>Creeping Cudweed</td>
<td>N</td>
<td>SA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Stringybark Forest Species List

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>SPECIES ACT</th>
<th>NPW ACT</th>
<th>Conservation Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eutaxia sp.</td>
<td>Eutaxia Eggs-and-bacon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exocarpos cupressiformis</td>
<td>Native Cherry</td>
<td>Cherry Ballart</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exocarpos scheueri</td>
<td>Slender Cherry</td>
<td>Broom Ballart</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia sieberiana</td>
<td>Red-fruit Cutting-grass</td>
<td>Red-fruit Saw-sedge</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galium gaudichaudi</td>
<td>Rough Bedstraw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galium sp.</td>
<td>Bedstraw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastrodia sesamoides</td>
<td>Potato Orchid</td>
<td>Cinnamon Bells</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genoplesium rutum</td>
<td>Red-flowered Cherry</td>
<td>Dark Midge-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium retrosum</td>
<td>Grassland Geranium</td>
<td>Grassland Crane’s-bill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium sp.</td>
<td>Geranium</td>
<td>Crane’s-bill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossodia major</td>
<td>Purple Cockatoo</td>
<td>Wax-lip Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gymnopholium ecastatum</td>
<td>Dwarf Wedge-pea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonocarpus meziarius</td>
<td>Broad-leaf Raspwort</td>
<td>Hairy Raspwort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonocarpus tetragnus</td>
<td>Small-leaf Raspwort</td>
<td>Common Raspwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia blackiana</td>
<td>Native Primrose</td>
<td>Black’s Goodenia</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia gigantea</td>
<td>Bent Goodenia</td>
<td>Native Primrose</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia varia</td>
<td>Sticky Goodenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gramineae sp.</td>
<td>Grass Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratiola peruviana</td>
<td>Austral Brooklime</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea ilicifolia var.</td>
<td>Holly-leaf Grevillea</td>
<td>Native Holly</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var.</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var.</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea carinata</td>
<td>Erect Hakea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>Turkey Gobblers</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td>Wrinkled Hakea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloragaceae sp.</td>
<td>Raspwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloragis heterophylla</td>
<td>Variable Raspwort</td>
<td>Perennial Raspweed</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloragis sp.</td>
<td>Raspwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helichrysum scorpioides</td>
<td>Button Everlasting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia aspera</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia exalacites</td>
<td>Prickly Guinea-flower</td>
<td>Spiky Guinea-flower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia incurana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia</td>
<td>Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia (glabriuscula)</td>
<td>Smooth Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia (long-leaved aff. H. stricta)</td>
<td>Britly Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sericea var.</td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sericea var.</td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sp.</td>
<td>Scrambling Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia stricta var.</td>
<td>Stalked Guinea-flower</td>
<td>Erect Guinea-flower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia virgata</td>
<td>Twiggly Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle callicarpa</td>
<td>Tiny Pennywort</td>
<td>Small Pennywort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle hirta</td>
<td>Hairy Pennywort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle sp.</td>
<td>Pennywort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypericum graminum</td>
<td>Small St John’s Wort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoalea fastigiata</td>
<td>Tassel Rope-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoixis glabellus var.</td>
<td>Tiny Star</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoixis vaginata var.</td>
<td>Yellow Star</td>
<td>Sheath Star</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigofera australis var.</td>
<td>ustral Indigo</td>
<td>Hill Indigo</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoplexis fluitans</td>
<td>Floating Club-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoplexis inundata</td>
<td>Swamp Club-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoplexis nodosa</td>
<td>Knobby Club-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon ceratophyllum</td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ixoria achileaoides ssp.</td>
<td>Coax Ixoria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ixoria achileaoides spp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus bufonius</td>
<td>Toad Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus caespiticosus</td>
<td>Grassy Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus kraussii</td>
<td>Sea Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pallidus</td>
<td>Pale Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pauciflorus</td>
<td>Loose-flower Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus planifolius</td>
<td>Broad-leaf Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus sanphorus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus sp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus subsecundus</td>
<td>Finger Rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lagenifera huegelii</td>
<td>Coarse Bottle-daisy</td>
<td>Coarse Lagenifera</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lavatera plebeia</td>
<td>Australian Hollyhock</td>
<td>Native Hollyhock</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia orientalis</td>
<td>Dwarf Wire-ily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia sessilifoliar(NC)</td>
<td>Dwarf Wire-ily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma drapetocoleus</td>
<td>Scale Shedder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma concavum</td>
<td>Spreading Sword-sedge</td>
<td>Sandhill Sword-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma curtisae</td>
<td>Little Sword-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma laterale s. str.</td>
<td>Tall Sword-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma longitudinalis</td>
<td>Pitly Sword-sedge</td>
<td>Swamp Sword-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED</td>
<td>SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>----</td>
<td>-----</td>
<td>------------</td>
<td>-------------</td>
<td>----------</td>
</tr>
<tr>
<td>Lepidosperma viscidum</td>
<td>Sticky Sword-sedge</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leporella fimbriata</td>
<td>Fringed Hare-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptocarpus brownii</td>
<td>Coarse Twine-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptocarpus tenax</td>
<td>Slender Twine-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptoceras menziesii</td>
<td>Hare Orchid</td>
<td></td>
<td>N</td>
<td></td>
<td>Rabbit Orchid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum continentale</td>
<td>Prickly Tea-tree</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>Woolly Tea-tree</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum myrsinoides</td>
<td>Health Tea-tree</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum sp.</td>
<td>Tea-tree</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legyrodia vallicaeae</td>
<td>Kangaroo Island Scale-rush</td>
<td></td>
<td>R</td>
<td>2RCa</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon australis</td>
<td>Spike Beard-heath</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon concursus</td>
<td>Scrambling Beard-heath</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon lanceolatus</td>
<td>Lance Beard-heath</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon rufus</td>
<td>Ruddy Beard-heath</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levenhookia dubyae</td>
<td>Hairy Stylewort</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levenhookia pusilla</td>
<td>Tiny Stylewort</td>
<td>Midge Stylewort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lichen sp.</td>
<td>Screw Fern</td>
<td>Necklace Fern</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linum marginale</td>
<td>Native Flax</td>
<td>Wild Flax</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia alata</td>
<td>Angled Lobelia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia gibbosa</td>
<td>Tall Lobelia</td>
<td>False Orchid</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logania recurva</td>
<td>Recurved Logania</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra collina</td>
<td>Sand Mat-rush</td>
<td>Sharp-leaf Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra fibrata</td>
<td>Mount Lofty Mat-rush</td>
<td>Fine Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra juncea</td>
<td>Desert Mat-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra micrantha ssp.</td>
<td>Small-flower Mat-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra micrantha ssp. micrantha</td>
<td>Small-flower Mat-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora ssp. dura</td>
<td>Hard Mat-rush</td>
<td>Iron-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra nama</td>
<td>Small Mat-rush</td>
<td>Soft Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra sororia</td>
<td>Sword Mat-rush</td>
<td>Small Mat-rush</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra sp.</td>
<td>Mat-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra sp.</td>
<td>Mat-rush</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luzula densiflora</td>
<td>Dense Wood-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luzula meridionalis</td>
<td>Common Wood-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lythrum hyssopifolia</td>
<td>Lesser Loosestrife</td>
<td>Small Loosestrife</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca brevifolia</td>
<td>Short-leaf Honey-myrtle</td>
<td>Swamp Honey-myrtle</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>Cross-leaved Honey-myrtle</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micranthemum demissum</td>
<td>Dwarf Micranthemum</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microleorna stipoides var. stipoides</td>
<td>Weeping Rice-grass</td>
<td>Weeping Grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microseris lanceolata</td>
<td>Yam Daisy</td>
<td>Native Yam</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtis unifolia</td>
<td>Common Onion-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtis unifolia complex</td>
<td>Onion-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtis unifolia(NC)</td>
<td>Common Onion-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mimulus repens</td>
<td>Creeping Monkey-flower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moss sp.</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurachne alopecuroidea</td>
<td>Fox-tail Mulga-grass</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olearia grandiflora</td>
<td>Mount Lofty Daisy-bush</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twiggy Daisy-bush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olearia sp.</td>
<td>Daisy-bush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opercularia sp.</td>
<td>Stinkweed</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opercularia turpis</td>
<td>Twiggy Stinkweed</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opercularia varia</td>
<td>Variable Stinkweed</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orchidaceae sp.</td>
<td>Orchid Family</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxalis perrenans</td>
<td>Native Sorrel</td>
<td>Native Oxalis</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patersonia fragilis</td>
<td>Short Purple-flag</td>
<td>Swamp Iris</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patersonia occidentalis</td>
<td>Long Purple-flag</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelargonium littorale</td>
<td>Native Pelargonium</td>
<td>Native Storks-bill</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persoonia juniperina</td>
<td>Prickly Geebung</td>
<td>Geebung</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phrygites australis</td>
<td>Common Reed</td>
<td>Bamboo Reed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phyllocladus pleurandroides</td>
<td>Heath Phyloclada</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea glauca</td>
<td>Smooth Riceflower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea humilis</td>
<td>Low Riceflower</td>
<td>Common Riceflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea inflexa ssp. linifolia</td>
<td>Slender Riceflower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea octophylla</td>
<td>Woody Riceflower</td>
<td>Downy Riceflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea phylloclada</td>
<td>Heath Riceflower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea sp.</td>
<td>Riceflower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plateidium obtusangulium</td>
<td>Holly Flax-pea</td>
<td>Common Flax-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platysace heterophylla var. heterophylla</td>
<td>Slender Platysace</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platysace heterophylla var. heterophylla</td>
<td>Slender Platysace</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleuroseros rutifolius</td>
<td>Blanket Fern</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa clelandii</td>
<td>Mattled Tussock-grass</td>
<td>Cleland's Poa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>Poa</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa tenera</td>
<td>Slender Tussock-grass</td>
<td>Spreading Tussock-grass</td>
<td>Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polygonum sp. (NC)</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pomaderris paniculosa ssp.</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poranthera ericoides</td>
<td>Heath Poranthera</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poranthera microphylla</td>
<td>Small Poranthera</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudanthus micranthus</td>
<td>Fringed Pseudanthus</td>
<td></td>
<td>R</td>
<td>2RCa</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>SPECIES ACT</td>
<td>NPW ACT</td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------</td>
<td>--------------------------</td>
<td>----</td>
<td>-----</td>
<td>-------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>Pteridium esculentum</td>
<td>Bracken Fern</td>
<td>Austral Bracken</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis nana</td>
<td>Dwarf Greenhood</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis nutans</td>
<td>Nodding Greenhood</td>
<td>Parrot's Beak Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis pedunculata</td>
<td>Maroon-hood</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis plumosa</td>
<td>Bearded Greenhood</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sanguinea</td>
<td>Blood Greenhood</td>
<td>Red Banded-greenhood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sp.</td>
<td>Greenhood</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sp.(NC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna acerosa</td>
<td>Bristly Bush-pea</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna canaliculata var. canaliculata</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna daphnoides</td>
<td>Large-leaf Bush Pea</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna graveolens</td>
<td>Scented Bush-pea</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna involucrata</td>
<td>Mount Lofty Bush-pea</td>
<td></td>
<td>U</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna largiflora</td>
<td>Twizzy Bush-pea</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna pedunculata</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulluna trinervis</td>
<td>Three-nerve Bush-pea</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrorchis nigricans</td>
<td>Black Fire-orchid</td>
<td>Red-beak Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranunculus lappaceus</td>
<td>Native Buttercup</td>
<td>Australian Buttercup</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranunculus pumilio var. pumilio</td>
<td>Ferty Buttercup</td>
<td>Small-flower Buttercup</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubus parvifolius</td>
<td>Native Raspberry</td>
<td>Small-leaf Bramble</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaevola albida</td>
<td>Pale Fanflower</td>
<td>Small-flower Fanflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaevola albida var. albida</td>
<td>Pale Fanflower</td>
<td>Small-flower Fanflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaevola albida var.(NC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus brevicolmis</td>
<td>Matted Bog-rush</td>
<td>Moss Bog-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scutellaria humilis</td>
<td>Dwarf Skullcap</td>
<td>Skullcap</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seabea ova</td>
<td>Yellow Seabea</td>
<td>Yellow Centaury</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio glomeratus</td>
<td>Swamp Groundsel</td>
<td>Toothed Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio hispidulus var. hispidulus</td>
<td>Rough Groundsel</td>
<td>Hipsed Fireweed</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var.</td>
<td>Scented Groundsel</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var. odoratus</td>
<td>Scented Groundsel</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio quadricentatus</td>
<td>Cotton Groundsel</td>
<td>Cotton Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio sp.</td>
<td>Groundsel</td>
<td>Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio squarrosus</td>
<td>Squerrose Groundsel</td>
<td>Leave Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio tenuiflorus</td>
<td>Woodland Groundsel</td>
<td>Narrow Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiryridium caudicfolium</td>
<td>Butterfly Spiryridium</td>
<td></td>
<td>V</td>
<td>ZVCa</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiryridium sp.</td>
<td>Spiryridium</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiryridium thymifolium</td>
<td>Thyme-leaf Spiryridium</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp.</td>
<td>Bushy Candles</td>
<td>Rough Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. &quot;Cylindrical inflorescence&quot;(W.R.Barker 1418)</td>
<td>Bushy Candles</td>
<td>Rough Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. &quot;One-sided inflorescence&quot;(W.R.Barker 697)</td>
<td>One-sided Candles</td>
<td>Rough Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia sp.</td>
<td>Candies</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slipa mollis</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slipa muelleri</td>
<td>Tangled Spear-grass</td>
<td>Wiry Spear-grass</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slipa sp.</td>
<td>Spear-grass</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium graminifolium</td>
<td>Grass Trigger-plant</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetragonosha pilosa ssp. pilosa</td>
<td>Hairy Pink-bells</td>
<td>Rabbit-ears</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra antennifera</td>
<td>Lemon Sun-orchid</td>
<td>Rabbit-ears</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra benthamiana</td>
<td>Leopard Sun-orchid</td>
<td>Blotted Sun-orchid</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra howittii</td>
<td>Spotted Sun-orchid</td>
<td>Dotted Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra pauciflora</td>
<td>Slender Sun-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra rubra</td>
<td>Salmon Sun-orchid</td>
<td>Pink Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra sp.</td>
<td>Sun-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thesmea triandra</td>
<td>Kangaroo Grass</td>
<td>Ilintji</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomasia petalocalyx</td>
<td>Paper-flower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thysanotus junifolius</td>
<td>Rush Fringe-ily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thysanotus patersonii</td>
<td>Twinning Fringe-ily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tricoryne elatior</td>
<td>Yellow Rush-ily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tricoryne elatior(NC)</td>
<td>Yellow Rush-ily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tricoryne tenella</td>
<td>Tufted Yellow Rush-ily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglochin procervum var. procerum(NC)</td>
<td>Water-ribbons</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typha domingenssis</td>
<td>Narrow-leaf Bulrush</td>
<td>Narrow-leaf Cumbungi</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voia cleistogamoides</td>
<td>Shy Violet</td>
<td>Hidden Violet</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voia hederacea</td>
<td>Iivy-leaf Violet</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voia sieberiana</td>
<td>Tiny Violet</td>
<td>Sieber's Violet</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia gracilenta</td>
<td>Annual Bluebell</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia multicaulis</td>
<td>Tadgell's Bluebell</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia sp.</td>
<td>Native Bluebell</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia stricta ssp. stricta</td>
<td>Tall Bluebell</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. semeplana</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tat's Grass-tree</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthosia pulsatia</td>
<td>Hairy Xanthosia</td>
<td>Health Xanthosia</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthosia tasmanica</td>
<td>Southern Xanthosia</td>
<td></td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*unverified species - nv*
## Coastal Shrubland Species List
### (DEH survey data)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>ENDANGERED</th>
<th>SPECIES ACT</th>
<th>NPW ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia longifolia var. sophorae</td>
<td>Coastal Wattle</td>
<td>False Boobialla</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia var. myrtifolia</td>
<td>Myrtle Wattle</td>
<td>Scrub Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia (NC)</td>
<td>Myrtle Wattle</td>
<td>Bitter Leaf Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var. uncinifolia</td>
<td>Coast Silver Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia spinacens</td>
<td>Pricky Moses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia verticillata</td>
<td>Downy Sheep's Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia echinata var.</td>
<td>Sheep's Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia nova-zelandiae</td>
<td>Biddy-liddy</td>
<td>Bidgee-widege</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia x anserovina</td>
<td>Hybrid Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia caesia</td>
<td>Mayfly Orchid</td>
<td>Dead Horse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pusillus</td>
<td>Mosquito Orchid</td>
<td>Gnat Orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia sp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche cordata</td>
<td>Blunt-leaf Ground-berry</td>
<td>Coast Ground-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche serrulata</td>
<td>Cushion Ground-berry</td>
<td>Honeypots</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenanthera terminalis</td>
<td>Yellow Gland-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adriana klootschi</td>
<td>Coast Bitter-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis avenacea var. avenacea</td>
<td>Common Blown-grass</td>
<td>Fairy Grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis billardieri var. billardieri</td>
<td>Coast Blown-grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis sp.</td>
<td>Blown-grass/Bent Grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp.</td>
<td>Common Oak-bush</td>
<td>Stalty Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp. muelleriana</td>
<td>Common Oak-bush</td>
<td>Stalty Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina paludosa</td>
<td>Swamp Oak-bush</td>
<td>Scrub Sheoak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina pusilla</td>
<td>Dwarf Oak-bush</td>
<td>Heath Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Stalked Oak-bush</td>
<td>Tall Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Sheoak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alyxia buxifolia</td>
<td>Sea Box</td>
<td>Dysentery Bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema miquelii</td>
<td>Box Mistletoe</td>
<td>Nyir#unypa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anganthus precissianus</td>
<td>Salt Angiantbus</td>
<td>Salt Cup-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apocynum spectabilis</td>
<td>Showy Firebush</td>
<td>False Tobacco</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aphelia pumilio</td>
<td>Dwarf Aphelia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apium annuum</td>
<td>Annual Celery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apium prostratum ssp. prostratum var. filiforme</td>
<td>Native Celery</td>
<td>Sea Celery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentipallium obtusifolium</td>
<td>Blunt Everlasting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthropodium fimbriatum</td>
<td>Nodding Vanilla-lily</td>
<td>Summer Vanilla-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthropodium strictum</td>
<td>Common Vanilla-lily</td>
<td>Common Chocolate-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asterolasia muncitica</td>
<td>Rough Star-bush</td>
<td>Kangaroo Island Star-bush</td>
<td>R</td>
<td>2RCa</td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Astroloma conostephoides</td>
<td>Flame Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma humifusum</td>
<td>Cranberry Heath</td>
<td>Native Cranberry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astridis ischrysantha</td>
<td>Coast Fescue</td>
<td>Grey Saltbush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baeckea crassifolia</td>
<td>Desert Baeckea</td>
<td>Desert Heath-myrtle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia marginata</td>
<td>Silver Banksia</td>
<td>Honeysuckle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia ornata</td>
<td>Desert Banksia</td>
<td>Sand-heath Banksia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baumea juncea</td>
<td>Bare Twig-rush</td>
<td>Blue Twig-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beyeria lechennaui</td>
<td>Pale Turpentine Bush</td>
<td>Felted Wallaby-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera cymosa</td>
<td>Sweet Apple-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera sp.</td>
<td>Apple-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera uniflora</td>
<td>One-flower Apple-berry</td>
<td>Single-flower Apple-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera versicolor</td>
<td>Yellow-flower Apple-berry</td>
<td>Pale Apple-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blennospora drummondii</td>
<td>Dwarf Button-flower</td>
<td>Dwarf Beauty-heads</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boronia filifolia</td>
<td>Slender Boronia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bossiaea prostrata</td>
<td>Creeping Bossiaea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachycome cuneifolia</td>
<td>Wedge-leaf Daisy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachycome goniocarpa</td>
<td>Dwarf Daisy</td>
<td>Angle-fruit Daisy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachycome lineariloba</td>
<td>Hard-head Daisy</td>
<td>Dwarf Daisy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachycome perpusilla</td>
<td>Tiny Daisy</td>
<td>Rayless Daisy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachylophus ericoides ssp.</td>
<td>Brush Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachylophus ericoides ssp. ericoides</td>
<td>Brush Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bromus arenarius</td>
<td>Sand Brome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulbine bulbosa</td>
<td>Bulbine-lily</td>
<td>Native Leek</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulbine semirbactra</td>
<td>Small Leek-lily</td>
<td>Annual Bulbine-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burchardia umbellata</td>
<td>Milkmilk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td>South Australian Christmas Bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesia calliantha</td>
<td>Blue Grass-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia bicallata</td>
<td>Western Daddy-long-legs</td>
<td>R</td>
<td>3RC-</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia bicallata</td>
<td>Heart-lip Spider-orchid</td>
<td>Thick-lip Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia caryae</td>
<td>Pink Fingers</td>
<td>Pink Fingers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia caryae var. caryae</td>
<td>Pink Fingers</td>
<td>Pink Fingers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia flamina</td>
<td>Wiry Spider-orchid</td>
<td>Daddy-long-legs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia latifolia</td>
<td>Pink Caladenia</td>
<td>Pink Fairies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia prolata</td>
<td>Shy Caladenia</td>
<td>Fertile Caladenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia sp.</td>
<td>Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia stricta</td>
<td>Upright Spider-orchid</td>
<td>Stiff Green-comb Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia tentaculata</td>
<td>King Spider-orchid</td>
<td>Large Green-comb Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia valida</td>
<td>Robust Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calandrinia brevipedata</td>
<td>Short-stalked Purslane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conservation Significance
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>ENDANGERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calandrinia calyptrata</td>
<td>Pink Purslane</td>
<td>Small Parakeelya</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calandrinia corniculata</td>
<td>Strap Purslane</td>
<td>Dryland Purslane</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calandrinia eremaea</td>
<td>Pigmy Purslane</td>
<td>Pigmy Purslane</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calandrinia sp.</td>
<td>Purlane/Parakeelya</td>
<td>Purlane/Parakeelya</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callistemon rugulosus</td>
<td>Scarlet Bottletree</td>
<td>Brown-beard</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calochilus robertsonii</td>
<td>Purplish Beard-orchid</td>
<td>Garland Lily</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calostemma purpureum</td>
<td>Smoky Heath-myrtle</td>
<td>Fringe-myrtle</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callistemon melanthera</td>
<td>Tangled Dodder-laurel</td>
<td>Large Dodder-laurel</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassytha pubescens</td>
<td>Downy Dodder-laurel</td>
<td>Asian Centella</td>
<td>N</td>
<td>Q</td>
<td></td>
</tr>
<tr>
<td>Centrolepis aristata</td>
<td>Painted Centrolepis</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis cephalofomis</td>
<td>Cushion Centrolepis</td>
<td>Dwarf Centrolepis</td>
<td>R</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Centrolepis polygyna</td>
<td>Wiry Centrolepis</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis strigosa</td>
<td>Hairy Centrolepis</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamaeactis corymbosa</td>
<td>Blue Squill</td>
<td>Blue Stars</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheilanthes austrotrinitifolia</td>
<td>Annual Rock-fenn</td>
<td>Green Rock-fenn</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloranthus alternifolia</td>
<td>Hand-flower</td>
<td>Finger-flower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chorizandra eremaea</td>
<td>Black Beard-rush</td>
<td>Black Beard-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysocerosiphium apiculatum</td>
<td>Common Everlasting</td>
<td>Small Yellow Button</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysalophyllum baxteri</td>
<td>White Everlasting</td>
<td>Fringed Everlasting</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man's Beard</td>
<td>Small-leaf Clematis</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comesperma calycyma</td>
<td>Blue-spike Milkwort</td>
<td>Heath Milkwort</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comesperma polygaloides</td>
<td>Mauve Milkwort</td>
<td>Milkwort</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comesperma volubile</td>
<td>Love Creeper</td>
<td>Twining Milkwort</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conospermum patens</td>
<td>Slender Smoke-bush</td>
<td>Slender Conospermum</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convolvulus erubescens</td>
<td>Australian Bindweed</td>
<td>Pink Bindweed</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convolvulus remotus</td>
<td>Grassy Bindweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correa alba var. pannosa</td>
<td>White Correa</td>
<td>R</td>
<td>V</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Correa pulchella</td>
<td>Salmon Correa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correa reflexa var. coriaacea</td>
<td>Thick-leaf Correa</td>
<td>Common Correa</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corybas despectans</td>
<td>Coast Helmet-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corybas dilatatus</td>
<td>Common Helmet-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corybas sp.</td>
<td>Helmet-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotula australis</td>
<td>Common Cotula</td>
<td>Carrot Weed</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotula vulgaris var. australasica</td>
<td>Slender Cotula</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craspedia glauca</td>
<td>Billy-buttons</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassula ciosane</td>
<td>Stalked Crassula</td>
<td>Red Crassula</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassula colorata var.</td>
<td>Dense Crassula</td>
<td>Dense Stonecrop</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassula colorata var.</td>
<td>Dense Crassula</td>
<td>Dense Stonecrop</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassula decumbens var.</td>
<td>Spreading Crassula</td>
<td>Spreading Stonecrop</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassula sieberia var.</td>
<td>Australian Stonecrop</td>
<td>Common Crassula</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyamochryum sp.</td>
<td>Crassula/Stonecrop</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptandra hispida</td>
<td>Rough Cryptandra</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptandra leucophastra</td>
<td>White Cryptandra</td>
<td>Rusty Poison</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptandra tomentosa</td>
<td>Heath Cryptandra</td>
<td>Velvet Cryptandra</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyrtostylis reniformis</td>
<td>Small Gnat-orchid</td>
<td>Spring-flowering Gnat-orchid</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyrtostylis robusta</td>
<td>Robust Gnat-orchid</td>
<td>Winter-flowering Gnat-orchid</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus tenuelus</td>
<td>Tiny Flat-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus vaginatis</td>
<td>Stiff Flat-sedge</td>
<td>Pufa-pufa</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyrtostylis reniformis</td>
<td>Small Gnat-orchid</td>
<td>Spring-flowering Gnat-orchid</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyrtostylis robusta</td>
<td>Robust Gnat-orchid</td>
<td>Winter-flowering Gnat-orchid</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dampiera dysandra</td>
<td>Shrubby Dampiera</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dampiera lanceolata var.</td>
<td>Grooved Dampiera</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia caespitosa</td>
<td>Common Wallaby-grass</td>
<td>White-top</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia racemosa var.</td>
<td>Slender Wallaby-grass</td>
<td>Stipet Wallaby-grass</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia setacea var.</td>
<td>Small-flower Wallaby-grass</td>
<td>Bristly Wallaby-grass</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia sp.</td>
<td>Wallaby-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dasycarpus glaucesioides</td>
<td>Native Carrot</td>
<td>Australian Carrot</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia brevicaulis</td>
<td>Leafless Bitter-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia bidivarta</td>
<td>Barbwire Bitter-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia ulicifolia var.</td>
<td>Gerse Bitter-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia ulicifolia (N)</td>
<td>Gerse Bitter-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulis</td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulisvar. revoluta</td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var.</td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Coastal Shrubland Species List

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>SPECIES ACT</th>
<th>NPW ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dianella revoluta (NC)</td>
<td>Long-hair Plume-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichelachen crinita</td>
<td>Kidney Weed</td>
<td>Downy Parrot-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichondra repens</td>
<td>Red Parrot-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialynia hiagida</td>
<td>Showy Parrot-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diplachne parviflora</td>
<td>Small-flower Beetle-grass</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disphyma crassifolium ssp. clavellatum</td>
<td>Round-leaf Pigface</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distichlis dichotophylla</td>
<td>Emu-grass</td>
<td>Australian Salt-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuris aff. corymbosa</td>
<td>Wallflower Donkey-orchid</td>
<td>Bulldogs</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuris brevifolia</td>
<td>Short-leaf Donkey-orchid</td>
<td>Late Donkey-orchid</td>
<td>R</td>
<td>3RCa</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Diuris pardina</td>
<td>Spotted Donkey-orchid</td>
<td>Common Donkey-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodonaea humilis</td>
<td>Dwarf Hop-bush</td>
<td>Limestone Hop-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spatulata</td>
<td>Sticky Hop-bush</td>
<td>Spoon-leaf Hop-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera auriculata</td>
<td>Tail Sundew</td>
<td>Erniettem</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera glandulifera</td>
<td>Scarlet Sundew</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera macrantha ssp. planchonii</td>
<td>Climbing Sundew</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera peiltata</td>
<td>Pale Sundew</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera pygmaea</td>
<td>Tiny Sundew</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera whittakeri ssp. whittakeri</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera whittakeri (NC)</td>
<td>Scented Sundew</td>
<td>Whittaker's Sundew</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elymus scabrus var. scabrus</td>
<td>Native Wheat-grass</td>
<td>Common Wheat-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enchylaena tomentosa var. tomentosa</td>
<td>Ruby Saltbush</td>
<td>Barrier Saltbush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilobium billardierianum ssp. billardierianum</td>
<td>Robust Willow-herb</td>
<td>Smooth Willow-herb</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilobium billardierianum ssp. cinereum</td>
<td>Variable Willow-herb</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriochilus cucullatus</td>
<td>Parson's Bands</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriostemon pungens</td>
<td>Prickly Wax-flower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erodium crinitum</td>
<td>Blue Heron's-bill</td>
<td>Blue Stork's-bill</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus 'anceps'</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus baxteri</td>
<td>Brown Stringybark</td>
<td>Baxter's Stringybark</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus congobata</td>
<td>Port Lincoln Mallee</td>
<td>Cong Mallee</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus cosmothylla</td>
<td>Cup Gum</td>
<td>Bog Gum</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus diversifolia</td>
<td>Coastal White Mallee</td>
<td>Soap Mallee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fasciculosa</td>
<td>Pink Gum</td>
<td>Hill Gum</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fœcunda (NC)</td>
<td>Narrow-leaved Mallee</td>
<td>Slender-leaved Red Mallee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus incrassata</td>
<td>Ridge-fruited Mallee</td>
<td>Yellow Mallee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus lepenthophylla</td>
<td>Narrow-leaved Red Mallee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucosyphon ssp. leucosyphon</td>
<td>South Australian Blue Gum</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucosyphon (NC)</td>
<td>South Australian Blue Gum</td>
<td>Yellow Gum</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus lunosa</td>
<td>Red Mallee</td>
<td>Acorn Mallee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus porosa</td>
<td>Mallee Box</td>
<td>Black Mallee Box</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus rugosa</td>
<td>Coastal White Mallee</td>
<td>Kingscote Mallee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus sp.</td>
<td>Annual Cudweed</td>
<td>Japanese Cudweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exocarpos cupressiformis</td>
<td>Native Cherity</td>
<td>Cherry Ballart</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frankenia pauciflora var.</td>
<td>Southern Sea-heath</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frankenia pauciflora var. gunnii</td>
<td>Southern Sea-heath</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia ancistrophylla var.</td>
<td>Curled Saw-sedge</td>
<td>Donkey Saw-sedge</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia deusta</td>
<td>Limestone Saw-sedge</td>
<td>Healthy Saw-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia lanigera</td>
<td>Black Grass Saw-sedge</td>
<td>Desert Saw-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia trifida</td>
<td>Cutting Grass</td>
<td>Coast Saw-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galium compactum</td>
<td>Compact Bedstraw</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galium gaudichaudii</td>
<td>Rough Bedstraw</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galium madiensi</td>
<td>Loose Bedstraw</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genoplesium rufum</td>
<td>Red Midge-orchid</td>
<td>Dark Midge-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium potentioloides var. potentilloides</td>
<td>Downy Geranium</td>
<td>Cinquefoil Cran'e's-bill</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium retrosom</td>
<td>Grassland Geranium</td>
<td>Grassland Cran'e's-bill</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium sp.</td>
<td>Geranium</td>
<td>Cran'e's-bill</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gilechristiacynorrh beehî</td>
<td>Golden Pennants</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossostigma major</td>
<td>Purple Cockatoo</td>
<td>Wax-lip Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycine clandestina var. sericea</td>
<td>Twinning Glycine</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea ilicifolia var.</td>
<td>Holly-leaf Grevillea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea ilicifolia var. ilicifolia</td>
<td>Holly-leaf Grevillea</td>
<td>Native Holly</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lassendaa var.</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lassendaa var.</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gyrostemon australis</td>
<td>Buckbrush Wheel-fruit</td>
<td>False Buckbrush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>----</td>
<td>-----</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Hakea carinata</td>
<td>Erect Hakea</td>
<td>Desert Hakea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea muelleriana</td>
<td>Heath Needlebush</td>
<td>Desert Hakea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>Turkey Gobblers</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td>Winkled Hakea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloragis acutangula</td>
<td>Smooth Raspwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloragis aspera</td>
<td>Rough Raspwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardenbergia violacea</td>
<td>Native Lilac</td>
<td>Purple Coral-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helichrysum leucopsideum</td>
<td>Satin Everlasting</td>
<td>Coast Everlasting</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helichrysum scorpioides</td>
<td></td>
<td>Button Everlasting</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helichrysum sp. (NC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemichroa pentandra</td>
<td>Trailing Hemichroa</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia</td>
<td>Guinea-flower</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia (glabriuscula)</td>
<td>Smooth Guinea-flower</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia (long-leaved aff. H. stricta)</td>
<td>Bristly Guinea-flower</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sericosa var. scabri folia</td>
<td>Rough-leaf Guinea-flower</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sericosa var. sericica</td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia virgata</td>
<td>Twiggy Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyalosperma demissum</td>
<td>Dwarf Sunray</td>
<td>Moss Sunray</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybanthus floribundus</td>
<td>Shrub Violet</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle callicarpa</td>
<td>Tiny Pennywort</td>
<td>Small Pennywort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle capillans</td>
<td>Thread Pennywort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle comocarpa</td>
<td>Fringe-fruit Pennywort</td>
<td>Hairy-fruit Pennywort</td>
<td>R</td>
<td>3RCi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle foveolata</td>
<td>Yellow Pennywort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoalea fastigiata</td>
<td>Tassel Rope-rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoxis glabellaria var. glabellia</td>
<td>Tiny Star</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoxis vaginata var. vaginata</td>
<td>Yellow Star</td>
<td>Sheath Star</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoetopsis graminifolia</td>
<td>Grass Cushion</td>
<td>Grass Buttons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis cernua</td>
<td>Nodding Club-rush</td>
<td>Low Club-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis marginalis</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis noda</td>
<td>Knobby Club-rush</td>
<td>Knobby Club-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis platyarpa</td>
<td>Flat-fruit Club-rush</td>
<td>Flat-fruit Club-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon ceratophyllus</td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon supina</td>
<td>Coaster Plover-daisy</td>
<td>Sprawling isopogon</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon australoides ssp. alata</td>
<td>Hills Daisy</td>
<td>Winged isopogon</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus bufonius</td>
<td>Toad Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus kraussii</td>
<td>Sea Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pallidus</td>
<td>Pale Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pauciflorus</td>
<td>Loose-flower Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus planifolius</td>
<td>Broad-leaf Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus subsecundus</td>
<td>Finger Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kunzea pomifera</td>
<td>Muntries</td>
<td>Pink Buttons</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lagenifera huegeli</td>
<td>Coarse Bottle-daisy</td>
<td>Coarse Lagenifera</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lasiolepis baueri</td>
<td>Slender Velvet-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lasiolepis discolor</td>
<td>Coast Velvet-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lavatera plebeia</td>
<td>Australian Hollyhock</td>
<td>Native Hollyhock</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia orientalis</td>
<td>Dwarf Wire-lily</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia sessiliflora(NC)</td>
<td>Dwarf Wire-lily</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidopetalus concavum</td>
<td>Christmas Hippeas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidopetalus laterale(NC)</td>
<td>Sharp Sword-sedge</td>
<td>Variable Sword-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidopetalus semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidopetalus sp.</td>
<td>Sword-sedge/Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidophyta spiculum</td>
<td>Sticky Sword-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leporella faimbrata</td>
<td>Fringed Hare-orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptocarpus brownii</td>
<td>Coarse Twin-rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptoceras menziesii</td>
<td>Hare Orchid</td>
<td>Rabbit Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptophyton acuminatum</td>
<td>Scaly Buttons</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum continente</td>
<td>Prickly Tea-tree</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum myrianoides</td>
<td>Heath Tea-tree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucophyta brownii</td>
<td>Coast Cushion Bush</td>
<td>Cushion Bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon parviflorus</td>
<td>Coast Beard-heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon rufus</td>
<td>Ruddy Beard-heath</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levinhookia dubia</td>
<td>Hairy Stylewort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levinhookia pusilla</td>
<td>Tiny Stylewort</td>
<td>Midget Stylewort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levinhookia sp.</td>
<td>Stylewort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lichen sp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lilaeopsis polyantha</td>
<td>Australian Lilaeopsis</td>
<td>Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linum marginale</td>
<td>Native Flax</td>
<td>Wild Flax</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia alata</td>
<td>Angled Lobelia</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia gibbosa</td>
<td>Tall Lobelia</td>
<td>False Orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Coastal Shrubland Species List

<table>
<thead>
<tr>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>ENDANGERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logania crassifolia</td>
<td>Coast Logania</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logania linifolia</td>
<td>Flax-leaf Logania</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logania minor</td>
<td>Spoon-leaf Logania</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra collina</td>
<td>Sand Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra densiflora</td>
<td>Soft Tussock Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra effusa</td>
<td>Scented Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra glauca (NC)</td>
<td>Pale Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra jucea</td>
<td>Desert Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra nana</td>
<td>Small Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra sonora</td>
<td>Sword Mat-rush</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lotus australis</td>
<td>Austral Trefoil</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luzula meridionalis</td>
<td>Common Wood-rush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca brevifolia</td>
<td>Short-leaf Honey-myrtle</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca deccussata</td>
<td>Totem-poles</td>
<td>Cross-leaved Honey-myrtle</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Melaleuca lanceolata ssp. lanceolata</td>
<td>Dryland Tea-tree</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micrantheum demissum</td>
<td>Dwarf Micranthemum</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microsorium pteris var. pteris</td>
<td>Weeping Rice-grass</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtis arenaria</td>
<td>Common Onion-orchid</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myoporum insulare</td>
<td>Common Boobialla</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myoporum viscosum</td>
<td>Sticky Boobialla</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myosotis australis</td>
<td>Australian Forget-me-not</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurachne alopecuroidea</td>
<td>Fox-tail Mulga-grass</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotiana maritima</td>
<td>Coastal Tobacco</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotiana sp.</td>
<td>Dillon Bush</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olearia pachycaulis</td>
<td>Coastal Daisy-bush</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olearia pannosa ssp. pannosa</td>
<td>Silver Daisy-bush</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxalis perennans</td>
<td>Hairy Plantain</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxalis stricta</td>
<td>Hairy Plantain</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parietaria cardiostegia</td>
<td>Mallee Smooth-nettle</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelargonium littorale</td>
<td>Native Pelargonium</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria prostrata</td>
<td>Creeping Knotweed</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria rubra</td>
<td>Creeping Knotweed</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea serpyllifolia ssp. serpyllifolia</td>
<td>Thyme Riceflower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Podotheca angustifolia</td>
<td>Sticky-heads</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plectranthus australis</td>
<td>Coastal Everlasting</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phyllanthus australis</td>
<td>Native Sarsparilla</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phyllanthus australis</td>
<td>Native Sarsparilla</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phylophila pleurandroides</td>
<td>Heathly Phyllotis</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pteris squarrosa</td>
<td>Squall Picris</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea gauca</td>
<td>Smooth Riceflower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea humilis</td>
<td>Low Riceflower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea octophylla</td>
<td>Wooly Riceflower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea phytoloides</td>
<td>Heath Riceflower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea strigosa</td>
<td>Erect Riceflower</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantago hispida</td>
<td>Hairy Plantain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platycodium oblongum</td>
<td>Holly Flat-pea</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platysace heterophylla var. heterophylla</td>
<td>Slender Platysace</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa halimatrix</td>
<td>Kangaroo Island Poa</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa poiformis</td>
<td>Coast Tussock-grass</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Podophyllum angustifolium</td>
<td>Sticky Long-heads</td>
<td>Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------------</td>
<td>-----------------------------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Pomaderris obcordata</td>
<td>Wedge-leaf Pomaderris</td>
<td>Pimelea Pomaderris</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pomaderris oraria(NC)</td>
<td>Coast Pomaderris</td>
<td>Inland Pomaderris</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pomaderris paniculosa ssp. paniculosa</td>
<td>Coalsea Pomaderris</td>
<td>Heath Pomaderris</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pomaderris microphylla</td>
<td>Small Pomaderris</td>
<td>Small-leaf Pomaderris</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pomaderris triandra</td>
<td>Three-petal Pomaderris</td>
<td>Pink Pomaderris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prasophyllum &quot;carnosum&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prasophyllum elatum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prasophyllum sp.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostanthera chlorantha</td>
<td>Green Mintbush</td>
<td></td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Pseudanthus microchaeris</td>
<td>Fringed Pseudanthus</td>
<td></td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Pseudognaphalium luteoalbum</td>
<td>Jersey Cutweed</td>
<td>Cutweed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis aff. nana &quot;maliee&quot;</td>
<td>Mallee Dwarf Greenwood</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pterostylis alata</td>
<td>Tall Shell-orchid</td>
<td>Striped Greenhood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis dolichochila</td>
<td>Mallee Shell-orchid</td>
<td>Long-tongue Shell-orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pterostylis nana</td>
<td>Dwarf Greenwood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis nutans</td>
<td>Nodding Greenhood</td>
<td>Parrot's Beak Orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pterostylis pedunculata</td>
<td>Maroon-hood</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pterostylis plumosa</td>
<td>Bearded Greenhood</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pterostylis sanguinea</td>
<td>Blood Greenhood</td>
<td>Red Banded-greenhood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sp.</td>
<td>Greenhood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sp.(NC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilotus erubescens</td>
<td>Banded Greenhood</td>
<td></td>
<td>R</td>
<td>Q</td>
</tr>
<tr>
<td>Pilotus spathulatus forma spathulatus</td>
<td>Pussy-tails</td>
<td>Cats Paws</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Puccinellia stricta var. stricta</td>
<td>Australian Saltmarsh-grass</td>
<td>Marshgrass</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pultenaea canaliculata</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea canaliculata var. canaliculata</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea canaliculata var. latifolia</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea densifolia</td>
<td>Dense Bush-pea</td>
<td></td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea largiflorens</td>
<td>Twirly Bush-pea</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pultenaea tenuifolia</td>
<td>Narrow-leaf Bush-pea</td>
<td>Slender Bush-pea</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pultenaea trinervis</td>
<td>Three-nerve Bush-pea</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pyrorchis nigricans</td>
<td>Black Fire-orchid</td>
<td>Red-beak Orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Ranunculus amphibichrous</td>
<td>Small River Buttercup</td>
<td></td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Ranunculus sessiliflorus var.</td>
<td>Annual Buttercup</td>
<td>Small-flower Buttercup</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Ranunculus sessiliflorus var. sessiliflorus</td>
<td>Annual Buttercup</td>
<td>Small-flower Buttercup</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Rhagodia candoleana ssp.</td>
<td>Sea-beer Saltbush</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Rhagodia candoleana ssp. candoleana</td>
<td>Sea-beer Saltbush</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Rhodanthe laevis</td>
<td>Smooth Daisy</td>
<td>Smooth Sunray</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Rumex brownii</td>
<td>Slender Dock</td>
<td>Hooked Dock</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Rupia polycarpa</td>
<td>Widgeon Grass</td>
<td>Many-fruit Water-tassel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudolfia multiflora</td>
<td>Small Winklwort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samolus repens</td>
<td>Creeping Brookweed</td>
<td>Creeping Samolus</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Santalum acuminatum</td>
<td>Quandong</td>
<td>Native Peach</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Santalum murrayanum</td>
<td>Bitter Quandong</td>
<td>Ming</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Sarcochroa blackiana</td>
<td>Thick-head Samphire</td>
<td>Thick-head Glasswort</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sarcochroa quinqueflora</td>
<td>Beaded Samphire</td>
<td>Beaded Glasswort</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sarcocea bicinata</td>
<td>Ridged Noon-flower</td>
<td></td>
<td>K</td>
<td>3KC-</td>
</tr>
<tr>
<td>Scaevola albida</td>
<td>Pale Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Scaevola crassifolia</td>
<td>Cushion Fanflower</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Scaevola linearis ssp. confertifolia</td>
<td>Bundled Fanflower</td>
<td></td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Schoenopsis validus</td>
<td>River Club-rush</td>
<td>River Club-sedge</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus breviculmis</td>
<td>Matted Bog-rush</td>
<td>Moss Bog-rush</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus defortis</td>
<td>Small Bog-rush</td>
<td>Limestone Bog-rush</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus nigricus</td>
<td>Shiny Bog-rush</td>
<td>Shiny Bog-sedge</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus sp.</td>
<td>Bog-rush</td>
<td>Bog-sedge</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sclerolaena diacantha</td>
<td>Grey Bindyi</td>
<td>Horned Bindyi</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sebaea ovata</td>
<td>Yellow Sebaea</td>
<td>Yellow Centaury</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Senecio glomeratus</td>
<td>Swamp Groundsel</td>
<td>Toothed Groundsel</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Senecio glossanthus</td>
<td>Annual Groundsel</td>
<td>Slender Groundsel</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Senecio laetus</td>
<td>Variable Groundsel</td>
<td>Elegant Yellow-top</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var.</td>
<td>Scented Groundsel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var. obztisfolius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var. odoratus</td>
<td>Scented Groundsel</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Senecio picridioides</td>
<td>Purple-leaf Groundsel</td>
<td>Scabrid Groundsel</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Senecio quadridentatus</td>
<td>Cotton Groundsel</td>
<td>Cotton Fireweed</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Senecio teniflorus</td>
<td>Woodland Groundsel</td>
<td>Narrow Groundsel</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Solanum laciniatum</td>
<td>Cut-leaf Kangaroo-apple</td>
<td>Large Kangaroo-apple</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Solenogyne dominii</td>
<td>Smooth Solenogyne</td>
<td></td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Sonchus hydrogenophilus</td>
<td>Native Sow-thistle</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sonchus megacarpus</td>
<td>Coast Sow-thistle</td>
<td>Dune Thistle</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Spinifex sericeus</td>
<td>Rolling Spinifex</td>
<td>Coast Spinifex</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sporobolus virginicus</td>
<td>Salt Couch</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Sporobolus coerulifolius</td>
<td>Butterfly Sporidium</td>
<td></td>
<td>V</td>
<td>2Vca</td>
</tr>
<tr>
<td>Sporidium thymifolium</td>
<td>Thyme-leaf Sporidium</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. <em>Cylindrical inflorescence</em>(W.R.Barker 1418)</td>
<td>Bushy Candles</td>
<td>Rough Candles</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>Stackhousia aspericoccas. &quot;One-sided inflorescence&quot; (W.R. Barker 697)</td>
<td>One-sided Candles</td>
<td>Rough Candles</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stenopetalum lineare</td>
<td>Narrow Thread-petal</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa exilis</td>
<td>Heath Spear-grass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa flavescens</td>
<td>Coastal Spear-grass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa hemipogon</td>
<td>Half-beard Spear-grass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa macalpine</td>
<td>Annual Spear-grass</td>
<td>One-year Grass</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Stipa mollis</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa mundula</td>
<td>Nut Spear-grass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa scabra ssp. falcata</td>
<td>Slender Spear-grass</td>
<td>Rough Spear-grass</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa sp.</td>
<td>Spear-grass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa stipoides</td>
<td>Coastal Spear-grass</td>
<td>Prickly Spear-grass</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stuardia muelleri</td>
<td>Spoon Cudweed</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stylidium calcaratum</td>
<td>Spurred Trigger-plant</td>
<td>Book Trigger-plant</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stylidium graminifolium</td>
<td>Grass Trigger-plant</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stylidium perpusillum</td>
<td>Tiny Trigger-plant</td>
<td>Slender Trigger-plant</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Strophelia exarhena</td>
<td>Desert Heath</td>
<td>Beard-heath Strophelia</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Suaeda australis</td>
<td>Austral Seabite</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Swainsonelessertiifolia</td>
<td>Coast Swainson-pea</td>
<td>Poison Pea</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Tetragonia implexicoma</td>
<td>Bower Spinach</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Tetradocca pilosa ssp. pilosa</td>
<td>Hairy Pink-bells</td>
<td>Pink-eyed Susan</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Theleymitra antennifera</td>
<td>Lemon Sun-orchid</td>
<td>Rabbit-ears</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Theleymitra berntaghiana</td>
<td>Leopard Sun-orchid</td>
<td>Blotted Sun-orchid</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Theleymitra canaliculata</td>
<td>Azure Sun-orchid</td>
<td></td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Theleymitra holmesi</td>
<td>Blue Star Sun-orchid</td>
<td>Slender Swamp Sun-orchid</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Theleymitra iocides</td>
<td>Spotted Sun-orchid</td>
<td>Dotted Sun-orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Theleymitra junicipolia</td>
<td>Spotted Sun-orchid</td>
<td>Dotted Sun-orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Theleymitra luteicum</td>
<td>Yellow-tuft Sun Orchid</td>
<td>Fringed Sun-orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Theleymitra pauciflora</td>
<td>Slender Sun-orchid</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Theleymitra rubra</td>
<td>Salmon Sun-orchid</td>
<td>Pink Sun-orchid</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Theleymitra sp.</td>
<td>Sun-orchid</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kanganoo Grass</td>
<td>Iritji</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Thomasia petalocalyx</td>
<td>Paper-flower</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Therikelda diffusa</td>
<td>Coast Bonefruit</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Thyisanotus baueri</td>
<td>Maltese Fringe-ily</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Thyisanotus junifolius</td>
<td>Rush Fringe-ily</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Thyisanotus patersoni</td>
<td>Twinning Fringe-ily</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Tricoryne elatior(NC)</td>
<td>Yellow Rush-ily</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Tricoryne tenella</td>
<td>Tufted Yellow Rush-ily</td>
<td>Rigid Rush-ily</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triglochin calicarapum</td>
<td>Spurred Arrowgrass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triglochin centrocarpum</td>
<td>Dwarf Arrowgrass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triglochin procemum</td>
<td>Water-ribons</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triglochin striatum</td>
<td>Streaked Arrowgrass</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triglochin trichophorum</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triodia compacta</td>
<td>Spinebox</td>
<td>Porcupine-grass</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Typha domingensis</td>
<td>Narrow-leaf Bulrush</td>
<td>Narrow-leaf Cumbungi</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Utricularia tenella</td>
<td>Pink Bladderwort</td>
<td>Pink Fan</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Veronica hillebrandii</td>
<td>Rigid Speedwell</td>
<td>Coast Speedwell</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Vittadinia australasica var. australasica</td>
<td>Sticky New Holland Daisy</td>
<td>New Holland Daisy</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Vittadinia cuneata var. cuneata forma cuneata</td>
<td>Fuzzy New Holland Daisy</td>
<td>Fuzzyweed</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wahlbergia gracilenta</td>
<td>Annual Bluebell</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wahlbergia litticola</td>
<td>Coast Bluebell</td>
<td>Edge Bluebell</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wahlbergia luteolica</td>
<td>Yellow-wash Bluebell</td>
<td>Yellowish Bluebell</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wahlbergia stricta ssp. stricta</td>
<td>Tall Bluebell</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wilsonia backhouseae</td>
<td>Narrow-leaf Wilsonia</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wilsonia humilis var. humiliis</td>
<td>Silky Wilsonia</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wilsonia rotundifolia</td>
<td>Round-leaf Wilsonia</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wurmea dioica ssp. dioica</td>
<td>Early Nancy</td>
<td>Early Star-ly</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. semiplana</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tate's Grass-tree</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthosia pusilla</td>
<td>Hairy Xanthosia</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Zizia veronica</td>
<td>Pink Zizia</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Zygothamnium pillarii</td>
<td>Coast Twinleaf</td>
<td></td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>
## Perched Swamp Species List

(DEH survey data)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA AUS</th>
<th>ENDANGERED</th>
<th>SPECIES ACT</th>
<th>NPW ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var.</td>
<td>Silver Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia spinescens</td>
<td>Spiny Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia verticillata</td>
<td>Prickly Moses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia nova-zelandiae</td>
<td>Biddy-biddy</td>
<td>Bidgee-widgee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia modesta var.</td>
<td>Mayfly Orchid</td>
<td>Dead Horse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pulchra</td>
<td>Mosquito Orchid</td>
<td>Great Orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina pusilla</td>
<td>Dwarf Oak-bush</td>
<td>Heath Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Stalked Oak-bush</td>
<td>Tall Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema miquelli</td>
<td>Box Mistletoe</td>
<td>Nyrungya</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema pendulum ssp. pendulum</td>
<td>Drooping Mistletoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema preissii</td>
<td>Wire-leaf Mistletoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentipallium baleanum</td>
<td>Wooly Everlasting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argentipallium obtusifolium</td>
<td>Blunt Everlasting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthrodium strictum</td>
<td>Common Vanilla-lily</td>
<td>Common Chocolate-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma conosephioides</td>
<td>Flame Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma humifusum</td>
<td>Cranberry Heath</td>
<td>Native Cranberry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baeclea ramosissima ssp. ramosissima</td>
<td>Rosy Baeclea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia ornata</td>
<td>Desert Banksia</td>
<td>Sand-heath Banksia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baumea juncea</td>
<td>Bare Twig-rush</td>
<td>Blue Twig-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baumea tetragona</td>
<td>Square Twig-rush</td>
<td>Square Twig-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera cymosa</td>
<td>Sweet Apple-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blechnum minus</td>
<td>Soft Water-feather</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunonia australis</td>
<td>Blue Pincusion</td>
<td>Tjilpun-tjilpunpa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulbine bulbosa</td>
<td>Bulbine-lily</td>
<td>Native Leek</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burchardia umbellata</td>
<td>Milkmaids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadellia dilatata complex</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadellia leptocha</td>
<td>Narrow-lip Spider-orchid</td>
<td>Queen Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadellia tentaculara</td>
<td>King Spider-orchid</td>
<td>Large Green-comb Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calochilus robustoni</td>
<td>Purple Beard-orchid</td>
<td>Brown-beard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calotyrta tetragona</td>
<td>Common Fringe-myrte</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex appressa</td>
<td>Tall Sedge</td>
<td>Tussock Sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex tereticaulis</td>
<td>Rush Sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassatha glabella forma dispar</td>
<td>Slender Dodder-laurel</td>
<td>Tangled Dodder-laurel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassatha pubescens</td>
<td>Downy Dodder-laurel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centpedea minima</td>
<td>Spreading Sneezeweed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis fascicularis</td>
<td>Tufted Centrolepis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamaecilla corymbosa var. corymbosa</td>
<td>Blue Squill</td>
<td>Blue Stars</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheiranthus alternifolia</td>
<td>Hand-flowr</td>
<td>Finger-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysanthemum balearis</td>
<td>White Everlasting</td>
<td>Fringed Everlasting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comesperma calymega</td>
<td>Blue-spine Milkwort</td>
<td>Heath Milkwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conosperma patens</td>
<td>Slender Smoke-bush</td>
<td>Slender Conosperma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corea reflexa var. reflexa</td>
<td>Common Coreea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corybas dilatatus</td>
<td>Common Helmet-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corybas incurvus</td>
<td>Stilby Helmet-orchid</td>
<td>Purple Helmet-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craspedia glauca</td>
<td>Billy-buttons</td>
<td>Bachelor Buttons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptandra tomentosa</td>
<td>Heath Cryptandra</td>
<td>Velvet Cryptandra</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyrtosiphon rossoi</td>
<td>Small-Gris-orchid</td>
<td>Gympie flowering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianthus setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>Briefly Wallaby-grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia arenaria</td>
<td>Sand Bitter-pea</td>
<td>Mallee Bitter-pea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia brevifolia</td>
<td>Leafless Bitter-pea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daviesia ulicina ssp. incarnata</td>
<td>Daviesia ulicina</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dilwynia hispidia</td>
<td>Red Parrot-pea</td>
<td>Downy Parrot-pea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dilwynia sericea</td>
<td>Showy Parrot-pea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipodium roseum</td>
<td>Pink Hyacinth Orchid</td>
<td>Christmas Orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dipodium sp.</td>
<td>Hyacinth Orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuris aff. corymbosa</td>
<td>Wallflower Donkey-orchid</td>
<td>Bulldogs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuris brevifolia</td>
<td>Short-leaf Donkey-orchid</td>
<td>Late Donkey-orchid</td>
<td></td>
<td></td>
<td></td>
<td>3RCa U</td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spatulata</td>
<td>Sticky Hop-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. incarnata</td>
<td>Sticky Hop-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Drosera australis</td>
<td>Tall Sundew</td>
<td>Erinellam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera binata</td>
<td>Forked Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera glanduligera</td>
<td>Scarlet Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera macrantha ssp. planchonii</td>
<td>Climbing Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera peptida</td>
<td>Pale Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera pygmaea</td>
<td>Tiny Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera whitakeri ssp. whitakeri</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Echeochilus gracilis</td>
<td>Slender Spike-rush</td>
<td>Slender Spike-sedge</td>
<td></td>
<td></td>
<td></td>
<td>U</td>
</tr>
<tr>
<td>Empodisma minus</td>
<td>Tangled Rope-rush</td>
<td>Spreading Rope-rush</td>
<td></td>
<td></td>
<td></td>
<td>U</td>
</tr>
<tr>
<td>Eparis impressa</td>
<td>Common Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilobium hirtogenum</td>
<td>Hairy Willow-herb</td>
<td>Hoary Willow-herb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilobium paludiflorum</td>
<td>Showy Willow-herb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>U</td>
</tr>
<tr>
<td>Eucalyptus brevet</td>
<td>Brown Stringybark</td>
<td>Baxter's Stringybark</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fasciculosa</td>
<td>Pink Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon ssp. leucoxylon</td>
<td>South Australian Blue Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua</td>
<td>Messmate Stringybark</td>
<td>Stringybark</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus ovata</td>
<td>Swamp Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED</td>
<td>SPECIES ACT</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>----</td>
<td>-----</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Euchiton involucratus</td>
<td>Star Cudweed</td>
<td>Common Cudweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia sieberiana</td>
<td>Red-fruit Cutting-grass</td>
<td>Red-fruit Saw-sedge</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gleichenia microphylla</td>
<td>Coral Fern</td>
<td>Scrambling Coral-fern</td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Glossodia major</td>
<td>Purple Cockatoo</td>
<td>Wax-lip Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycine clandestina var. sericea</td>
<td>Twining Glycine</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gnaphalium indutum</td>
<td>Tiny Cudweed</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonocarpus mezzianus</td>
<td>Broad-leaf Raspwort</td>
<td>Hairy Raspwort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonocarpus micranthus ssp. micranthus</td>
<td>Creeping Raspwort</td>
<td>Small-leaf Raspwort</td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Goodenia geniculata</td>
<td>Bent Goodenia</td>
<td>Native Primrose</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gratola persuaria</td>
<td>Austral Brooklime</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var.</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var. lavandulacea</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>Turkey Gobblers</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helichrysum conspicocaroids</td>
<td>Button Everlasting</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia</td>
<td>Guinea-flower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia virgata</td>
<td>Twigg Guinea-flower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypolepis rugosula</td>
<td>Ruddy Ground-fenn</td>
<td></td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Hypoxis glabella var. glabella</td>
<td>Tiny Star</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoxis vaginata var. vaginata</td>
<td>Yellow Star</td>
<td>Sheath Star</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis inunata</td>
<td>Swamp Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis marginata</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isoptogen ceratophyllus</td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus bufonius</td>
<td>Toad Rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus caespiticosus</td>
<td>Grassy Rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus holoschoenus</td>
<td>Joint-leaf Rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pallidus</td>
<td>Pale Rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus planifolius</td>
<td>Broad-leaf Rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus prismatocarpus</td>
<td>Branching Rush</td>
<td></td>
<td>E</td>
<td></td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Juncus sanphorus</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarf Runner</td>
<td>Running Postman</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia orientalis</td>
<td>Dwarf Wire-lily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidobolus drapehotocoeleus</td>
<td>Scale Shedder</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma laterale s. str.</td>
<td>Tall Sword-sedge</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma longistriata</td>
<td>Pitby Sword-sedge</td>
<td>Swamp Sword-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leporella filimbriata</td>
<td>Fringed Hare-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptoceras menziesii</td>
<td>Hare Orchid</td>
<td>Rabbit Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum angustifolium</td>
<td>Prickly Tea-tree</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>Woolly Tea-tree</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum myrianoides</td>
<td>Heath Tea-tree</td>
<td></td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Leucopogon hisutus</td>
<td>Hairy Beard-heath</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindseaa linearis</td>
<td>Screw Fern</td>
<td>Necklace Fern</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia alata</td>
<td>Angled Lobelia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia gibbosa</td>
<td>Tall Lobelia</td>
<td>False Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lobelia mongolica</td>
<td>Tufted Lobelia</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra collina</td>
<td>Sand Mat-rush</td>
<td>Sharp-leaf Mat-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra micrantha ssp.</td>
<td>Small-flower Mat-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora ssp. dura</td>
<td>Hard Mat-rush</td>
<td>Iron-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lythrum hyssopifolium</td>
<td>Lesser Loosestipe</td>
<td>Small Loosestife</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lythrum salicaria</td>
<td>Purple Loosestipe</td>
<td></td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>Cross-leaved Honey-myrtle</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micranthus demissum</td>
<td>Dwarf Micranthus</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microtus parviflorus</td>
<td>Slender Onion-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micrtos unifolia</td>
<td>Common Onion-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myriophyllum amphibium</td>
<td>Broad Milfoil</td>
<td>Broad Water-milfoil</td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Neurachne alopecuroideae</td>
<td>Fox-tail Mulga-grass</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twigg Daisy-bush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paracaleana minor</td>
<td>Small Duck-orchid</td>
<td></td>
<td>V</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Patersonia fragilis</td>
<td>Short Purple-flag</td>
<td>Swamp Iris</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patersonia occidentalis</td>
<td>Long Purple-flag</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>Common Reed</td>
<td>Bamboo Reed</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea humilis</td>
<td>Low Riceflower</td>
<td>Common Riceflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea octophylla</td>
<td>Wooly Riceflower</td>
<td>Downy Riceflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platylobium obtusangulum</td>
<td>Holly Flat-pea</td>
<td>Common Flat-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platysace heterophylla var. heterophylla</td>
<td>Slender Platysace</td>
<td>Corn Parsley</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pratia pedunculata</td>
<td>Mattled Pratia</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prunella vulgaris</td>
<td>Self-heal</td>
<td>Heal-all</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudanthus micranthus</td>
<td>Fringed Pseudanthus</td>
<td></td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Pseudognaphalium luteolabium</td>
<td>Jersey Cudweed</td>
<td>Cudweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pteridium esculentum</td>
<td>Bracken Fern</td>
<td>Austral Bracken</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis pedunculata</td>
<td>Maroon-hood</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sanguinea</td>
<td>Blood Greenhood</td>
<td>Red Banded-greenhood</td>
<td>R</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Pyrorchis nigricans</td>
<td>Black Fire-orchid</td>
<td>Red-beak Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaveola albida</td>
<td>Pale Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>----</td>
<td>---------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus breviculmis</td>
<td>Mattet Bog-rush</td>
<td>Moss Bog-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus maschalinus</td>
<td>Leafy Bog-rush</td>
<td>Creeping Bog-rush</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio glomeratus</td>
<td>Swamp Groundsel</td>
<td>Toothed Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio quadridentatus</td>
<td>Cotton Groundsel</td>
<td>Cotton Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spiranthus sinensis ssp. australis</td>
<td>Austral Lady's Tresses</td>
<td>Ladies Tresses</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sprengelia incarnata</td>
<td>Pink Swamp-heath</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spyridium thymifolium</td>
<td>Thyme-leaf Spyridium</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stipa mollis</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium graminifolium</td>
<td>Grass Trigger-plant</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetradeca pilosa ssp. pilosa</td>
<td>Hairy Pink-bells</td>
<td>Pink-eyed Susan</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra antennifera</td>
<td>Lemon Sun-orchid</td>
<td>Rabbit-ears</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra ixicides</td>
<td>Spotted Sun-orchid</td>
<td>Dotted Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra luteocilium</td>
<td>Yellow-lift Sun-Orchid</td>
<td>Fringed Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra nuda</td>
<td>Scented Sun-orchid</td>
<td>Plain Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra pauciflora</td>
<td>Slender Sun-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra rubra</td>
<td>Salmon Sun-orchid</td>
<td>Pink Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thysanotus junoculifolius</td>
<td>Rush Fringe-lily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thysanotus patersonii</td>
<td>Twining Fringe-lily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tricoryne elatior</td>
<td>Yellow Rush-ily</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typha domingensis</td>
<td>Narrow-leaf Bulrush</td>
<td>Narrow-leaf Cumbungi</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia dichotoma</td>
<td>Purple Bladderwort</td>
<td>Fairies Apron</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Villarsia umbripila var. umbricola</td>
<td>Lax Marsh-flower</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viminaria juncea</td>
<td>Native Broom</td>
<td>Golden Spray</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viola sieberiana</td>
<td>Tiny Violet</td>
<td>Sieber's Violet</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia gracilenta</td>
<td>Annual Bluebell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia stricta ssp. stricta</td>
<td>Tall Bluebell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. semiplana</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthosia pusilla</td>
<td>Hairy Xanthosia</td>
<td>Heath Xanthosia</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>---------------</td>
<td>----</td>
<td>-----</td>
<td>-----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Acacia melanoxylon</td>
<td>Blackwood</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia var. myrtifolia</td>
<td>Myrtle Wattle</td>
<td>Scrub Wattle</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia (NC)</td>
<td>Myrtle Wattle</td>
<td>Bitter Leaf Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia ritidophylla var.</td>
<td>Silver Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia ritidophylla var. reclinata (swamp form)</td>
<td>Swamp Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia sp.</td>
<td>Sheep's Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia xanthophloea var. xanthophloea</td>
<td>Swamp Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia xanthophloea var. xanthophloea</td>
<td>Sheep's Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia xanthophloea var. xanthophloea</td>
<td>Sheep's Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia xanthophloea var. xanthophloea</td>
<td>Biddy-biddy</td>
<td>Biddy-widgee</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia sp.</td>
<td>Sheep's Burr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia xanthophloea var. xanthophloea</td>
<td>Mayfly Orchid</td>
<td>Dead Horse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia xanthophloea var. xanthophloea</td>
<td>Mosquito Orchid</td>
<td>Gnat Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche serrulata</td>
<td>Cushion Ground-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adiantum aethiopicum</td>
<td>Common Maiden-hair</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis sp.</td>
<td>Blown-grass/Bent Grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp.</td>
<td>Common Oak-bush</td>
<td>Slaty Oak-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp. muelleriana</td>
<td>Common Oak-bush</td>
<td>Slaty Oak-bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Stalked Oak-bush</td>
<td>Tall Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Sheoak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphipogon strictus var. setifer</td>
<td>Spreading Grey-beard Grass</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema miquelii</td>
<td>Box Mistletoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyema pinicola</td>
<td>Wire-leaf Mistletoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aplum prostratum var. prostratum var.</td>
<td>Native Celery</td>
<td>Sea Celery</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthrostegia filiformis</td>
<td>Nodding Vanilla-illy</td>
<td>Summer Vanilla-illy</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthrostegia filiformis</td>
<td>Vanilla-illy</td>
<td>Chocolate-illy</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthrostegia filiformis</td>
<td>Common Vanilla-illy</td>
<td>Common Chocolate-illy</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asplenium flabellifolium</td>
<td>Necklace Fern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma conostephioides</td>
<td>Blue Pincushion</td>
<td>Tjulpun-tjulpunpa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma humifusum</td>
<td>Cranberry Heath</td>
<td>Native Cranberry</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baeckea laxiflora</td>
<td>Rosy Baeckea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera corymbosa</td>
<td>Orange Bell-climber</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera biennis</td>
<td>Sweet Apple-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billardiera dasyphylla</td>
<td>Apple-berry</td>
<td>Single-flower Apple-berry</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blechnum minus</td>
<td>Soft Water-fern</td>
<td></td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blechnum nudum</td>
<td>Fishbone Water-fern</td>
<td></td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biscutella crocata</td>
<td>Creeping Bossiaea</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachyloma ericoides</td>
<td>Brush Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachyloma ericoides var. ericoides</td>
<td>Brush Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brachyloma ericoides</td>
<td>Golden Everlasting</td>
<td>Tjulpun-tjulpunpa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bromus sp.</td>
<td>Brome</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunonia australis</td>
<td>Blue Pincushion</td>
<td>Tjulpun-tjulpunpa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruntnia umbellata</td>
<td>Milkymaids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td>South Australian Christmas Bush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesia callistemon</td>
<td>Blue Grass-illy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Pink Fingers</td>
<td>Pink Fingers Caladenia</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Narrow-lip Spider-orchid</td>
<td>Queen Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Green-comb Spider-orchid</td>
<td>Fringed Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia corymbosa</td>
<td>Narrow-lip Spider-orchid</td>
<td>Queen Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia sp.</td>
<td>Spider-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caladenia tentaculata</td>
<td>King Spider-orchid</td>
<td>Large Green-comb Spider-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callistemon robertsonii</td>
<td>Purple Bead-board-orchid</td>
<td>Brown-beard</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardamine rugosa</td>
<td>Common Fringe-myrtle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardamine paucijuga</td>
<td>Annual Bitter-cress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex appressa</td>
<td>Tall Sedge</td>
<td>Tussock Sedge</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex brevicaulis</td>
<td>Short-stem Sedge</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia sp.</td>
<td>Sticky Cassinia</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------</td>
<td>------------------------</td>
<td>----</td>
<td>-----</td>
<td>------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Danthonia caespitosa</td>
<td>Common Wallaby-grass</td>
<td>White-top</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danthonia pilosa var. pilosaea</td>
<td>Velvet Wallaby-grass</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danthonia setacea var. setacea</td>
<td>Small-Flower Wallaby-grass</td>
<td>Bristy Wallaby-grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danthonia sp.</td>
<td>Wallaby-grass</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Daucus ghoohbolias</td>
<td>Native Carrot</td>
<td>Australian Carrot</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Daviesia brevifolia</td>
<td>Leafless Bitter-pea</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Daviesia leptopityla</td>
<td>Narrow-leaf Bitter-pea</td>
<td>N</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Daviesia ulotofilla</td>
<td>Gorse Bitter-pea</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Deyeusia quadriflora</td>
<td>Reed Birt-grass</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danielea brevicaulis revoluta var.</td>
<td>Black-anther Flex-fily</td>
<td>Coast Flex-fily</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danielea longifolia var.</td>
<td>Pala-Flex-fily</td>
<td>Yellow-anther Flex-fily</td>
<td>R</td>
<td>R</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danielea revoluta var. revoluta</td>
<td>Black-anther Flex-fily</td>
<td>Spreading Flex-fily</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Danielea revoluta var.</td>
<td>Black-anther Flex-fily</td>
<td>Spreading Flex-fily</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Dichanthem cinerea</td>
<td>Long-hair P może-grass</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Dichondra repens</td>
<td>Kidney Weed</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Dilleymia hospidla</td>
<td>Red Parrot-pea</td>
<td>Downy Parrot-pea</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Dilleypia sp.</td>
<td>Parrot-pea</td>
<td></td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Dipodium punctatum</td>
<td>Hyacinth Orchid</td>
<td>Spotted Orchid</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Dipodium sp.</td>
<td>Hyacinth Orchid</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Drosia aff. corymbosa</td>
<td>Wallflower Donkey-orchid</td>
<td>Bulldogs</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Drosia breviflora</td>
<td>Short-leaf Donkey-orchid</td>
<td>Late Donkey-orchid</td>
<td>R</td>
<td>3RCa</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Drosia longifolia</td>
<td>Bulldogs</td>
<td>Wall-fower Orchid</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Drosia sp.</td>
<td>Donkey-orchid</td>
<td></td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Drosia sp.</td>
<td>Sundew</td>
<td></td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Drosia scabrella</td>
<td>Scaret Sundew</td>
<td>Whittaker's Sundew</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Epacris impressa</td>
<td>Common Heath</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Epilobium biltardianum sp. biltardianum</td>
<td>Robust Willow-herb</td>
<td>Smooth Willow-herb</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Epilobium biltardianum sp. cinereum</td>
<td>Variable Willow-herb</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eritrichis ocularis</td>
<td>Parson's Bands</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus baxteri</td>
<td>Brown Stringybag</td>
<td>Baxter's Stringybag</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var. camaldulensis</td>
<td>River Red Gum</td>
<td>Rod Gum</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus cosmophylla</td>
<td>Cup Gum</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fasciilosa</td>
<td>Pink Gum</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus flexuroides var.</td>
<td>Narrow-leaf Malalee</td>
<td>Slender-leaved Red Malalee</td>
<td>0</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucokoryon sp. leucokoryon</td>
<td>South Australian Blue Gum</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua</td>
<td>Messmate Stringybag</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua var. obliqua(NC)</td>
<td>Messmate Stringybag</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua var.</td>
<td>Messmate Stringybag</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus viminalis sp. viminalis</td>
<td>Rough-bank Manna Gum</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus communis</td>
<td>Manna Gum</td>
<td>Ribbon Gum</td>
<td>R</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus gymnogonaphus</td>
<td>Creeping Cudweed</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucalytus sp.</td>
<td>Cudweed</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Euphorusia collina sp. oocemob</td>
<td>Osborn's Eyebright</td>
<td>E</td>
<td>3EC</td>
<td>E</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Eucarpus cupressiformis</td>
<td>Native Cherry</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gahnia sieberiana</td>
<td>Red-frut Cutting-grass</td>
<td>Red-frut Saw-sedge</td>
<td>U</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Galium gaudichaudii</td>
<td>Rough Bedstraw</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Genoplesium rufum</td>
<td>Red Midge-orchid</td>
<td>Dark Midge-orchid</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Geranium returonum</td>
<td>Grassland Geranium</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Geranium solanderi var. solanderi</td>
<td>Australian Crane's-ball</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Geranium sp.</td>
<td>Geranium</td>
<td>Crane's-ball</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gompholobium major</td>
<td>Purple Cockatoos</td>
<td>Wax-Ip Orchid</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Glycine clandestina var. sericea</td>
<td>Twining Glycine</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Glycine latrobaeas</td>
<td>Clover Glycine</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gnaphalium sp.</td>
<td>Cudweed</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gnaphalium sp. (NC)</td>
<td>Cudweed</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gompholobium ecostatum</td>
<td>Dwarf Wedge-pea</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gonocarpus magallanus</td>
<td>Broad-leaf Raspwort</td>
<td>Hairy Raspwort</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gonocarpus sp.</td>
<td>Raspwort</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gonocarpus tetragonus</td>
<td>Small-leaf Raspwort</td>
<td>Common Raspwort</td>
<td>U</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodenia amplexans</td>
<td>Clasping Goodenia</td>
<td>Native Primrose</td>
<td>U</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodenia baikiana</td>
<td>Raspwort</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodenia geniculata</td>
<td>Bent Goodenia</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodenia sp.</td>
<td>Goodenia</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodenia varia</td>
<td>Sticky Goodenia</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Goodia mediagynae</td>
<td>Western Golden-tip</td>
<td>Golden-tip</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Gratiola peruviana</td>
<td>Australian Brokline</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var.</td>
<td>Spider-Flower</td>
<td>Heath Greyville</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var. lavandulacea</td>
<td>Spider-Flower</td>
<td>Heath Greyville</td>
<td>U</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var. sericea</td>
<td>Spider-Flower</td>
<td>Heath Greyville</td>
<td>U</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hakea canina</td>
<td>Erect Hakea</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hakeasia sp.</td>
<td>Raspwort</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Helichrysum scorpioides</td>
<td>Butlton Everlasting</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hibbertia aspasia(NC)</td>
<td>Prickly Guine-flower</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hibbertia excelsioris</td>
<td>Guine-flower</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia</td>
<td>Smooth Guine-flower</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hibbertia riparia (glabriiscucla)</td>
<td>Smooth Guine-flower</td>
<td>0</td>
<td>N</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>---------------</td>
<td>----</td>
<td>-----</td>
<td>-----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Hibbertia sericea var. sericea</td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sp.</td>
<td>Guinean-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia sp. B</td>
<td>Scrambling Guinean-flower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia stricta var. stricta</td>
<td>Stalked Guinea-flower</td>
<td>Erect Guinea-flower</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydratecarpus demissus</td>
<td>Dwarf Sunray</td>
<td>Moss Sunray</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydratecarpus calyculosa</td>
<td>Tiny Pennywort</td>
<td>Small Pennywort</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotylae calthifolia</td>
<td>Thread Pennywort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotylae hispida</td>
<td>Hairy Pennywort</td>
<td></td>
<td></td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygrophilum graminifolium</td>
<td>Small St John's Wort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoxis vaginata var. vaginata</td>
<td>Yellow Star</td>
<td>Hairpin Star</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigofera australis var. australis</td>
<td>Austral Indigo</td>
<td>Hill Indigo</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis ceratophyllus</td>
<td>Nodding Club-rush</td>
<td>Low Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis inundata</td>
<td>Swamp Club-rush</td>
<td>Coarse Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis marginata</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon ceratophyllus</td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon australis</td>
<td>Isopogon alata</td>
<td>Isopogon alata</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus caespiticius</td>
<td>Grassy Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus holoschoenus</td>
<td>Joint-leaf Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pauciflorus</td>
<td>Pale Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus squarrosus</td>
<td>Finger Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lagenthera tasmanii</td>
<td>Coarse Bottle-daisy</td>
<td>Coarse Lagenella</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lasiopetalum caespitosum</td>
<td>Slender Velvet-bush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia sessiliflora</td>
<td>Dwarf Wood-rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma curtisii</td>
<td>Little Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma longitudinale</td>
<td>Pithy Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma sp.</td>
<td>Sword-sedge/Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma viscidum</td>
<td>Sticky Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepolepis bennettii</td>
<td>Fringed Hare-orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys menziesii</td>
<td>Hare Orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys capillaris</td>
<td>Thread Pennywort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys hirta</td>
<td>Hairy Pennywort</td>
<td></td>
<td></td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypericum gramineum</td>
<td>Small St John's Wort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoxis vaginata var. vaginata</td>
<td>Yellow Star</td>
<td>Hairpin Star</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigofera australis var. australis</td>
<td>Austral Indigo</td>
<td>Hill Indigo</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis ceratophyllus</td>
<td>Nodding Club-rush</td>
<td>Low Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis inundata</td>
<td>Swamp Club-rush</td>
<td>Coarse Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis marginata</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon ceratophyllus</td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon australis</td>
<td>Isopogon alata</td>
<td>Isopogon alata</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus caespiticius</td>
<td>Grassy Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus holoschoenus</td>
<td>Joint-leaf Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pauciflorus</td>
<td>Pale Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus squarrosus</td>
<td>Finger Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lagenthera tasmanii</td>
<td>Coarse Bottle-daisy</td>
<td>Coarse Lagenella</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lasiopetalum caespitosum</td>
<td>Slender Velvet-bush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia sessiliflora</td>
<td>Dwarf Wood-rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma curtisii</td>
<td>Little Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma longitudinale</td>
<td>Pithy Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma sp.</td>
<td>Sword-sedge/Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma viscidum</td>
<td>Sticky Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepolepis bennettii</td>
<td>Fringed Hare-orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys menziesii</td>
<td>Hare Orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys capillaris</td>
<td>Thread Pennywort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys hirta</td>
<td>Hairy Pennywort</td>
<td></td>
<td></td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypericum gramineum</td>
<td>Small St John's Wort</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypoxis vaginata var. vaginata</td>
<td>Yellow Star</td>
<td>Hairpin Star</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigofera australis var. australis</td>
<td>Austral Indigo</td>
<td>Hill Indigo</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis ceratophyllus</td>
<td>Nodding Club-rush</td>
<td>Low Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis inundata</td>
<td>Swamp Club-rush</td>
<td>Coarse Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis marginata</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon ceratophyllus</td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon australis</td>
<td>Isopogon alata</td>
<td>Isopogon alata</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus caespiticius</td>
<td>Grassy Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus holoschoenus</td>
<td>Joint-leaf Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus pauciflorus</td>
<td>Pale Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juncus squarrosus</td>
<td>Finger Rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lagenthera tasmanii</td>
<td>Coarse Bottle-daisy</td>
<td>Coarse Lagenella</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lasiopetalum caespitosum</td>
<td>Slender Velvet-bush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laxmannia sessiliflora</td>
<td>Dwarf Wood-rush</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma curtisii</td>
<td>Little Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma longitudinale</td>
<td>Pithy Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma sp.</td>
<td>Sword-sedge/Rapier-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma viscidum</td>
<td>Sticky Sword-sedge</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepolepis bennettii</td>
<td>Fringed Hare-orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptortys menziesii</td>
<td>Hare Orchid</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>---------------</td>
<td>----</td>
<td>-----</td>
<td>------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Pimelea phylicoides</td>
<td>Heath Riceflower</td>
<td>Heath Riceflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pimelea sp.</td>
<td>Riceflower</td>
<td>Riceflower</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plantago hiapoda</td>
<td>Hairy Plantain</td>
<td>Hairy Plantain</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platycladi um obtusangulum</td>
<td>Holly Flat-pea</td>
<td>Common Flat-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platysace heterophylla var.</td>
<td>Slender Platysace</td>
<td>Slender Platysace</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platysace heterophylla var. heterophylla</td>
<td>Slender Platysace</td>
<td>Slender Platysace</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleurocossus rufibulus</td>
<td>Blanket Fern</td>
<td>Blanket Fern</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa celiandi</td>
<td>Matted Tussock-grass</td>
<td>Celiand's Poa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa labillardieri var. labillardieri</td>
<td>Common Tussock-grass</td>
<td>Tussock Poa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa poriformis</td>
<td>Coast Tussock-grass</td>
<td>Blue Tussock-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>Poa</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pomaderris paniculosa ssp. paniculosa</td>
<td>Malea Pomaderris</td>
<td>Malea Pomaderris</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poranthera microphylla</td>
<td>Small Poranthera</td>
<td>Small-leaf Poranthera</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudanthus chlorantha</td>
<td>Green Mintbush</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudanthus echinatus</td>
<td>Fringed Pseudanthus</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pteridium esculentum</td>
<td>Bracken Fern</td>
<td>Bracken Fern</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis curta</td>
<td>Blunt Greenhood</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis foliata</td>
<td>Slender Greenhood</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis nana</td>
<td>Dwarf Greenhood</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis nutans</td>
<td>Nodding Greenhood</td>
<td>Parrot's Beak Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis plumosa</td>
<td>Bearded Greenhood</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sp.</td>
<td>Greenhood</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pterostylis sp.(NC)</td>
<td>Banded Greenhood</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenaea acerosa</td>
<td>Bristly Bush-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenaea canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenaea canaliculata var. canaliculata</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenaea involucrata</td>
<td>Mount Lofty Bush-pea</td>
<td>U</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenaea litoriflora</td>
<td>Twiggly Bush-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenaea pedunculata</td>
<td>Matled Bush-pea</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrorchis nigricans</td>
<td>Black Fire-orchid</td>
<td>Red-beak Orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranunculus lapponicus</td>
<td>Native Buttercup</td>
<td>Australian Buttercup</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranunculus sp.</td>
<td>Buttercup</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubus parvifolius</td>
<td>Native Raspberry</td>
<td>Small-leaf Bramble</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rumex sp</td>
<td>Dock</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rutidosiphon multiflorus</td>
<td>Small Wrinklewort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samolus repens</td>
<td>Creeping Brookweed</td>
<td>Creeping Samolus</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaevola albida</td>
<td>Pale Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaevola albida var. albida</td>
<td>Pale Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio glomeratus</td>
<td>Small Wrinklewort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio hirsutus</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio hirsutus var.</td>
<td>Mattled Bog-rush</td>
<td>Moss Bog-rush</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio hispidulus var.</td>
<td>Dwarf Skullcap</td>
<td>Skulcap</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio laciniatus</td>
<td>Swamp Groundsel</td>
<td>Toothed Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio lapponicus var.</td>
<td>Rough Groundsel</td>
<td>Hidal Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio laxus</td>
<td>Variable Groundsel</td>
<td>Elegant Yellow-top</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio o zobaczyć</td>
<td>Scanted Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio o zobaczyć var.</td>
<td>Scanted Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio o zoek analyzing var.</td>
<td>Scanted Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio o zoek analyzing</td>
<td>Cotton Groundsel</td>
<td>Cotton Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio sp.</td>
<td>Groundsel</td>
<td>Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio squarrosus</td>
<td>Square Groundsel</td>
<td>Leafy Fireweed</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senecio benyonii</td>
<td>Woodland Groundsel</td>
<td>Narrow Groundsel</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirydium coadmiophyllum</td>
<td>Butterfly Spirydium</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirydium stenophyllum</td>
<td>Thyme-leaved Spirydium</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp.</td>
<td>Bushy Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. &quot;Cyathidical</td>
<td>Bushy Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. &quot;Cyathidical</td>
<td>Bushy Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. &quot;Cyathidical</td>
<td>Bushy Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca ssp. &quot;Cyathidical</td>
<td>Bushy Candles</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stella palustris var.</td>
<td>Swamp Starwort</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stipa molis</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stipa semibarbata</td>
<td>Filious Spear-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stipa sp.</td>
<td>Spear-grass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium graminifolium</td>
<td>Grass Trigger-plant</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylisma exarnena</td>
<td>Desert Heath</td>
<td>Beard-heath Stylisma</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetraphis pitioides pitioides</td>
<td>Hairy Pink-balls</td>
<td>Pink-eyed Susan</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra antennifera</td>
<td>Lemon Sun-orchid</td>
<td>Rabbit-aars</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra benthamiana</td>
<td>Leopard Sun-orchid</td>
<td>Bitchted Sun-orchid</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra andersonii</td>
<td>Spotted Sun-orchid</td>
<td>Dotted Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra nuta</td>
<td>Scanted Sun-orchid</td>
<td>Plain Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra pauciflora</td>
<td>Slender Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra rubra</td>
<td>Salmon Sun-orchid</td>
<td>Pink Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thelymitra sp.</td>
<td>Sun-orchid</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>Biritj</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomasia petalocephala</td>
<td>Paper-flower</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thysanotus jarroldii</td>
<td>Rush Fringe-lily</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thysanotus pauciflorus</td>
<td>Twining Fringe-lily</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tricoryne elatior</td>
<td>Yellow Rush-lily</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglochin procumbens</td>
<td>Water-rabbits</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglochin striatum</td>
<td>Straked Arrowgrass</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia prostrata</td>
<td>Lax Marsh-flower</td>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viola hederacea</td>
<td>Ivy-leaf Violet</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viola sieberiana</td>
<td>Tiny Violet</td>
<td>Sieb's Violet</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viola sp.</td>
<td>Violet</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia glabra</td>
<td>Annual Bluebell</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia sp.</td>
<td>Native Bluebell</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia stricta ssp. stricta</td>
<td>Tall Bluebell</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wurmbia dolicha ssp. dolicha</td>
<td>Early Nancy</td>
<td>Early Star-lily</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDANGERED SPECIES ACT</td>
<td>NPW ACT</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>----</td>
<td>-----</td>
<td>------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. semiplana</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tate's Grass-tree</td>
<td>Hairy Xanthosia</td>
<td></td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthosia pusilla</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>SPECIES ACT</th>
<th>NPW ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia longifolia var.</td>
<td>Sallow Wattle</td>
<td>Scrub Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia var.</td>
<td>Myrtle Wattle</td>
<td>Scrub Wattle</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia var. myrtifolia</td>
<td>Myrtle Wattle</td>
<td>Bitter Leaf Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche depressa</td>
<td>Native Currant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrotriche serrulata</td>
<td>Cushion Ground-berry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis avenacea var.</td>
<td>Common Blown-grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agrostis sp.</td>
<td>Blown-grass/Bent Grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp.</td>
<td>Common Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina pusilla</td>
<td>Dwarf Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Stalked Oak-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthropodium strictum</td>
<td>Common Vanilla-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma conostephioides</td>
<td>Flame Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astroloma humifusum</td>
<td>Cranberry Heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesia calliantha</td>
<td>Blue Grass-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia laevis</td>
<td>Curry Bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassinia uncata</td>
<td>Sticky Cassinia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassytha glabella forma dispar</td>
<td>Slender Dodder-laurel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassytha pubescens</td>
<td>Downy Dodder-laurel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamaesarca corymbosa var. corymbosa</td>
<td>Blue Squill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chelanthes austrotenuifolia</td>
<td>Annual Rock-fenn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chryscephalum apiculatum</td>
<td>Common Everlasting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man’s Beard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correa reflexa</td>
<td>Common Correa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correa schlectendalii</td>
<td>Mallee Correa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulis/revoluta var.</td>
<td>Black-anther Flax-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td>Black-anther Flax-lily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichondra repens</td>
<td>Kidney Weed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diuris pardina</td>
<td>Spotted Donkey-orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera auriculata</td>
<td>Tall Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera macrantha spp. planchonii</td>
<td>Climbing Sundew</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elymus scabrus var. scabrus</td>
<td>Native Wheat-grass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euclayptus cosmoaphylla</td>
<td>Cup Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euclayptus fasciulosa</td>
<td>Pink Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euclayptus leptophylla</td>
<td>Narrow-leaf Red Mallee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euclayptus leucoxylon ssp.</td>
<td>South Australian Blue Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euclayptus leucoxylon(NC)</td>
<td>South Australian Blue Gum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eutaxa sp.</td>
<td>Egg-and-bacon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exocarpos cupressiformis</td>
<td>Native Cherry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium sp.</td>
<td>Geranium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gongonorus meianthus</td>
<td>Broad-leaf Raspwort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia blackiana</td>
<td>Native Primrose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia varia</td>
<td>Sticky Goodenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lindlauacea var.</td>
<td>Spider-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardenbergia violacea</td>
<td>Native Lilac</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia exilicocyes</td>
<td>Prickly Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia rigida</td>
<td>Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibbertia ripariaca</td>
<td>Smooth Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopogon ceraflavus</td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopterys ceraflavus</td>
<td>Honey Cone-bush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma curtisiae</td>
<td>Little Sword-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiteres</td>
<td>Wire Rapier-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidosperma viscidum</td>
<td>Sticky Sword-sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leuenhockia pusilla</td>
<td>Tiny Stylewort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra densiflora</td>
<td>Soft Tussock Mat-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra fibrata</td>
<td>Mount Lofty Mat-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra micrantha ssp.</td>
<td>Small-flower Mat-rush</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| *Blue Gum Woodland Species List* (DEH survey data)
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>SA</th>
<th>AUS</th>
<th>NPW ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lomandra micrantha ssp. micrantha</td>
<td>Small-flower Mat-rush</td>
<td>Iron-grass</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora ssp. dura</td>
<td>Hard Mat-rush</td>
<td>Cross-leaved Honey-myrtle</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>Weeping Grass</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Microeleana stipoides var. stipoides</td>
<td>Weeping Rice-grass</td>
<td>Wiry Mitrewort</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Mitrasacme paradoxa(NC)</td>
<td></td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Moss sp.</td>
<td></td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Muehlenbeckia adpressa</td>
<td>Climbing Lignum</td>
<td>Native Sanspanilla</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Oleaeria pannosa ssp. pannosa</td>
<td>Silver Daisy-bush</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Oleaeria ramulosa</td>
<td>Twiggy Daisy-bush</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Oleaeria sp.</td>
<td>Daisy-bush</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Opercularia turpis</td>
<td>Twiggy Stinkweed</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Oxlalis perennians</td>
<td>Native Sorrel</td>
<td>Native Oxalis</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Phyllanthus australis</td>
<td>Southern Spurge</td>
<td>Pointed Spurge</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Platylomum obtusangulum</td>
<td>Holly Flat-pea</td>
<td>Common Flat-pea</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>Poa</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pseudanthus micranthus</td>
<td>Fringed Pseudanthus</td>
<td></td>
<td>R</td>
<td>2RCa</td>
<td>R</td>
</tr>
<tr>
<td>Pultenaea canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>U</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Pultenaea scabra</td>
<td>Rough Bush-pea</td>
<td></td>
<td>R</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Pultenaea trinervis</td>
<td>Three-nerve Bush-pea</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Scaevola lineans ssp.</td>
<td>Rough Fanflower</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Schoenus brevicolmis</td>
<td>Matted Bog-rush</td>
<td>Moss Bog-rush</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stackhousia aspericocca(NC)</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa mollis</td>
<td>Fibrous Spear-grass</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa semibarbata</td>
<td>Spear-grass</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Stipa sp.</td>
<td>Slender Sun-orchid</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Thelymitra pauciflora</td>
<td>Kangaroo Grass</td>
<td>Ilintji</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia luteola</td>
<td>Yellow-wash Bluebell</td>
<td>Yellowish Bluebell</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea sempitana</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea sempitana ssp. tateana</td>
<td>Tate's Grass-tree</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>SA</td>
<td>AUS</td>
<td>ENDEANGERED SPECIES ACT</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------</td>
<td>--------------------</td>
<td>----</td>
<td>-----</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Alternanthera denticulata</td>
<td>Lesser Joyweed</td>
<td></td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Cheilanthes australisnifolia</td>
<td>Annual Rock-fern</td>
<td>Green Rock-fern</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man’s Beard</td>
<td>Small-leaf Clematis</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Cyperus vaginatus</td>
<td>Stiff Flat-sedge</td>
<td>Puta-puta</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Dichondra repens</td>
<td>Kidney Weed</td>
<td>Tom Thumb</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spatulata</td>
<td>Sticky Hop-bush</td>
<td>Spoon-leaf Hop-bush</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var.</td>
<td>River Red Gum</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucocystylon(NC)</td>
<td>South Australian Blue Gum</td>
<td>Yellow Gum</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Isolepis nodosa</td>
<td>Knobby Club-rush</td>
<td>Knobby Club-sedge</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Juncus kraussii</td>
<td>Sea Rush</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>Woolly Tea-tree</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Melaleuca brevifolia</td>
<td>Short-leaf Honey-myrtle</td>
<td>Swamp Honey-myrtle</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Mimulus repens</td>
<td>Creeping Monkey-flower</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>Common Reed</td>
<td>Bamboo Reed</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Pteridium esculentum</td>
<td>Bracken Fern</td>
<td>Austral Bracken</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Senecio sp.</td>
<td>Groundsel</td>
<td>Fireweed</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Triglochin procerum var. procercum(NC)</td>
<td>Water-ribbons</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Typha domingensis</td>
<td>Narrow-leaf Bulrush</td>
<td>Narrow-leaf Cumbungi</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tate’s Grass-tree</td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>
### III Conservation Status Codes

**General Table**

**Key to South Australian (SA) Conservation Status Codes**

<table>
<thead>
<tr>
<th>Status Code</th>
<th>Status Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Extinct/presumed</td>
<td>Not located despite thorough searching of all known and likely habitats; known to have been eliminated by the loss of localised population(s); or not recorded for more than 50 years from an area where substantial habitat modification has occurred.</td>
</tr>
<tr>
<td>E</td>
<td>Endangered</td>
<td>Rare and in danger of becoming extinct in the wild.</td>
</tr>
<tr>
<td>V</td>
<td>Vunerable</td>
<td>Rare and at risk from potential of long term threats which could cause the species to become endangered in the future.</td>
</tr>
<tr>
<td>T</td>
<td>Threatened</td>
<td>Likely to be either Endangered or Vunerable but insufficient data for a more precise assessment.</td>
</tr>
<tr>
<td>R</td>
<td>Rare</td>
<td>Having low overall frequency of occurrence: confined to a restricted range or scattered sparsely over a wider area. Not currently exposed to significant threats, but warranting monitoring and protective measures to prevent reduction of population sizes.</td>
</tr>
<tr>
<td>K</td>
<td>Uncertain</td>
<td>Likely to be either Threatened or Rare but insufficient data for a more precise assessment.</td>
</tr>
<tr>
<td>U</td>
<td>Uncommon</td>
<td>Less common species of interest but not rare enough to warrant special protective measures.</td>
</tr>
<tr>
<td>Q</td>
<td>Not assessed</td>
<td>Not officially assessed but likely to be of significance.</td>
</tr>
<tr>
<td>N</td>
<td>Common</td>
<td></td>
</tr>
</tbody>
</table>

**Key to Australian (AUST) Conservation Status Codes**

Briggs, J (1996) "Rare or threatened Australian Plants, 1996 revised edition"

**Conservation Codes**

- **X Presumed extinct**: Species that have either not been found in recent years despite thorough searching, or have not been collected for at least 50 years and were known only from intensively settled areas.
- **E Endangered**: In serious risk of disappearing from the wild state within one or two decades if present land use and other casual factors continue to operate.
- **V Vunerable**: Not presently Endangered but at risk of disappearing from the wild over a longer period (20-50 years), or which largely occur on sites likely to experience changes in land use that would threaten the survival of the species in the wild.
- **R Rare**: Species which are rare in Australia but which overall are not considered Endangered or Vunerable. Such species may be represented by a relatively large population in a very restricted area, or by smaller populations spread over a wider range or some intermediate combination of distribution pattern.
- **K Poorly known**: Species that are suspected, but not definitely known, to belong to any of the above categories.

**Distribution Codes**

- 1: Species known from type collection or from a single known location.
- 2: Species with a very restricted distribution in Australia and with a maximum geographic range of less than 100 km.
- 3: Species with a range of at least 100km but occurring only in small populations (often restricted to highly specific and localised habitats).

**Reservation Categories**

- C: Known to be present within a national park or other conservation reserve.
- a: Adequately reserved with a total of at least 1000 plants known to occur in reserves.
- i: Inadequately reserved with a total of less than 1000 plants in reserves.
- t: Total known populations are in reserves.
APPENDIX 3. PROTECTED SWAMPS OF THE SOUTHERN FLEURIEU

1. Characteristics of the Fleurieu Peninsula Swamps

(pers. comm. Rebecca Duffield, Mt Lofty Ranges Southern Emu-wren Recovery Program [MLRSEWRP], Feb 2004)

Fleurieu Peninsula (FP) swamps are mostly small areas in the landscape that can be found where the soil is waterlogged. A swamp does not usually have large areas of open water. There are many types of FP swamps with each having its own unique mix of soil types, water regimes, wetting and drying patterns, landforms and vegetation influenced by underlying rocks.

Because swamps vary so much in species composition, structural diversity, soil type, water source and landform element there are different “types” of FP swamps that can be defined as satisfying some or all of the below criteria:

Geographical

- Localised wetland areas.
- Occurring in high rainfall areas between 700-950mm and/or approximately 600mm on the lower lands.
- Within the IBRA (Interim Biogeographic Regionalisation for Australia) regions of Kanmantoo and Flinders Lofty (formerly Lofty Block) and Murray Darling Depression.
- Occurs in the local government areas of DC Onkaparinga, DC Alexandrina, DC Victor Harbor, DC Yankalilla.

Biological

- Densely vegetated at one or more layers.
- Vegetation formations usually dense shrublands, sedgelands and reedlands with fern habitats in association or independent.
- Structurally diverse with eleven vegetation formations identified from MLRSEW biological surveys – including:
  - *Leptospermum lanigerum* shrubland with sedge understorey
  - *Leptospermum lanigerum* shrubland with sedge and fern understorey
  - *Leptospermum continentale* shrubland with sedge understorey
  - *Leptospermum continentale* shrubland with sedge and fern understorey
  - *Leptospermum continentale*/Sprengelia incarnata shrubland with sedge understorey
  - Mixed *Leptospermum* shrubland with emergent Viminaria juncea or Acacia retinodes and sedge understorey
  - *Melaleuca decussata* shrubland with sedge understorey
  - *Leptospermum continentale*/Viminaria juncea shrubland with sedge understorey
  - *Leptospermum continentale*/Melaleuca squamea shrubland with sedge understorey
  - Mixed sedgeland (e.g. Lignum – Muehlenbeckia florulenta)
- *Phragmites* and/or *Typha* grassland with emergent *Viminaria juncea*, *Acacia retinodes* and sedge understorey

In addition to these, other shrublands, sedgelands, reedlands and fern habitats with single or several species (see characteristic vegetation below) dominating the strata may also constitute a FP swamp.

- Characteristic vegetation species. Dominant or co-dominant overstorey species include the sclerophyllous shrubs *Leptospermum continentale*, *Leptospermum lanigerum*, *Melaleuca squamea*, *Melaleuca decussata*, *Sprengelia incarnata* and *Acacia retinodes* var. *retinodes* and *Viminaria juncea*. *Viminaria juncea* and *A. retinodes* var. *retinodes* can also be present as an emergent species rather than dominant overstorey. Dominant understorey species are typically sedge and rush genera such as *Baumea*, *Juncus*, *Eleocharis*, *Leptospermum*, *Empodisma* and *Gahnia* species and ferns *Gleichenia microphylla*, *Blechnum minus* and *Pteridium esculentum*.

Physical

- Freshwater and rarely saline, however becoming slightly brackish towards the end of summer.
- Typically occurring on peat bog, silt, silty-peat or black clay soils.
- Are fed by run off and/or groundwater.
- Occurring in the major catchments of Tookayerta, Hindmarsh, Myponga River, Yankalilla (that consists of a variety of smaller catchments including the Anacotilla and Congeratinga Rivers and Carrickalinga Creek), Currency Ck and Finniss River, Inman River, Parawa (that consists of a variety of smaller catchments including Boat Harbour Creek, Bollaparudda Creek, Callawonga Creek, Coolawang Creek, Deep Creek, First Creek, Tapanappa Creek, Tunkalilla Creek, Waitpinga Creek).

2. **Investigating salinity impacts on the Fleurieu Peninsula Swamps**

Mapping of the swamps from aerial photography [performed by Claire Harding, Wetlands Project Officer, from the (SA) Department for Environment and Heritage (DEH)] has included an indicative condition score (intact, partially degraded, or degraded). While this mapping is yet to be ground-truthed and swamps are likely to be impacted upon by multiple sources of degradation, it is possible to gain insight into possible salinity impacts on the swamps. In the following figures, swamp locations are displayed against a background of mapped land and stream salinity and also salinity risk.

As shown in Figure A3.1, the majority of mapped swamps occur in areas of negligible salinity, however some swamps occur in drainage lines impacted by slight to moderate salinity. The swamps vary in condition across the landscape, however salinity may be causing negative impacts in some cases.

Figure A3.2 indicates some swamps are at moderate risk of increased salinisation if water tables rise.
Figure A3.1. Fleurieu swamps, land and stream salinity

Swamps, surface water salinity and salinity induced by watertable of the Inman, Waitpinga, Coolawang and Newland Cliffs catchments

- LOCATIONS
- CATCHMENT BOUNDARY
- DAMS
- DRAINAGE LINES

SURFACE WATER SALINITIES (mg/L)
- Less than 500
- 500 - 1000
- 1000 - 2000
- 2000 - 4000
- 4000 - 10000
- More than 10000

SALINITY (induced by water table)
- Negligible
- Slight salinity, or less than 2% of land affected by highly saline seepage
- Moderate salinity, or 2-10% of land affected by highly saline seepage
- Moderately high salinity, or 10-30% of land affected by highly saline seepage
- Moderately high to high salinity, or 30-50% of land affected by highly saline seepage
- High salinity affects more than 50% of the land
- Not Applicable

SWAMP CONDITION (as indicated by aerial photography)
- Intact
- Partially degraded
- Degraded

Data provided by DWLBC Soil and Land Information

Mapping performed by Claire Harding, DEH.
(Yet to be ground-truthed)

Datum GDA 94 - Map Projection MGA Zone 54

DWLBC Report 2004/05
Figure A3.2. Fleurieu swamps and salinity risk
Soil Land Systems Descriptions (Adapted from PIRSA Land Information, 2001)

**BAH (Bald Hills Land System)**
This land system is characterised by low rolling hills with mainly clayey sediments in the Yankalilla to Torrens Vale area. Dissection by watercourses has carved the present day topography out of the thick sedimentary beds, thought to have been deposited within ancient glacial valleys of Permian age. These water courses mostly flow to the northwest into the Bungala River, with minor drainage to the northeast into the Inman. Many of the clays are morphologically similar to the Hindmarsh Clay of the Adelaide Plains. Predominant clayey soils are associated with sandy loam and some sandy texture contrast soils. Grey and black clays occur. Greyer types are poorly structured, moderately fertile and generally acidic. Black types are well structured (self-mulching surfaces), highly fertile, and alkaline. The texture contrast soils are imperfectly drained with low to moderate fertility. Moderate slopes (as low as 12%) are unstable and susceptible to landslip. Gentler slopes are commonly cropped while steeper slopes are mainly used for grazing. Limited sampling of watercourses in this land system has detected saline baseflow to streams (up to 9 dS/m) which contributes to elevated salinity levels in the Bungala River.

**BOT (Bob Tiers Land System)**
This land system is a moderately steep to steep range of hills, between Yankalilla and Kuitpo, characterised by sandy loam texture contrast soils with friable clayey soils forming in weathering schists and gneisses of the Barossa Complex. Remnants of an old deeply weathered lateritised and kaolinised land surface occur as flat topped ridges, across the highest parts of the landscape. Except on steeper slopes where there are significant areas of shallow stony soils, profiles are generally moderately deep and adequately drained. Inherent fertility is low and soils are prone to acidification and erosion. There are minor lower slope and valley floor deposits of locally derived alluvium (clays, silts, sands and gravels).

**CAL (Callawonga Land System)**
Comprising moderately steep to steep slopes flanking the Parawa Plateau, this land is underlain by Kanmantoo Group metasandstone, metasiltstone, phyllite and low grade schist basement rocks. At the upslope margins, adjacent to the Parawa Land System), the rocks become increasingly deeply weathered and grade to lateritic materials. Slopes are deeply dissected by water courses flowing away from the plateau surface. Drainage depressions are often swampy. The majority of soils are moderately deep over weathering basement rock. Surface textures vary from sandy loams to clay loams, depending on the coarseness of the parent rock (metasandstones to metasiltstones). Subsoils are firm to friable, yellowish brown to red clay. Drainage is generally good, but some slightly sodic soils have impeded drainage. 90% of the land is too steep for cultivation, but there is scope for perennial horticulture and viticulture, where water is available and exposure is not a problem. Salinity is a potential problem in the east (towards Coolwang Creek catchment), where the underlying Tapanappa rocks often carry saline groundwater.

**DEC (Deep Creek Land System)**
The Deep Creek land system occurs in steep sea facing slopes along the southern coast of the Fleurieu Peninsula. The degree of dissection is such that there are negligible deep weathering remnants, and no significant alluvial deposits. Regularly spaced, deeply cut, south flowing water courses result in a pattern of razor back ridges, steep side slopes and narrow valleys. Underlying rocks are coarse to medium grained, giving rise to sandy loam to loam soils, sometimes with clayey subsoils but more often shallow and stony over rock. More than two thirds of the area is too steep for vehicular access, so light grazing
is the only feasible primary production option. Productive potential is also affected by extreme coastal exposure of much of the land. Consequently much of the land has remained under native vegetation.

**GIL (Giles Land System)**
Extending to the north from Rosetta Head, the Giles land system is mostly moderately steep to steep hill country with variable (often extensive) rocky outcrop. It is underlain by metamorphosed sedimentary rocks of the Kanmantoo Group. Most of the land is unarable due to excessive slopes or rocky outcrop. Of the arable land, most is sloping and characterized by red texture contrast soils. These have poorly structured sandy loam to loam surfaces, with clayey subsoils varying from well structured to dispersive. Soil drainage consequently varies from good to imperfect. Lower slopes and drainage depressions are minor overall and have deep but usually poorly structured soils prone to waterlogging. Erosion potential is moderate to high throughout the system.

**INV (Inman Valley Land System)**
Characterised by rolling low hills separated by creek flats up to a kilometre wide, this land system is contained within the broad deep valleys of ancient glaciers. Sediments associated with glaciation have been extensively eroded by streams which are still uncovering the old valleys. These eroding streams include the Hindmarsh, Inman, Boudry, Yankalilla, and Bungala Rivers, and Carrickalinga and Wattle Flat Creeks. Rolling low hills with mainly sandy to sandy loam soils with clay subsoils account for 75% of the area. The flats are dominated by sandy loam texture contrast soils with clayey subsoils. Slopes are prone to waterlogging caused by perched water on subsoil clays, and also have low fertility and are susceptible to acidification. Poor deep drainage on slopes has led to widespread landslips in the past. Alluvial flats are commonly limited by waterlogging, however there are large patches of moderately well drained fertile loamy soils with high productivity potential. Sporadic salinization is a locally important land management issue.

**MCO (Mount Compass Land System)**
Occurring in undulating to rolling low hills in the southern Inman catchment and Myponga catchment, this land system has predominantly sandy soils derived from clayey sands and sandy clays deposited under glacial and fluvo-glacial conditions during the Permian period. Ancient glacial valleys were largely filled with sediment, and later extensively lateritized. Isolated crests remain dotted throughout the landscape, containing remnant deep weathering profiles with ironstone, characteristic of the lateritic profile. Subsoils are variable, consisting of sandy clay, heavy clay or ironstone. On rising ground drainage is generally moderate to good, although wet areas occur. On low-lying areas, imperfect to poor drainage typically limits productivity, unless drains are installed.

**PAR (Parawa Land System)**
This land system occurs on a high plateau extending from Silvertown (east of Cape Jervis) to Wilson Hill (west of Victor Harbor). The plateau is a remnant of an ancient lateritic high plain which has been progressively eroded away. The landscape is underlain by metamorphosed sandstones and siltstones of the Kanmantoo Group, which are commonly deeply weathered with a thick layer of kaolinitic material, sometimes containing massive laterites, and always with ironstone gravels. Locally derived outwash sediments have accumulated in drainage depressions (about 10% of the area). Gentle to moderate slopes grading away from the central spine account for almost 75% of the area and have deep, moderately fertile, adequately drained, acidic soils. Cool humid weather, high winter rainfall and exposure of much of the land to high winds mean that the land has limited potential uses other than supporting productive pastures. Deep ironstone soils are common on the crest of the plateau, and are imperfectly drained and highly leached.
Narrow creek flats flowing away from the crests are typically swamplike. Although wet, there is little evidence of salinity.

STR (Strangways Land System)
Occurring in low hills in the Victor Harbor to Inman Valley area, this land system is underlain by strongly metamorphosed basement rocks (phyllites, schists, metasandstones and metasiltstones) of the Kanmantoo Group. During Tertiary times the whole region was a peneplain of low relief, on which extensive deep weathering and lateritization occurred. Following uplift of the ranges, most of this deep weathering surface has been eroded away, but remnants persist as summit surfaces. Localised deposits of unconsolidated alluvium derived from erosion of higher ground occur as valley fill. Gaps between blocks of hills were formed by glacial valleys. Soils vary from shallow stony sandy loams over basement rock to deeper sandy loam to loam texture contrast types. Variable soil depth can cause uneven pasture growth. Sandy loam over clay soils are prone to erosion. Deep variable soils, usually with sandy to sandy loam surfaces, occur on lower slopes and flats, where impeded drainage (due as much to topographic position as to clay subsoils) is common.

VIH (Victor Harbor Land System)
Underlain predominantly by clayey sediments derived from the basement rock ranges of adjacent land systems, this land system is characterised by gentle slopes with mainly sandy loam texture contrast soils in the Victor Harbor to Port Elliot area. Soils typically have hard setting surfaces and dispersive clayey subsoils, and waterlogging can be expected in wet seasons. About 25% of the area comprises undulating to moderately inclined rises with sandy surfaced soils over dispersive heavy clay subsoils. These are prone to waterlogging due to perching of water on the clay. Most of these soils are marginal for irrigation. Potentially the most productive soils (deep gradational clay loams) occur on the flats of the Hindmarsh River.

WAI (Waitpinga Land System)
The majority of this land is underlain by unconsolidated or weakly indurated sediments of indeterminate age. The Geological Survey of SA (Barker 1:250 000 sheet, 1962) maps the area as Permian age glacial and fluvio-glacial deposits, but the sediments are similar to Tertiary age sequences found in the Willunga basin. The landscape is undulating to gently rolling. Massive clayey sands to sandy clays, red yellow and grey in colour, often weakly indurated and associated with ironstone gravel, are typical of the rising ground. Sandy soils derived from these sediments have been extensively reworked into dunes of deep sand. Water courses draining the rising ground, at the coastal and inland margins, flow to a broad central flat where drainage is sluggish. Excess water flows from the western end of the depression into Waitpinga Creek which occupies a narrow valley, eventually discharging to the sea at Waitpinga Beach. On lower lying ground, heavy grey brown and yellow brown clays are typical. At the eastern end of the system is an internally draining depression about 150ha in area. Soils are predominantly texture contrast types of two main groups: sandy surfaces with friable clayey subsoils, and hard sandy loam to sandy clay loam surfaces with dispersive clay subsoils. The low lying, poorly drained flats are known to accumulate salt. Undulating coastal rises with shallow stony soils and deep sands are unsuitable for any agricultural uses other than light grazing, and most is contained within conservation reserves.

WIH (Wilson Hill Land System)
Formed on fine grained metamorphosed rocks of the Kanmantoo Group (Tapanappa Formation), this land system occurs in undulating to moderately steep land extending from inland of Victor Harbour to the coast west of Parson’s Beach. Basement rocks are within a metre or so of the surface for over 75% of the area and contain a shallow saline
groundwater table. Saline seepages are a feature of this land system. In 15% of the system, the rocks are covered by deep weathering profiles with laterite development. Unconsolidated sandy clays and clays, containing some remnant ferricrete (ironstone) cover the remaining 10% of the area. Although mapped as Permian glacial and fluvioglacial deposits (Geological Survey of SA, 1962), these sediments may be of Tertiary age. On summit surfaces and upper slopes, where the basement rock is covered by deep weathering lateritic profiles or younger unconsolidated clayey sediments, sandy or sandy loam texture contrast soils have impeded drainage and marginal fertility. The majority of the land is undulating to gently rolling and characterized by red loamy soils, moderately deep and fertile but affected by widespread although very patchy saline seepage. The bulk of the land has high production potential, but irrigation is risky given the salinity problem. Maximum water use should be a target of any land use.
APPENDIX 5. SOUTHERN PYGMY PERCH

Actions required to secure and conserve populations of the Southern Pygmy Perch will include watercourse management (eg. fencing, restricting stock access and riparian revegetation), and salinity, erosion and nutrient pollution control activities as discussed in the main report.

In addition, surface water diversions should be managed to improve habitat for the species.

The following two pages are a summary of the ‘Recovery outline for the Southern Pygmy Perch in the Mount Lofty Ranges, South Australia’ (Hammer, 2002). The full version of this document can be downloaded from the Native Fish Australia (SA) website at: www.nativefishsa.asn.au, through the ‘Research’ link.

A ‘recovery update’ is being prepared to assess the current status and to look at what activities have been undertaken to reverse the decline of this threatened species (pers. comm. Michael Hammer, Dept. of Environmental Biology, Adelaide University; and Native Fish Australia (SA), 9 Mar 2004).
Summary: Recovery Outline for the Southern Pygmy Perch in the Mount Lofty Ranges

Southern pygmy perch (*Nannoperca australis*)
Also known as swamp perch. A colourful native species, a much smaller relative of the well-known Murray cod and callop.

**Size:** max 8.5 cm, common to 3-4 cm

**Identification:** Broad, golden to brown body with red to clear fins, long singular dorsal (top) fin. During the spring breeding season males intensify in colour with bright red and black edged fins. Not to be confused with juvenile introduced redfin, which have a much larger mouth and dark vertical bars on their body.

**Status:** Considered locally endangered in the SA section of the Murray-Darling Basin. Southern pygmy perch are totally protected in South Australia (*Fisheries Act 1982*), but have no formal regional conservation status.

**Historic distribution:** Southern pygmy perch in the Murray Darling Basin (MDB) belong to a distinct genetic group (likely a sub-species) which historically covered much of the southern half of the Basin. In the SA section of the MDB the species was wide-spread in the fringing swamps and tributary streams of the Lower Murray and Lake Alexandrina, and it is also likely to have been commonly found in areas associated with the River Murray through to Victoria.

**Current distribution:** Overall there has been a large decrease in the range of the southern pygmy perch in the MDB. In the SA section, this species is now restricted to a handful of tributary streams. They now only exist in five isolated and genetically distinct sub-populations of the eastern Mount Lofty Ranges (MLR); the Angas River, Finniss River, Inman River, Lake Alexandrina and Tookayerta Creek drainage areas. These sub-populations consist of a low number of small and restricted sites, and there is evidence of continuing local extinctions. They are not known to occur in any conservation reserves, instead almost exclusively occurring on areas within private land. *If you find a southern pygmy perch*, carefully release it recording the location and habitat, and report it on the Native Fish Australia (SA) website (www.nativefishsa.asn.au).

**Habitat and ecology:** Prefers smaller pools and swamps with dense aquatic, emergent or overhanging edge vegetation, feeding on a variety of small crustaceans and invertebrates, and are natural mosquito predators. They move out into shallow areas during higher water levels to shelter from flooding and to feed. Juveniles are heavily associated with edge vegetation. Produces a relatively small number of eggs scattered over aquatic vegetation, but can still breed up under the right conditions (e.g. good seasons, swamp or bank restoration). They seem poor migrants, with only local movement onto flooded stream edges or swamps. Most common in fenced and ungrazed areas.
**Threats**: Habitat loss through stock damage to stream edge vegetation and banks, swamp drainage, as well as altered flows (e.g. abstraction and river flow regulation) appear to be the primary threat to the species. Negative interactions with introduced species such as predation by redfin and trout and interaction with the aggressive gambusia (mosquitofish) are believed to be contributing to the decline. A general lack of awareness surrounding the conservation requirements and even existence of native fish in the Mount Lofty Ranges within the wider community and government agencies is an immediate concern.

**Introduced predators such as the redfin are a threat to pygmy perch and other native fish (MH)**

**Stock access reduces important edge cover and water quality as well as destabilising banks (MH)**

**Broad recovery objectives:**
- Improve the status of the southern pygmy perch in the Mount Lofty Ranges by increasing the security and extent (range and density) of populations in each of the five catchment areas occupied, increasing the amount and quality of stream and swamp habitats (including minimising threatening processes).
- Establish long-term government and community support structures to promote the southern pygmy perch (subsequently native fish in general) within regional planning and management as well as aquatic protection, restoration and education programs.

**Restoration and Management**: Management action requires various levels of input of equal importance from the efforts of landholders and the community through to government contribution and management. In many respects people need to know of the presence of pygmy perch and the problems they face so that efforts can be focused toward their conservation. **Recovery actions:**

1. Secure core populations across the five known sub-populations with restoration works and community involvement (e.g. fencing and revegetation).
2. Seek to provide within catchment artificial refuge dams, especially for critically endangered sub-populations (Angas and Inman Catchments) using existing dams.
3. Undertake investigations of environmental flow requirements to ensure that surface and groundwater flows are maintained for pygmy perch survival through critical periods (summer and during reproduction); act towards sustainable water use to protect the environment and existing users.
4. Education about the unique southern pygmy perch and local aquatic habitats, the threats they face and options for conservation (signs, media, publications, Waterwatch and school programs, corporate involvement/sponsorship).
5. Fence and restore areas immediately surrounding existing populations or other suitable areas to provide stream corridors for natural dispersal or future restocking.
6. Targeted feral fish control; encourage community participation in removal of redfin, carp and gambusia (links to education), seek to prevent stocking of trout in sensitive areas.
7. Further research into the local range, population size, viability of populations, species ecology, response to threatening processes and management options.
8. Water quality monitoring at pygmy perch sites by the community and schools. Investigate options for hands on involvement of the community.
9. Recognition of southern pygmy perch and other native fish within regional planning and conservation initiatives.
10. Formal recognition of regional conservation status for South Australian fish.
APPENDIX 6. WATER BALANCE METHOD

The water balance for a catchment can be written as:

\[ \text{Inputs} = \text{Outputs} + \text{Change in Storage}, \text{ or} \]
\[ P = ET + R + D + \Delta S \]

Where:
- \( P \) = precipitation,
- \( ET \) = evapotranspiration,
- \( R \) = runoff (streamflow),
- \( D \) = deep drainage (recharge),
- \( \Delta S \) = change in soil moisture storage.

Note: This equation considers only the control volume shown. ie. groundwater movement, pumping, and imported water are not considered. In this analysis ‘runoff’ is taken to mean streamflow and includes baseflow (ie. recharge that discharges back into streams).

Estimates of water balance components have been made previously for the Inman River catchment and are shown below (from Carmichael, 2000; Barnett and Zulfic, 2002).

<table>
<thead>
<tr>
<th>Inputs/Outputs</th>
<th>Type</th>
<th>Amount (ML)</th>
<th>Type</th>
<th>Amount (ML)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
<td></td>
<td>Type</td>
<td>Amount (ML)</td>
</tr>
<tr>
<td>Effective rainfall</td>
<td>114,400</td>
<td></td>
<td>Evapotranspiration</td>
<td>75,878</td>
</tr>
<tr>
<td>Streamflow (Runoff + baseflow)</td>
<td>22,045</td>
<td></td>
<td></td>
<td>(13,040 + 9005)</td>
</tr>
<tr>
<td>Farm Dams</td>
<td>896</td>
<td></td>
<td>Groundwater recharge</td>
<td>17,000</td>
</tr>
<tr>
<td>Totals</td>
<td>114,400</td>
<td></td>
<td></td>
<td>114,027</td>
</tr>
</tbody>
</table>

Due to time constraints the detailed method of Carmichael (2000) was not repeated for the other catchments comprising the study area (Inman R, Waitpinga Ck, Coolawang Ck, Newland Cliffs, and Parsons Beach). A GIS-based approach, incorporating various approximate formulae, was adopted, with existing knowledge serving as a guide.

Estimation of water balance components proceeded as follows:

**Precipitation (P)**
A rainfall isohyet map (adopted from SHSCB, 2000) was modelled using a Triangular Irregular Network (TIN). This was converted to raster grids with 100m x 100m (1ha) cell size (see Figure A3-2).

For each catchment, the mean value of rainfall was determined and multiplied by catchment area to give average annual rainfall volumes.
Barnett and Zulfic (2002) consider only the ‘effective rainfall’ as contributing to the water balance. This arises from the observation that most of the summer rainfall is lost by evaporation before it has a chance to percolate down to the plant root zone or water table. Therefore only winter rainfall (April-October) is considered to be effective in contributing to the water balance. In the study area ‘effective rainfall’ is about 80% of annual rainfall. However the approximate formulae used in this analysis are based on average annual rainfall, so the concept of ‘effective rainfall’ was not used.

Hence precipitation is calculated as:

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Area (ha)</th>
<th>Average annual rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19525.8</td>
<td>723</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>630</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4076.8</td>
<td>775</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1908.9</td>
<td>552</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>607.7</td>
<td>623</td>
</tr>
<tr>
<td>TOTAL</td>
<td>32234.2</td>
<td>700</td>
</tr>
</tbody>
</table>

**Evapotranspiration (ET)**

Zhang et al. (2001) argue that the most important factors controlling mean annual ET appear to be annual rainfall, potential ET and vegetation type. Based on a collection of studies into mid-latitude forested and grassland catchments throughout the world (listed in Zhang et al., 1999), parameters have been established to enable an estimate of ET from average annual rainfall and the fractions of catchment that are forested (f) or under grassland (1-f).

Hence ET can be estimated from the following equation:
\[
ET = f \left( \frac{1 + 2 \frac{1410}{P}}{1 + 2 \frac{1410}{1410} + \frac{P}{1410}} \right) + (1 - f) \left( \frac{1 + 0.5 \frac{1100}{P}}{1 + 0.5 \frac{1100}{1100} + \frac{P}{1100}} \right) P \quad \text{(Zhang et al., 2001)}
\]

Where \( ET \) = average annual evapotranspiration (in mm)  
\( P \) = average annual rainfall (in mm), and  
\( f \) = fraction of forest in the catchment(s).

This equation provides a very simplistic approach in that:  
- it is based on the average potential evaporation rates for the studies looked at, and  
- it bluntly divides the catchment area into either forest or grasslands.

For the purposes of this study, ‘forest’ (f) was also taken to include areas mapped as native vegetation as this is most likely to contain largely deep-rooted and perennial plants, which would deserve placement in the higher water use bracket. This may not be an entirely valid assumption. The area and fraction of the catchments under these land uses were determined from spatial information (see Figure A3-3).

By default, ‘grassland’ was that proportion of the catchment not picked out as ‘forest’. These are assumed to comprise areas of herbaceous plants, pasture, crops and other shallow rooted plants (including annuals and perennials) and are classed as low water use. This assumption is not likely to be entirely valid.

\( ET \) was calculated using the equation above, with results shown below:

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Area (ha)</th>
<th>Fraction of forest (f)</th>
<th>Average annual ET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19525.8</td>
<td>0.189</td>
<td>551</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>0.154</td>
<td>498</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4076.8</td>
<td>0.141</td>
<td>569</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1908.9</td>
<td>0.273</td>
<td>462</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>607.7</td>
<td>0.234</td>
<td>502</td>
</tr>
<tr>
<td>TOTAL</td>
<td>32234.2</td>
<td>0.182</td>
<td>538</td>
</tr>
</tbody>
</table>

**Streamflow (R)**

A recent study has modelled catchment rainfall-runoff relationships throughout the south central region (SCRN, 1999), based on data collected from catchments with streamflow gauging stations. Streamflow coefficients (the fraction of rainfall that is available as surface runoff/ catchment yield) are estimated for each catchment, spanning the range from dry to wet years. Coefficients for median rainfall years were chosen to predict streamflow, with results shown below:

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Area (ha)</th>
<th>Streamflow coefficient</th>
<th>Approx. average annual streamflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19525.8</td>
<td>0.159</td>
<td>115</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>0.095</td>
<td>60</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4076.8</td>
<td>0.108</td>
<td>84</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1908.9</td>
<td>0.163</td>
<td>90</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>607.7</td>
<td>0.098</td>
<td>61</td>
</tr>
<tr>
<td>TOTAL</td>
<td>32234.2</td>
<td></td>
<td>31593</td>
</tr>
</tbody>
</table>
This modelling was based on streamflows measured in gauged catchments, and volumes held back by dams were not included due to uncertainty of their cumulative capacity at the time the modelling was conducted (SCRN, 1999).

Since then, dam volumes in the Mt Lofty Ranges have been estimated from aerial photos, using formulae based on surface area (pers. comm. Doug McMurray, DWLBC, 2002), and are shown in the table below.

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Estimated dam storage (ML)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>2758</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>658</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>291</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>85</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>12</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3804</td>
</tr>
</tbody>
</table>

Additional volumes are likely to be directly harvested from streams for use for stock water or irrigation. However for this analysis, it is assumed that dams are filled to capacity once per year. (A previous investigation into dam volumes in the MLR, conducted by McMurray in 1996, estimated total dam storage in the Inman River catchment of 896 ML (Carmichael, 2000).)

**Comparison with stream gauging data**
The only stream gauging station covering the study catchments is GS 501503, which is located at the lower end of the Inman and monitors flow from 84% of the catchment. From a short monitoring record (Jan 1995 to Jan 1999) a mean annual flow of 6961 ML and a median annual flow of 4206 ML have been recorded (Carmichael, 2000).

This gauging station data should be treated with caution as:
- the streamflow record was obtained during a dry period of reduced flows,
the levels of surface water extraction are not well known and likely to be underestimated (ie. dams filled more than once per year, and/ or direct pumping from the river for stock, irrigation),
the Inman Valley is an area with sandy soils and it is likely that significant leakage occurs from the river to groundwater through a porous stream bed. In the lower Inman Valley the river disappears at some stages (eg. between Glacier Rock and Stephen’s Rock – pers. comm. Graham Webster) and reappears further downstream.

Further modelling predicts that across the total Inman catchment total streamflow will be from 19520 to 22450 ML (or 100 to 115mm) (Carmichael, 2000).

Recharge (D)
Recharge rates are difficult to predict and are influenced by factors such as land use, climate, and soils. Within these factors much variation can occur across the landscape and complications occur due to (Petheram et al., 2000):
- variation in the maturity, density, rooting depth and health of vegetation;
- non-uniform soil texture and structures;
- land management practices;
- seasonality and episodicity of rainfall – with many groundwater investigations showing that most recharge occurs following high rainfall events;
- higher recharge rates where water tables are shallower; and
- the presence of preferential recharge zones

Despite this, generalizations can be made. Stirzaker et al. (2000) claim that typically 5-15% of long term average rainfall gets past the roots of annual plants, whereas less than 1% escapes the native (typically deep-rooted) perennial vegetation.

Also, recharge increases faster as rainfall increases for sandy soils compared to non-sands (Petheram et al., 2002). For herbaceous/annual/shallow-rooted plants on sandy soils the following relationship provides a useful estimate of recharge (D).

\[
\ln(D) = -19.03 + 3.63\ln(\text{Rainfall})
\]

(Petheram et al., 2002; \(R^2 = 0.6\))

For the purpose of providing a simple estimate of recharge, the following formulae were applied:

<table>
<thead>
<tr>
<th>For:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ‘Forest’ areas (ie. plantation forest or native vegetation):</td>
</tr>
<tr>
<td>2. Non–‘forest’ areas (ie. assume herbaceous/annuals/low water use crops &amp; pastures*):</td>
</tr>
<tr>
<td>(a) sandy soils:</td>
</tr>
<tr>
<td>(b) non-sandy soils:</td>
</tr>
</tbody>
</table>

*Assumption for non-forest areas being low water use vegetation not likely to be always valid.

Areas of ‘forest’ are the same as used for ET calculations (seen in Figure A3-3).

Areas of ‘sandy’ soils, represent zones of higher recharge potential. These are determined from spatial information and shown in Figure A3-4. Shallow soils over rock were included with this group due to their high recharge potential (however in most areas of the study catchment, shallow soils over rock are under native vegetation, and are accounted for in part 1 – ‘Forest’ areas). The ‘sandy soils’ group also includes sand over clay soils, despite a lack of information about the depth of sand. For this part of the analysis (Non ‘forest’ areas), vegetation is assumed to be herbaceous/annual/or of low water use potential, and thus rooting depth may not extend beyond the sand.

Also, the Permian sediments of the Southern Fleurieu catchments have relatively discontinuous interbedded sands and clays (Barnett and Zulfic, 2002) so it might be assumed that, in combination with steep topographic gradients, water perching above
clays will drain laterally to nearby points of discontinuity where recharge to local, poorly connected “aquifers” (which are common to the ‘Cape Jervis Beds’ of the region – Carmichael, 2000) can occur.

Hence, the following grid based calculation was performed:

\[
\text{[Recharge]} = \text{[Forest]} \times 0.01 \times \text{[Rainfall]} + (1 - \text{[Forest]}) \times ([\text{SandySoils}] \times (\exp(3.63 \times \ln(\text{[Rainfall]}) - 19.03)) + (1 - \text{[SandySoils]}) \times 0.05 \times \text{[Rainfall]})
\]

Where:
- [Forest] has cell values = 1 for native vegetation or tree plantations; 0 elsewhere.
- [SandySoils] has cell values = 1 for sands, sand over clays & shallow soils over rock; 0 elsewhere.
- [Rainfall] has cell values modelled from rainfall isohyets.

Recharge estimates were calculated, as shown below:

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Area (ha)</th>
<th>Average annual recharge (mm)</th>
<th>(ML)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inman River</td>
<td>19525.8</td>
<td>76</td>
<td>14742</td>
</tr>
<tr>
<td>Waitpinga Ck</td>
<td>6115</td>
<td>33</td>
<td>2034</td>
</tr>
<tr>
<td>Coolawang Ck</td>
<td>4076.8</td>
<td>71</td>
<td>2888</td>
</tr>
<tr>
<td>Newland Cliffs</td>
<td>1908.9</td>
<td>29</td>
<td>549</td>
</tr>
<tr>
<td>Parsons Beach</td>
<td>607.7</td>
<td>40</td>
<td>245</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>32234.2</strong></td>
<td><strong>63</strong></td>
<td><strong>20450</strong></td>
</tr>
</tbody>
</table>

**Change in storage (ΔS)**

When averaged over a long period of time (ie. 5 to 10 years), it is reasonable to assume that the change in soil water storage is zero (Zhang et al, 1999).
Summary of Results
Results for the Inman River are in reasonable agreement with previously determined values (when rainfall and ET are converted into annual terms). Estimated water balance components for the major catchments are summarised below:

<table>
<thead>
<tr>
<th>Inflows</th>
<th>Outflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Amount (ML)</td>
</tr>
<tr>
<td>Inman River</td>
<td></td>
</tr>
<tr>
<td>Annual Rainfall</td>
<td>141113</td>
</tr>
<tr>
<td>Totals</td>
<td>141113</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>147430</td>
</tr>
<tr>
<td>Waitpinga Creek</td>
<td></td>
</tr>
<tr>
<td>Annual Rainfall</td>
<td>38494</td>
</tr>
<tr>
<td>Totals</td>
<td>38494</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36777</td>
</tr>
<tr>
<td>Coolawang Creek</td>
<td></td>
</tr>
<tr>
<td>Annual Rainfall</td>
<td>31591</td>
</tr>
<tr>
<td>Totals</td>
<td>31591</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29793</td>
</tr>
</tbody>
</table>

Errors
Errors will arise due to the many assumptions that have been made in the application of the various formulae. The non-exact nature of this analysis is made clear by the imbalance between inflows and outflows, however the percentage differences observed are reasonably low.

Significant variation was observed in rainfall isohyet patterns obtained from different sources, however the pattern chosen (or ones similar to it) was found in at least 3 reports from different groups (SHSCB, 2000; Henschke, 1997; Lamprey & Mitchell, 1979; pers comm. Bureau of Meteorology, 2002), and matched best with anecdotal evidence from the region, of high rainfall centred on the Parawa plateau area (outside the study area).

Not all areas mapped as native vegetation will have perennial, deep-rooted high water use vegetation. Conversely, some areas of pasture may have improved, perennial pastures with grazing management that promotes high water use. Soils are mapped according to the dominant soil present in each of the soil mapping units. Minor but significant proportions of each soil type class will comprise other soil types (DWLBC SALI, 2002).

Runoff coefficients obtained from SCRN (1999) may undergo revision as this yet unpublished document and the data contained therein may be reviewed. Modelling that has produced the runoff coefficients will have associated inaccuracies and assumptions.

Inaccuracies are associated with the process of modelling catchments parameters in 100m square (1 ha) cell sizes. Given the levels of uncertainty associated with the various steps and formulae applied, this resolution could be viewed as satisfactory.
## APPENDIX 7. LAND USE AND WATER QUALITY


<table>
<thead>
<tr>
<th>Land use (Catchment)</th>
<th>Total Dissolved Solids (mg/L)</th>
<th>Oxidised Nitrogen (mg/L)</th>
<th>Total Nitrogen (mg/L)</th>
<th>Soluble Phosphorus (mg/L)</th>
<th>Total Phosphorus (mg/L)</th>
<th>Total Organic Carbon (mg/L)</th>
<th>Total Coliforms (orgs/100mL)</th>
<th>E. coli (orgs/100mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native vegetation (First Creek)</td>
<td>max 240, min 69, mean 170</td>
<td>max 0.72, min 0.01, mean 0.02</td>
<td>max 4.19, min 0.07, mean 0.40</td>
<td>max 0.061, min 0.005, mean 0.006</td>
<td>max 0.320, min 0.005, mean 0.025</td>
<td>max 55.0, min 2.0, mean 6.0</td>
<td>max 250, min 20, mean 139</td>
<td>max 38,000, min 5, mean 80</td>
</tr>
<tr>
<td></td>
<td>no. 146</td>
<td>145</td>
<td>141</td>
<td>143</td>
<td>143</td>
<td>143</td>
<td>138</td>
<td>138</td>
</tr>
<tr>
<td>Urban (Aldgate Creek)</td>
<td>max 350, min 56, mean 180</td>
<td>max 3.10, min 0.01, mean 0.53</td>
<td>max 6.50, min 0.11, mean 1.29</td>
<td>max 0.280, min 0.005, mean 0.045</td>
<td>max 0.761, min 0.010, mean 0.098</td>
<td>max 84.0, min 1.0, mean 14.1</td>
<td>max 2500, min 120, mean 267</td>
<td>max 90,000, min 11, mean 3540</td>
</tr>
<tr>
<td></td>
<td>no. 202</td>
<td>262</td>
<td>280</td>
<td>272</td>
<td>284</td>
<td>282</td>
<td>267</td>
<td>267</td>
</tr>
<tr>
<td>Intensive horticulture (Cox Creek)</td>
<td>max 470, min 70, mean 300</td>
<td>max 21.5, min 0.09, mean 4.85</td>
<td>max 38.33, min 0.29, mean 6.12</td>
<td>max 2.360, min 0.011, mean 0.120</td>
<td>max 8.750, min 0.039, mean 0.377</td>
<td>max 90.0, min 1.0, mean 10.8</td>
<td>max 5500, min 7.0, mean 105</td>
<td>max 55,000, min 0, mean 1180</td>
</tr>
<tr>
<td></td>
<td>no. 125</td>
<td>121</td>
<td>120</td>
<td>119</td>
<td>121</td>
<td>121</td>
<td>105</td>
<td>105</td>
</tr>
<tr>
<td>Mixed agriculture/orchards (Lenswood Creek)</td>
<td>max 1900, min 120, mean 330</td>
<td>max 4.47, min 0.01, mean 0.27</td>
<td>max 5.20, min 0.12, mean 0.83</td>
<td>max 0.210, min 0.005, mean 0.011</td>
<td>max 0.520, min 0.005, mean 0.030</td>
<td>max 30.0, min 1.0, mean 6.0</td>
<td>max 2130, min 75, mean 202</td>
<td>max 490, min 25, mean 1750</td>
</tr>
<tr>
<td></td>
<td>no. 225</td>
<td>223</td>
<td>220</td>
<td>203</td>
<td>221</td>
<td>221</td>
<td>202</td>
<td>202</td>
</tr>
<tr>
<td>Grazing (Inverbrackie Creek)</td>
<td>max 2000, min 170, mean 920</td>
<td>max 11.6, min 0.01, mean 0.29</td>
<td>max 13.64, min 0.36, mean 1.65</td>
<td>max 0.589, min 0.005, mean 0.020</td>
<td>max 1.030, min 0.005, mean 0.050</td>
<td>max 83.0, min 3.0, mean 24.4</td>
<td>max 550, min 45, mean 156</td>
<td>max 90,000, min 5, mean 3310</td>
</tr>
<tr>
<td></td>
<td>no. 163</td>
<td>163</td>
<td>163</td>
<td>163</td>
<td>161</td>
<td>161</td>
<td>156</td>
<td>156</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Land use (Catchment)</th>
<th>Total Dissolved Solids (kg/ha/year)</th>
<th>Oxidised Nitrogen (kg/ha/year)</th>
<th>Total Nitrogen (kg/ha/year)</th>
<th>Soluble Phosphorus (kg/ha/year)</th>
<th>Total Phosphorus (kg/ha/year)</th>
<th>Total Organic Carbon (kg/ha/year)</th>
<th>Total Coliforms (orgs/ha/year x 10^9)</th>
<th>E. coli (orgs/ha/year x 10^9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native vegetation (First Creek)</td>
<td>232</td>
<td>0.1</td>
<td>1.5</td>
<td>0.02</td>
<td>0.10</td>
<td>21.9</td>
<td>8.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Urban (Aldgate Creek)</td>
<td>519</td>
<td>2.5</td>
<td>5.3</td>
<td>0.18</td>
<td>0.39</td>
<td>45.8</td>
<td>459.4</td>
<td>122.6</td>
</tr>
<tr>
<td>Intensive horticulture (Cox Creek)</td>
<td>934</td>
<td>19.6</td>
<td>26.0</td>
<td>0.59</td>
<td>2.7</td>
<td>59.7</td>
<td>490.8</td>
<td>47.0</td>
</tr>
<tr>
<td>Mixed agriculture/orchards (Lenswood Creek)</td>
<td>656</td>
<td>2.4</td>
<td>4.5</td>
<td>0.12</td>
<td>0.22</td>
<td>26.0</td>
<td>366</td>
<td>136</td>
</tr>
<tr>
<td>Grazing (Inverbrackie Creek)</td>
<td>994</td>
<td>1.2</td>
<td>4.6</td>
<td>0.09</td>
<td>0.2</td>
<td>33.6</td>
<td>83.8</td>
<td>67.9</td>
</tr>
</tbody>
</table>
APPENDIX 8. BIOLOGICAL MONITORING & AUSRIVAS RESULTS

Biological monitoring is increasingly seen as an essential component in the assessment of river and stream health, particularly for:

- directly assessing impacts to ecological systems, or
- detecting short-lived transient disturbances that are typically missed by physico-chemical sampling programs.

Macroinvertebrates are one group of organisms commonly used in biological monitoring studies (eg. AUSRIVAS) because they are common, widely distributed, easily sampled, and are relatively easy to identify to an appropriate taxonomic level. Macroinvertebrates are small aquatic organisms without backbones that are large enough to be seen with the naked eye. They include insects, crustaceans, snails, worms, mites and sponges. The structure of the macroinvertebrate community observed at a particular site will be determined by factors including physical habitat, ecological considerations (eg. predation, competition, life cycles, season, etc) and tolerance to (natural and artificial) disturbances.

Biological measurements are combined with the physical and chemical characteristics of the site to build a better picture of the status of a waterway. Predictive models (eg. AUSRIVAS) have been developed, based on this type of information gathered at many sites. The models are capable of estimating the macroinvertebrate community composition that would be expected at a particular site, with minimal levels of disturbance. Comparison with what is observed provides a measure of the level of disturbance.

Disturbance to stream organisms can occur through a variety of natural and human-induced phenomena. Expert knowledge of individual organisms’ tolerances to various types of pollution is necessary before any definitive statements can be made about the precise nature of the disturbance (pers. comm. Paul McEvoy, Australian Water Quality Centre).

The first coordinated national biological assessment of Australian river and streams was carried out under the Monitoring River Health Initiative (MRHI) from 1994-95. This initial work focussed on least disturbed or reference sites, representing the best available condition. Later work under the AUSRIVAS (AUStralian RIver Assessment Scheme) from 1997-99 tested as many sites as possible, representing locations thought to have been disturbed by some sort of impact. The combined results form a database of knowledge that is used for predictive modelling to provide assessments of river and stream health.

The following figure shows the results of AUSRIVAS studies conducted on locations within the study area.
Ratings for AUSRIVAS sites within the study area (from McEvoy et al., 2003)

In this figure, ratings for each site have been summarised across different seasonal and habitat types (eg. edge, riffle) to reflect the average score for each site.

Most sites were rated as equivalent to reference condition, implying that they were similar to other ‘least-disturbed’ sites in the State. Coolawang Creek was noted for its biodiversity (high numbers of species). This site has similar catchment conditions to the adjacent Deep Creek Conservation Park, which contains numerous watercourses preserved in near remnant condition (McEvoy et al., 2003).

Moderate impact was detected downstream of the WWTP reflecting nutrient enrichment from this recognised point source of pollution. A tributary of Back Valley Creek was identified as being slightly impacted.
APPENDIX 9. SUMMARY OF WATER QUALITY GUIDELINES (FOR SELECTED PARAMETERS AND USES)

When using the guidelines in the following table, the conversions below may be useful:

- Nitrate (NO$_3^-$): 1 mg/L = 0.226 mgN/L
- Nitrite (NO$_2^-$): 1 mg/L = 0.304 mgN/L
- Total Nitrogen = NO$_x^-$ N + TKN (where NO$_x^-$ = NO$_3^-$ + NO$_2^-$)
- Phosphate (PO$_4^{3-}$): 1 mg/L = 0.326 mgP/L
- Filterable reactive phosphorus ≡ Soluble phosphorus ≡ mostly phosphate
## Appendix 9. Summary of water quality guidelines (for selected parameters and uses)

<table>
<thead>
<tr>
<th>Use</th>
<th>Salinity</th>
<th>Nutrients</th>
<th>pH</th>
<th>Pathogens</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TDS</td>
<td>Total nitrogen (TN)</td>
<td>Filterable reactive phosphorus</td>
<td>Total phosphorus (TP)</td>
</tr>
<tr>
<td>Drinking Water</td>
<td></td>
<td>Nitrogen</td>
<td>Phosphorus</td>
<td></td>
</tr>
<tr>
<td>(NHRMC &amp; ARMCANZ, 1996)</td>
<td>500 mg/L (++)</td>
<td>NO₃⁻: 50 mg/L (+)</td>
<td>0.04 mgP/L</td>
<td>0.1 mgP/L</td>
</tr>
<tr>
<td>(Health guideline)</td>
<td>&lt;500 mg/L is regarded as good quality drinking water based on taste. 500-1000 mg/L is acceptable based on taste. &gt;1000 mg/L may be associated with scaling, and unsatisfactory taste.</td>
<td>NO₂⁻: 3 mg/L (+)</td>
<td>Nitrate occurs naturally but is increasing in some waters (particularly groundwater) from intensive farming &amp; sewage effluent. Guideline value will protect bottle-fed infants under 3 months from methaemoglobinemia (blue baby disease). Adults &amp; children over 3 months can safely drink water with up to 100 mg/L nitrate.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NH₃: 0.5 mg/L (+)</td>
<td>Nitrite is rapidly oxidised to nitrate (see above).</td>
<td>0.04 mgP/L</td>
<td>0.1 mgP/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO₂⁻: 3 mg/L (+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic Ecosystems</td>
<td></td>
<td>Total nitrogen (TN)</td>
<td>Filterable reactive phosphorus</td>
<td>Total phosphorus (TP)</td>
</tr>
<tr>
<td>(ANZECC &amp; ARMCANZ, 2000)</td>
<td>100-6000 mg/L</td>
<td>1 mgNL</td>
<td>0.04 mgP/L</td>
<td>0.1 mgP/L</td>
</tr>
<tr>
<td>Lowland rivers</td>
<td>NH₃: 0.1 mgN/L</td>
<td>NO₃⁻: 0.1 mgN/L</td>
<td>(*NO₂⁻: 0.5 mgN/L) *</td>
<td>(*0.1 mgP/L) *</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic Ecosystems</td>
<td>300-1000 mg/L</td>
<td>1 mgNL</td>
<td>0.01 mgP/L</td>
<td>0.1 mgP/L</td>
</tr>
<tr>
<td>(EPA, 2003a: ** values in brackets)</td>
<td>NH₂⁺: 0.025 mgN/L</td>
<td>NO₂⁻: 0.5 mgN/L</td>
<td>(*NO₃⁻: 0.5 mgN/L) *</td>
<td>(*0.1 mgP/L) *</td>
</tr>
<tr>
<td>Freshwater lakes &amp; reservoirs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetlands</td>
<td>NH₂⁺: 0.05 mgN/L</td>
<td>NO₂⁻: 0.1 mgN/L</td>
<td>1 mgNL</td>
<td>0.01 mgP/L</td>
</tr>
<tr>
<td>Marine</td>
<td>NH₂⁺: 0.05 mgN/L</td>
<td>NO₂⁻: 0.05 mgN/L</td>
<td>1 mgNL</td>
<td>0.01 mgP/L</td>
</tr>
</tbody>
</table>

Notes: 1. The guideline values for the protection of aquatic ecosystems should be used with caution. They indicate default trigger values below which there is considered to be a low risk that adverse biological effects will occur. That does not mean that above these values an environmental problem can be inferred, or that below these values adverse problems will not occur. They provide an initial assessment of the state of the water regarding the parameter of interest. These values are based on limited data and are intended to only be indicative values for assigning different assessments of risk. A more comprehensive means of assessment is to model stream biological responses (e.g. macroinvertebrate communities) and using water chemistry, habitat and community measurements, and other environmental data to assess impacts and infer causes of degradation in the landscape. Incorporating a biological response is a better means of assessment than using physical and chemical water quality measurements in isolation (Pers. comm. Peter Goonan, EPA, March 2003).
2. ** Where different from earlier guidelines, indicator values presented in the Environment Protection (Water Quality) Policy 2003 (EPA, 2003) are also shown in brackets.
<table>
<thead>
<tr>
<th>Use</th>
<th>Salinity</th>
<th>Nutrients</th>
<th>Phosphorus</th>
<th>pH</th>
<th>Pathogens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Industries</td>
<td>TDS</td>
<td>Nitrogen</td>
<td></td>
<td></td>
<td>E. coli (thermotolerant or faecal coliforms)</td>
</tr>
<tr>
<td>(ANZECC &amp; ARMCANZ, 2000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>values in brackets, shown where different to earlier guideline values</strong></td>
</tr>
<tr>
<td>(EPA, 2003a):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Irrigated plants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See Appendix 10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolerance levels will vary according to species, soil &amp; management.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Livestock</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See Appendix 11.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolerance levels will vary according to species.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Soil</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See Appendix 12.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil structural stability will depend on sodium content &amp; TDS.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquaculture species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000mg/L (freshwater)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>but species dependant,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3000 – 37,000mg/L (saltwater)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO₃⁻: 400-1500mg/L (**133 mg/L)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrate concentrations in drinking water less than 400mg/L should not be harmful. Stock should tolerate higher levels provided levels in feed are not high. Water containing &gt; 1500mg/L is likely to be toxic.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO₂⁻: 30mg/L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrations of nitrite exceeding this value may be hazardous to animal health.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5mg/L (LTV)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-125mg/L (STV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To maintain crop yields, prevent biofouling of irrigation equipment, and minimise offsite impacts (eg. leaching to groundwater), concentrations of TN in irrigation water should be less than:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- long-term trigger value (LTV) for up to 100 years, or - less than short-term trigger value (STV) for up to 20 years.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.05mg/L (LTV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8-12mg/L (STV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To maintain crop yields, prevent biofouling of irrigation equipment, and minimise offsite impacts (eg. prevent algal growth in irrigation water), concentrations of TP in irrigation water should be less than:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- long-term trigger value (LTV) for up to 100 years, or - less than short-term trigger value (STV) for up to 20 years.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1mg/L (LTV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.05mg/L (LTV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To maintain crop yields, prevent biofouling of irrigation equipment, and minimise offsite impacts (eg. prevent algal growth in irrigation water), concentrations of TP in irrigation water should be less than:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- long-term trigger value (LTV) for up to 100 years, or - less than short-term trigger value (STV) for up to 20 years.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 MPN/100mL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. coli (thermotolerant or faecal coliforms)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See Appendix 13.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Values depend on purpose of irrigation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(**1000 orgs/100mL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drinking water for livestock should contain less than 100 thermotolerant coliforms/100mL based on the median value from regular monitoring.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(**1000 orgs/100mL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Use  Salinity  Nutrients  Phosphorus  pH  Pathogens
- Irrigated plants **Irrigated plants**
- Livestock **Livestock**
- Soil **Soil**
- Equipment **Equipment**
- Aquaculture species **Aquaculture species**

**Appendix 3:** Values depend on purpose of irrigation.

**Appendix 10:**

**Appendix 11:**

**Appendix 12:**

**Appendix 13:**

**Appendix 14:**

**Appendix 15:**

**Appendix 16:**

**Appendix 17:**

**Appendix 18:**

**Appendix 19:**

**Appendix 20:**

**Appendix 21:**

**Appendix 22:**

**Appendix 23:**

**Appendix 24:**

**Appendix 25:**

**Appendix 26:**

**Appendix 27:**

**Appendix 28:**

**Appendix 29:**

**Appendix 30:**

**Appendix 31:**

**Appendix 32:**

**Appendix 33:**

**Appendix 34:**

**Appendix 35:**

**Appendix 36:**

**Appendix 37:**

**Appendix 38:**

**Appendix 39:**

**Appendix 40:**

**Appendix 41:**

**Appendix 42:**

**Appendix 43:**

**Appendix 44:**

**Appendix 45:**

**Appendix 46:**

**Appendix 47:**

**Appendix 48:**

**Appendix 49:**

**Appendix 50:**

**Appendix 51:**

**Appendix 52:**

**Appendix 53:**

**Appendix 54:**

**Appendix 55:**

**Appendix 56:**

**Appendix 57:**

**Appendix 58:**

**Appendix 59:**

**Appendix 60:**

**Appendix 61:**

**Appendix 62:**

**Appendix 63:**

**Appendix 64:**

**Appendix 65:**

**Appendix 66:**

**Appendix 67:**

**Appendix 68:**

**Appendix 69:**

**Appendix 70:**

**Appendix 71:**

**Appendix 72:**

**Appendix 73:**

**Appendix 74:**

**Appendix 75:**

**Appendix 76:**

**Appendix 77:**

**Appendix 78:**

**Appendix 79:**

**Appendix 80:**

**Appendix 81:**

**Appendix 82:**

**Appendix 83:**

**Appendix 84:**

**Appendix 85:**

**Appendix 86:**

**Appendix 87:**

**Appendix 88:**

**Appendix 89:**

**Appendix 90:**

**Appendix 91:**

**Appendix 92:**

**Appendix 93:**

**Appendix 94:**

**Appendix 95:**

**Appendix 96:**

**Appendix 97:**

**Appendix 98:**

**Appendix 99:**

**Appendix 100:**
Appendix 9. Summary of water quality guidelines (for selected parameters and uses) - continued

<table>
<thead>
<tr>
<th>Use</th>
<th>Salinity</th>
<th>Nutrients</th>
<th>Phosphorus</th>
<th>pH</th>
<th>Pathogens</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TDS</td>
<td>Ammonia (NH₃) / ammonium (NH₄⁺)</td>
<td>Nitrogen</td>
<td>Phosphorus</td>
<td>E. coli (thermotolerant or faecal coliforms)</td>
</tr>
<tr>
<td>Recreation &amp; Aesthetics</td>
<td></td>
<td></td>
<td>Oxidised nitrogen (nitrate – NO₃⁻, nitrite – NO₂⁻)</td>
<td></td>
<td>6.5 – 8.5 150 orgs/100mL.</td>
</tr>
<tr>
<td>(ANZECC, 1992)</td>
<td></td>
<td>Total nitrogen (TN)</td>
<td>Filterable reactive phosphorus</td>
<td></td>
<td>The median bacterial content in fresh or marine waters should not exceed 150 faecal coliform organisms / 100mL. (minimum of 5 samples taken at regular intervals not exceeding one month, with 4 out of 5 samples containing less than 600 organisms/100mL.)</td>
</tr>
<tr>
<td>Primary contact (eg. swimming)</td>
<td>NH₃: 0.01 mgN/L</td>
<td>NO₃⁻: 10 mg/L</td>
<td>NO₂⁻: 1 mg/L</td>
<td></td>
<td>5 - 9 1000 orgs/100mL.</td>
</tr>
<tr>
<td>Secondary contact (eg. boating)</td>
<td></td>
<td></td>
<td></td>
<td>Filterable reactive phosphorus</td>
<td>The median bacterial content in fresh or marine waters should not exceed 1000 faecal coliform organisms / 100mL. (minimum of 5 samples taken at regular intervals not exceeding one month, with 4 out of 5 samples containing less than 4000 organisms/100mL.)</td>
</tr>
<tr>
<td>Aesthetics/visual use (no contact)</td>
<td></td>
<td></td>
<td></td>
<td>Total phosphorus (TP)</td>
<td></td>
</tr>
</tbody>
</table>

To protect against exposure and ingestion.
## APPENDIX 10. TOLERANCE OF PLANTS TO SALINITY

Tolerance of plants to salinity in irrigation water (adapted from ANZECC & ARMCANZ, 2000)

<table>
<thead>
<tr>
<th>Field crops</th>
<th>Common name</th>
<th>Scientific name</th>
<th>Average root zone salinity threshold ((EC_{se})) (dS/m) (\text{see note 1})</th>
<th>ECi threshold for crops growing in (see notes 2 &amp; 3) sand</th>
<th>loam</th>
<th>clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley, grain</td>
<td>Hordeum vulgare</td>
<td></td>
<td>8</td>
<td>12.6</td>
<td>7.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Cotton</td>
<td>Gossypium hirsutum</td>
<td></td>
<td>7.7</td>
<td>12.1</td>
<td>6.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Beet, sugar</td>
<td>Beta vulgaris</td>
<td></td>
<td>7</td>
<td>11.0</td>
<td>6.3</td>
<td>3.7</td>
</tr>
<tr>
<td>Sorghum</td>
<td>Sorghum bicolor</td>
<td></td>
<td>6.8</td>
<td>9.4</td>
<td>5.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Wheat</td>
<td>Triticum aestivum</td>
<td></td>
<td>6</td>
<td>9.4</td>
<td>5.3</td>
<td>3.1</td>
</tr>
<tr>
<td>Sunflower</td>
<td>Helianthus annuus</td>
<td></td>
<td>5.5</td>
<td>7.5</td>
<td>4.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Oats</td>
<td>Avena sativa</td>
<td></td>
<td>5</td>
<td>7.0</td>
<td>4.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Soybean</td>
<td>Glycine max</td>
<td></td>
<td>5</td>
<td>7.0</td>
<td>4.0</td>
<td>2.3</td>
</tr>
<tr>
<td>Peanut</td>
<td>Arachis hypogala</td>
<td></td>
<td>3.2</td>
<td>4.4</td>
<td>2.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Rice, paddy</td>
<td>Oryza sativa</td>
<td></td>
<td>3</td>
<td>4.8</td>
<td>2.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Corn, grain, sweet</td>
<td>Zea mays</td>
<td></td>
<td>1.7</td>
<td>3.2</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>Saccharum officinarum</td>
<td></td>
<td>1.7</td>
<td>4.3</td>
<td>2.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olive</td>
<td>Olea europaea</td>
<td></td>
<td>4</td>
<td>5.1</td>
<td>2.9</td>
<td>1.7</td>
</tr>
<tr>
<td>Macadamia seedling</td>
<td>Prunus persica</td>
<td></td>
<td>3.6</td>
<td>4.6</td>
<td>2.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Peach</td>
<td>Prunus persica</td>
<td></td>
<td>3.2</td>
<td>4.7</td>
<td>2.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Rockmelon</td>
<td>Cucumis melo</td>
<td></td>
<td>2.2</td>
<td>4.6</td>
<td>2.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Grapefruit</td>
<td>Citrus paradisi</td>
<td></td>
<td>1.8</td>
<td>3.0</td>
<td>1.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Orange</td>
<td>Citrus sinensis</td>
<td></td>
<td>1.7</td>
<td>2.9</td>
<td>1.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Grape</td>
<td>Vitis spp.</td>
<td></td>
<td>1.5</td>
<td>3.3</td>
<td>1.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Avocado</td>
<td>Persea americana</td>
<td></td>
<td>1.3</td>
<td>2.3</td>
<td>1.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Apple</td>
<td>Malus sylvestris</td>
<td></td>
<td>1</td>
<td>2.0</td>
<td>1.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Pastures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puccinellia</td>
<td>Puccinellia ciliata</td>
<td></td>
<td>11.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheatgrass, tail</td>
<td>Agropyron elongatum</td>
<td></td>
<td>7.5</td>
<td>12.5</td>
<td>7.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Rhodes grass, Pioneer</td>
<td>Chloris gayana</td>
<td></td>
<td>7</td>
<td>12.8</td>
<td>7.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Couch grass</td>
<td>Cynodon dactylon</td>
<td></td>
<td>6.9</td>
<td>10.8</td>
<td>6.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Buffel grass, Gayndah</td>
<td>Cenchrus ciliaris var Gayndah</td>
<td></td>
<td>5.5</td>
<td>8.2</td>
<td>4.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Phalaris</td>
<td>Phalaris tuberosa (aquatica)</td>
<td></td>
<td>4.2</td>
<td>5.3</td>
<td>3.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Fescue</td>
<td>Festuca clatior</td>
<td></td>
<td>3.9</td>
<td>7.3</td>
<td>4.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Green Panic, Petri</td>
<td>Panicum maximum</td>
<td></td>
<td>3</td>
<td>5.6</td>
<td>3.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Townsville stylo</td>
<td>Stylosanthes humilis</td>
<td></td>
<td>2.4</td>
<td>3.7</td>
<td>2.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Clover, Berseem Clover</td>
<td>Trifolium alexandrinum</td>
<td></td>
<td>2</td>
<td>3.8</td>
<td>2.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Lucerne, Hunter River</td>
<td>Medicago sativa</td>
<td></td>
<td>2</td>
<td>4.7</td>
<td>2.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Clover, strawberry (Palestine)</td>
<td>Trifolium fragiferum</td>
<td></td>
<td>1.6</td>
<td>3.3</td>
<td>1.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Snail medic</td>
<td>Medicago scutellata</td>
<td></td>
<td>1.5</td>
<td>2.9</td>
<td>1.7</td>
<td>1.0</td>
</tr>
<tr>
<td>Clover, white (New Zealand)</td>
<td>Trifolium repens</td>
<td></td>
<td>1</td>
<td>2.5</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zucchini</td>
<td>Cucurbita pepo melopepo</td>
<td></td>
<td>4.7</td>
<td>7.3</td>
<td>4.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Beet, garden</td>
<td>Beta vulgaris</td>
<td></td>
<td>4</td>
<td>6.5</td>
<td>3.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Brassica oleracea</td>
<td></td>
<td>2.8</td>
<td>4.9</td>
<td>2.8</td>
<td>1.6</td>
</tr>
<tr>
<td>Cucumber</td>
<td>Cucumis sativus</td>
<td></td>
<td>2.5</td>
<td>4.2</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Pea</td>
<td>Pisum sativum L</td>
<td></td>
<td>2.5</td>
<td>3.2</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Tomato</td>
<td>Lycopersicon esculentum</td>
<td></td>
<td>2.3</td>
<td>3.5</td>
<td>2.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Potato</td>
<td>Solanum tuberosum</td>
<td></td>
<td>1.7</td>
<td>3.2</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Pepper</td>
<td>Capsicum annum</td>
<td></td>
<td>1.5</td>
<td>2.8</td>
<td>1.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Lettuce</td>
<td>Lactuca sativa</td>
<td></td>
<td>1.3</td>
<td>2.7</td>
<td>1.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Onion</td>
<td>Allium cepa</td>
<td></td>
<td>1.2</td>
<td>2.3</td>
<td>1.3</td>
<td>0.8</td>
</tr>
<tr>
<td>Eggplant</td>
<td>Solanum melongena</td>
<td></td>
<td>1.1</td>
<td>3.2</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Bean</td>
<td>Phaseolus vulgaris</td>
<td></td>
<td>1</td>
<td>1.9</td>
<td>1.1</td>
<td>0.6</td>
</tr>
<tr>
<td>Carrot</td>
<td>Daucus carota</td>
<td></td>
<td>1</td>
<td>2.2</td>
<td>1.2</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Notes:
1. This is the soil salinity threshold beyond which increasing salinity will result in increasing yield losses.
2. This is the irrigation water salinity threshold beyond which increasing salinity will result in increasing yield losses.
3. Many factors determine how tolerant a particular plant will be to saline water. These include soil type, drainage characteristics, local climate and rainfall. The following points should be taken into consideration:
   - Saline water progressively reduces growth and yield long before visual symptoms (eg. marginal leaf burn) are apparent.
   - Higher levels of salt can be tolerated on well drained soils. (The salinity limits given below assume the worst soil drainage conditions, and it is likely that higher salinities will be tolerated with improved drainage.)
   - Salty water should not be sprayed onto foliage, especially not during the heat of the day.
   - When using salty water it is most important to keep the soil moist. Adequate water supplies must be available to avoid a wet and dry watering cycle where soil salinity increases dramatically as the soil dries out. Frequent watering is essential.
   - Heavy and frequent applications of water for the purpose of flushing excess salts beyond the root zone may lead to waterlogging or salinity problems due to raised water tables. Normal winter rains in higher rainfall areas will wash excess salts through the soil profile.
APPENDIX 11. TOLERANCE OF LIVESTOCK TO SALINITY

Stock vary considerably in their ability to tolerate salt in drinking water. The more important factors affecting tolerance are:

- Stock can tolerate higher salt levels when on green pastures than on dry feed, prepared rations or saltbush.
- Sheep and cattle can tolerate very high levels of salt but stock must be given time to adapt. Sudden changes from low to high salt levels can cause toxicity even below maximum tolerance figures.
- The physiological state of the animal is important – pregnant or lactating stock and young animals are less tolerant and should not be given water with a higher salt content than the levels shown in the ‘healthy growth’ column.
- Storage tanks and troughs need frequent flushing to prevent build up of salts from evaporation. The composition of salts is important and some ions (eg. sulphate, chloride, sodium and magnesium) cause most problems.
- Better quality water is required during periods of high water intake (eg. hot weather, high salt diets)

Guide to livestock salinity tolerances

<table>
<thead>
<tr>
<th>Animal</th>
<th>Max. concentration for healthy growth (ppm)</th>
<th>Max. concentration to maintain condition (ppm)</th>
<th>Max. concentration tolerated (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep</td>
<td>6 000</td>
<td>13 000</td>
<td>14 000</td>
</tr>
<tr>
<td>Beef Cattle</td>
<td>4 000</td>
<td>5 000</td>
<td>10 000</td>
</tr>
<tr>
<td>Dairy Cattle</td>
<td>3 000</td>
<td>4 000</td>
<td>6 000</td>
</tr>
<tr>
<td>Horses</td>
<td>4 000</td>
<td>6 000</td>
<td>7 000</td>
</tr>
<tr>
<td>Pigs</td>
<td>2 000</td>
<td>3 000</td>
<td>4 000</td>
</tr>
<tr>
<td>Poultry</td>
<td>2 000</td>
<td>3 000</td>
<td>4 000</td>
</tr>
</tbody>
</table>

SALINITY UNIT CONVERSIONS:
1 dS/m (decisiemen/ metre) = 1000 µS/cm (microsiemens/centimetre) [Electrical Conductivity (EC)]
≈ 640 ppm (parts per million) or mg/L (milligrams/ litre) [Total Dissolved Solids (TDS)].

Exact conversion figure depends on composition of salts in water.
- If mostly sodium chloride, 1dS/m ≈ 500 ppm.
- If mostly gypsum or bicarbonates, 1dS/m ≈ 800-900 ppm.
APPENDIX 12. SOIL STRUCTURAL DEGRADATION CAUSED BY IRRIGATION WATER QUALITY

Saline irrigation water has the potential to develop sodicity in soils, resulting in potential for soil structure degradation. Sodicity is the name given to water or soil that has a high concentration of sodium in comparison to calcium and magnesium. Water is said to be sodic when the sodium adsorption ratio (SAR – see formula below) is greater than 3. Soil is said to be sodic when the exchangeable sodium percentage (ESP - the percentage of exchangeable sodium bound to clay particles that can be replaced by another ion such as calcium) is greater than 6.

Sodic soils contain sufficient exchangeable sodium to adversely affect soil stability/structure and plant growth. These clayey soils may occur on the surface or in the subsoil. They are dispersible when wet, often hard-setting when dry, and susceptible to erosion and waterlogging (Fitzpatrick et al., 1997). They can be improved with the addition of gypsum (or lime, if soils are acid). High concentrations of exchangeable sodium cations (originating from geological salt storage or saline irrigation) are retained within the molecular layers of clay particles. When soil-water salinity is high clay particles remain flocculated however with the addition of fresh water (eg. from rainfall), soil-water salinity lowers and water molecules are osmotically driven towards the sodium attached between the clay layers. The large molecular radius of sodium atoms, with attached water molecules, causes the clay layers to separate and molecular bonds to break down. The clay disperses into tiny fragments, which block the soil pores on drying.

Increased risk of soil structure decline occurs when salts are washed out of a sodic soil. This can occur when irrigation with saline water over a number of years (or over the summer months) is stopped, followed by fresh water irrigation or (winter) rainfall.

Calculation of a Sodium adsorption ratio (SAR), together with ECi (EC of irrigation water) can provide a useful guide to predicting soil structure stability in relation to irrigation water (ANZECC & ARMCANZ, 2000).

\[
SAR = \frac{Na^+}{\sqrt{\frac{Ca^{2+} + Mg^{2+}}{2}}}
\]

Where Na\(^+\), Ca\(^{2+}\) and Mg\(^{2+}\) are expressed in mmole/L.

The quality of the irrigation water can be evaluated by superimposing its ECi and SAR values on the figure shown.

Relationship between SAR & EC of irrigation water (ANZECC & ARMCANZ, 2000)
### APPENDIX 13. TRIGGER VALUES FOR THERMOTOLERANT COLIFORMS IN IRRIGATION WATERS USED FOR FOOD AND NON FOOD CROPS (ANZECC & ARMCANZ, 2000)

<table>
<thead>
<tr>
<th>Intended use</th>
<th>Level of thermotolerant/ faecal coliforms (E.coli) (median values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw human food crops in direct contact with irrigation water (eg. via sprays, irrigation of salad vegetables)</td>
<td>&lt; 10 cfu* / 100mL</td>
</tr>
<tr>
<td>Raw human food crops not in direct contact with irrigation water (edible product separated from contact with water, eg. by peel, use of trickle irrigation); or crops sold to consumers cooked or processed.</td>
<td>&lt; 1000 cfu / 100mL</td>
</tr>
<tr>
<td>Pasture and fodder for dairy animals (without withholding period)</td>
<td>&lt; 100 cfu / 100mL</td>
</tr>
<tr>
<td>Pasture and fodder for dairy animals (with withholding period of 5 days)</td>
<td>&lt; 1000 cfu / 100mL</td>
</tr>
<tr>
<td>Pasture and fodder (for grazing animals except pigs and dairy animals, ie. cattle, sheep and goats)</td>
<td>&lt; 1000 cfu / 100mL</td>
</tr>
<tr>
<td>Silviculture, turf, cotton, etc. (restricted public access)</td>
<td>&lt; 10 000 cfu / 100mL</td>
</tr>
</tbody>
</table>

* cfu = colony forming units

Testing of irrigation waters for the presence of thermotolerant coliforms (also known as faecal coliforms), gives an indication of faecal contamination and thus the possible presence of microbial pathogens. However further testing will be required to indicate whether particular pathogenic organisms are present.

It is recommended that a median value be used based on a number of readings generated over time from a regular monitoring program.
I Revegetation Design
   Ia Revegetation and biodiversity
II Species selection
   Ila Local species
   Ilb Special purpose species
III Revegetation Planning
   IIla Seed ordering/ collection and seedling ordering
   IIlb Weed control
   IIlc Timing
   IIld Spacing
IV Establishment techniques
   IVa Natural Regeneration
   IVb Seedling Planting
   IVc Hand Direct Seeding
   IVd Machine Direct Seeding
   IVe What technique to use where
V Issues
   Va Revegetation and landslips
   Vb Maintenance
   Vc Threats
   Vd Kangaroo Issues
   Ve Hygiene
VI Additional information
   VIa Revegetation Species Lists
   VIb References / Fact Sheets

I Revegetation Design
Planning of remnant vegetation protection and management and revegetation on your property needs to be in context with your whole property vision and how you want your property to interact with the broader region and meet the challenges of sustainable land use.

Regional and property planning is a key starting point for this process where remnant vegetation and land management issues are identified, and farming and environmental management activities are planned and implemented around this. Through this process it is possible to gain multiple land management, economic and biodiversity benefits.
**Ia  Revegetation and biodiversity**

Through revegetation we are not trying to return the landscape to its original state, as this would be an impossible task, however through your revegetation activities it is desirable to incorporate biodiversity principles wherever possible.

Appropriate revegetation for biodiversity involves a number of design principles that need to be incorporated, they are:

- **Link** your remnant vegetation, natural regeneration and revegetation across your property, district and region.
- **Bigger** areas are better for biodiversity and the shape of remnants and revegetation is important. Square and round areas are better than narrow/long areas.
- **Plant back** what was on the site before clearance. Collect local seed from as close as possible with the same soils, slope and aspect as your project site.
- **Plan** your projects and manage the remnant and revegetated areas by monitoring and controlling pest plants and animals.

▶ Refer to: *Creative Revegetation - Enhancing biodiversity by design* (Dalton, 1998).

Incorporating these design principles into regional and property planning will highlight the importance of protecting and managing our local remnant flora and fauna resources.

**II  Species selection**

The appropriate selection of species for revegetation is important. You need to choose species that will thrive on the site and that will do what you want the revegetation to do.

**Iia  Local species**

It is a common recommendation that you use species that would have originally occurred on the site, these are local species to the area and can suit the range of revegetation activities required across the region. Such activities include shelterbelts, riparian protection and recharge plantings.

Using local species provides benefits of being suitable to the site. They can provide original forage and habitat for the fauna of the region, where appropriate vegetation structure is created, and do not pose a weed issue where local provenance propagation material are used.

Planting back what was on a site before clearance requires an understanding of the pre-European vegetation that occurred across the region. An understanding of this can be built up from studying the remnant vegetation near to your revegetation site along with studying historic documents of the vegetation changes across the region, and referring to vegetation mapping for your area.
Shown at right is the map of Vegetation Groups produced using the methodology outlined in Appendix 2 (see Figure 6 of this report).

This map is only to be used as an indication of the vegetation changes across the study area and should be used in conjunction with on ground observations and broader local knowledge.

Part VIa of this Appendix contains lists of species, particularly suited to revegetation, that have been drawn from DEH survey data. The full suite of species found in previous DEH surveys (and subsequently organised according to recognised Vegetation Groups) are listed in Appendix 2.

▸ Refer to: Fact Sheet - Growing Local Plants (PIRSA, 1998b).

**Determining vegetation / revegetation zones for a site**

**Step 1** - From this publication build up your background knowledge:
- Locate your site on the Mapped Vegetation Groups map (Figure 6, or above).
- Identify the Vegetation Group changes from the map.
- Read the Vegetation Group descriptions in Section 2.3.3 of this report (Pre-European vegetation across the catchments).

**Step 2** - Refine your understanding of vegetation on the site. Observe on-ground factors of:
- slope,
- aspect,
- soil,
- landscape, and
- remnant vegetation on the site and near by.

**Step 3** - Draw conclusions of changes in vegetation type across your site from Step 1 and Step 2. Refer to species list for appropriate Vegetation Groups.

NOTE: The revegetation species lists (in Part VIa of this Appendix) are an indication of the species that can be revegetated that are found in association with each other. However the revegetation zones are quite broad and it is unlikely that all species listed would have occurred on the one site, hence the importance of assessing each site individually. Assistance with this can be gained from project officers, revegetation officers and contractors.

For example- where the Mixed Stringybark vegetation zone extends down to the coast, a greater proportion of coastal vegetation species will be present.
For particular coastal revegetation information refer to A Handbook for Revegetation and Weed Control in the Southern Fleurieu Dunes (Taylor, 2000).

Also, for more information on the protected Fleurieu Peninsula swamps see Section 2.3.4 of the main report, Appendix 3, or contact the Mt Lofty Ranges Southern Emu-wren Recovery Program.

IIb Special purpose species
Other species can be used where special purpose plantings are required. For economic purposes such as farm forestry, species are selected for site suitability, growth rate, tree form and timber properties and market requirements. Selecting species on this basis helps to maximise the economic return from products grown.

Special purpose species can also be utilised on sites that are highly altered where local species will not grow successfully, such as in highly saline areas. Where special purpose species are utilised it is necessary to consider the potential invasive nature of these species.

Questions to consider for each species include:
- How successfully does the species set seed?
- Does the seed readily germinate?
- Over what range will the species successfully grow in the region?
- What are the vectors of spread of the species?
- Will the species hybridise with local species?

Having considered the weed potential of a species, management plans should be developed and implemented to monitor and control the escape of any individuals from the planting area. Any non-local species can be gradually replaced with local species where changes in site condition allow or landholder requirements of the site change.

Refer to:
- Fact Sheet – Species Selection (Bulman, 1991), and
- Planning Principles for Revegetation - Planning Principles for establishing revegetation species suspected to be invasive (Section 10) (Edwards, 2001).
- Planning Principles for Revegetation - Planning Principles within and adjacent to National Parks and Heritage Agreements and other areas of Significant Vegetation (Section 8) (Edwards, 2001).

III Revegetation Planning
Allowing at least 18 months for planning and action prior to establishing revegetation will ensure that seed is collected, seedlings are ordered and grown and that the necessary weed control is carried out. The ‘General Revegetation Planning Calendar’ below contains details of activities and general timing.
### General Revegetation Planning Calendar

<table>
<thead>
<tr>
<th></th>
<th>Year before planting</th>
<th>Year of planting</th>
<th>Ongoing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jul</td>
<td>Aug</td>
<td>Sep</td>
</tr>
<tr>
<td>Start Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek advice early to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ensure your time is not</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wasted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous year weed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>control and fencing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collect local seed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain seedlings (By</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>one of 3 methods)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Propagate own</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seedlings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If propagating your</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>own seedlings collect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seed now and start</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>propagation in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>November</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Join Trees for Life</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Join and order by July</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collect seedlings in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Order seedlings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>from nursery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Weed control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer/autumn weed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>control will be</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>beneficial if good</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>opening rains</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant seedlings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct seed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For higher rainfall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>areas June-August</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>could be too wet for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>seeding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insect control such</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>as red legged earth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mite (critical for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>direct seeding where</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>this is an issue)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow up weed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact consultant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This should be done as</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>early as possible, it</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>is never to early to plan.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The success of a revegetation project relies on many variables including season, appropriate seed/seedlings being available, weed control and individual site conditions such as soil type, waterlogging and early drying out of sites (northern and western slopes). Good planning can minimise failure by planting/seeding at the right time, reducing competition with weed control and allowing for changes in vegetation across the site.

Even with good planning a project may be unsuccessful in the first year due to unforeseen circumstances. However appropriate planning and management of the site will see that works may not be wasted. Tubestock can be replanted and where direct seeding was carried out you can expect seed to come up over a number of seasons - the seed is in the ground and germination can be expected for two to three years. A requirement here is to manage weeds into the second and third years to reduce competition to later germinating seed.

► Refer to: Planning Principles for Revegetation, (Edwards, 2001)

IIIa Seed ordering/collection and seedling ordering
Having the appropriate seed/seedling material available at the right time for planting is a key factor for the successful establishment of revegetation. Different native plants vary in their timing of readiness for seed collection. Table (ii) below indicates the range of collection times for some genus. Even where a particular genus can have seed collected through the whole year, particular species can have a limited time available for seed collection.

Seed collection times vary from year to year, being earlier or later depending on the seasonal factors that affect flowering, pollination and setting of seed. Quantities of seed available for collection are also affected seasonally and this can impact on revegetation activities in a poor year. Revegetation establishment techniques may need to be varied where seed quantities are low.

Regional seed banks can assist with evening out good and bad seed collection years where in good collection years a bit extra could be collected and stored for use in the poorer years.

Planning ahead is important for preparing to collect seed yourself, for ordering seed from a contractor and where you require tubestock to be grown from collected seed. Six to eight months is generally required to grow seedlings to a suitable size for planting.

A permit is required to collect native seed from Public or Crown land. This can be obtained through the Department of Environment and Heritage, Native Vegetation Branch or through your local Council. When collecting from private land you need to contact the landowner for consent.
There are several publications available to assist with plant identification, seed collection and storage:

- *What Seed is That*, by Neville Bonney
- *How to collect native tree seed, easily*, by Greening Australia
- *Direct seeding native trees and shrubs*, by Greg Dalton

**Table (ii) - A guide to seed collection times for native plant seed.**

<table>
<thead>
<tr>
<th></th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia (Wattles)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocasuarina (Sheoak)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia (Banksia)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaria (Christmas Bush)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callistemon (Bottle Brush)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callitris (Native Pine)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dodonea (Hop bush)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus (Gums)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptospermum (Tea Tree)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca (Paperbarks)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pultenea (Bush Pea)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhagodia (Saltbush)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea (Yacca)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Learning the art of seed collection will vary depending on individual interest, the range of species being revegetated and the scale of seed collection activities carried out. Attend a Seed Collection workshop to assist with this. Trees for Life run seed collection and plant identification workshops throughout the year. For more details contact the Pasadena office on 8372 0150.

Once you have a basic understanding of seed collection techniques you can further develop your knowledge by observing the plants you want to collect seed from. Through this you can learn about the reproduction cycle of the plants and when particular seed will be ready for collection. When you see them flowering, follow the development of flowers into fruit and the fruit maturing to a stage ready for collection.

► Refer to:  
- Fact Sheet – Collecting Native Plant Seed (Martin, 1999b), and  
- Fact Sheet - Seed Collection for Native Understorey Species (Murphy and Martin, 1999b)
Ilb  Weed control
A lot of effort goes into revegetation activities, collecting seed, growing seedlings and fencing from livestock. Appropriate weed control adds value to the time and money spent on these activities by improving the establishment and survival of seed and seedlings.

The most important factor with weed control is that once you begin weed control activities you open the site up to invasion by species that may not have been present on the site for a while, such as Salvation Jane. Planning should allow time for weed control activities for at least a couple of germinations prior to revegetating. It is easier to control weeds on a site with out working around germinating seedlings. And follow up weed control is required for at least a couple of years following revegetation to assist with successful establishment. Ongoing weed control in your revegetation area should also be carried out as part of your general property management so that the area does not become a weed infested treed area and to allow natural regeneration of any remnant species and the revegetated species on the site.

Weeds reduce seedling establishment by competition for mainly moisture and also light and nutrients. Through good weed control a soil moisture reserve can be available for seedling use. This allows seed to germinate and seedlings to establish even in a low rainfall year and to better survive over the summer.

A weed free zone of 1.5- 2 meters around the establishing seedlings will allow the soil moisture reserve to develop. For tubestock and hand seeding a 1.5- 2m weed free spot is suitable and for machine seeding a 1.5- 2m wide weed free strip is required. In a good rainfall year this allows stronger and deeper-rooted seedlings to develop that are better able to survive through the summer and into the second year. It also assists to prevent shading and smothering of seedlings.
Weed control requirements of revegetation activities will vary depending on remnant vegetation and weeds present, establishment techniques and site accessibility. The Table (iii) below gives an indication of site issues and weed control patterns suitable for different issues. Where remnant vegetation exists the use of minimum disturbance weed removal techniques are required. This will assist with the natural regeneration of the area.

On high rainfall sites with vigorous weed growth the control of weeds should start ideally 1-2 years before revegetating the site. Such sites may contain perennial weeds such as phalaris, sorrel, veldt grass, primrose, lucerne, couch grass, fog grass and clovers.

Generally knockdown herbicides (such as glyphosate) are used several times before and after planting seedlings or seeding. Soil residual herbicides can extend weed control over a longer period of time; affected soil however needs to be scraped away before seeding. Tubestock however should not be affected. Residuals have varying effects and longevity depending on soil type and humus levels present in the soil. Do not use residuals where remnant vegetation is present and natural regeneration can be expected. SEEK ADVICE BEFORE USING RESIDUALS.

Broadleaf specific and grass specific chemicals can be of use in revegetation weed control activities. Where remnant grasslands are present, broadleaf chemicals can be used to manage salvation jane with out effecting the grasses. Caution needs to be taken where other remnant species are present as selective herbicides can effect herbaceous grassy ecosystem species and young wattles with juvenile foliage. Once wattles are completely out of this stage then they are generally OK.

Grass specific herbicides can assist controlling annual and perennial grasses in establishing and established revegetation areas.

SEEK ADVICE BEFORE USING SELECTIVE HERBICIDES ON A SITE SPECIFIC BASIS- EFFECT ON REMNANTS BEING THE MAIN ISSUE.
### Table (iii) - Site issues and weed control patterns

<table>
<thead>
<tr>
<th>Site Issues</th>
<th>Weed Control Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blanket</td>
</tr>
<tr>
<td>Machine seeding</td>
<td>✓</td>
</tr>
<tr>
<td>Hand seeding</td>
<td></td>
</tr>
<tr>
<td>Tubestock</td>
<td></td>
</tr>
<tr>
<td>Natural visual appeal</td>
<td></td>
</tr>
<tr>
<td>Improved habitat through random nature of reveg.</td>
<td></td>
</tr>
<tr>
<td>Weeds issue likely to be ongoing, such as sites with ex-improved pasture or crop</td>
<td>✓</td>
</tr>
<tr>
<td>Sandy soil, high erosion potential</td>
<td></td>
</tr>
<tr>
<td>Difficult vehicle access such as steep sites and boggy sites</td>
<td></td>
</tr>
<tr>
<td>Large site</td>
<td>✓</td>
</tr>
<tr>
<td>Remnant vegetation restoration</td>
<td></td>
</tr>
<tr>
<td>Understorey and native grassy species present</td>
<td></td>
</tr>
</tbody>
</table>

### IIIc Timing

Timing of seeding and planting is just as important as plant selection and weed control. Seeding too early or too late can yield poor results. The same can be said for planting but not usually to the same degree, poor establishment could be particularly evident where planting takes place very late in the season.

The aim is to plant and or seed at a time to maximise growth for that year and minimise stress. Planting of tube stock can take place after the first rains, however, the plants will not put on much growth until the soil temperatures rise in early spring. This is not a problem unless the weed regime on the property includes competitive spring germinating weeds. If this is the case then these weeds will be directly competing with the newly planted natives and can inhibit their growth. Spot spraying at the end of winter/ beginning
of spring can avoid competition, with planting taking place a few weeks after spraying in August/September. This minimises the weed competition and still provides for sufficient rain to settle in the new plants.

Direct seeding can also be carried out at this time of year, for the same reasons of weed control and soil moisture. It also allows the fine seeds in the seeding mix to be exposed to the moisture of spring and the rising soil temperatures, this increases the germination rate of some species.

Timing of establishment is generally determined by the seasons, however this can vary from year to year with seasonal fluctuations. Always consider how the season is going, if it is looking like a dry one perhaps postpone establishment for the following season.

III. Spacing

Tighter spacing of seedlings can assist to compete with weed species more effectively along with weed control activities. Planting spacings where the canopies touch in the first 18 months will assist. Seedlings can generally be grouped into shrubs to 2 metres, large shrubs and trees. Shrubs to 2m can be planted approx 1m apart in single species clumps on weedy areas (size of clumps will depend on size of weedy areas but generally 5-10/ clump). This will assist plants to more quickly compete out weeds and for them to set seed and naturally regenerate themselves, also providing thickets of habitat. Large shrubs can also be planted in this style with approx 2m spacing between seedlings. Trees can be planted at approx 5m apart across the weedy area- avoiding the weed free native grassland areas.

In general broadleaf native species such as Goodenia ovata (hop goodenia, for wet areas) and Dodonaea viscosa ssp. spathulata (sticky hop bush) can have greater shading effect on weed species, particularly broadleaf weeds.

On sites that would have been open woodland with scattered trees, scattered clumps of shrubs and open areas of grassland, it is important to not over plant trees and shrubs as this will change the grassy nature of the area.
IV Establishment techniques

Techniques used for the establishment of revegetation will vary from site to site and often across a site. Factors that will determine which techniques are used include what is present on the site, remnant vegetation, weed issues, seed and/or seedling availability and accessibility for vehicles. Four commonly used revegetation techniques are:

- natural regeneration
- seedling planting
- hand direct seeding
- machine direct seeding

IVa Natural Regeneration

One of the easiest ways to establish large areas back to native vegetation is to allow the natural regeneration of remnant vegetation to occur. This requires propagules of seed or bulbs to be available from existing remnant vegetation or existing in the soil seed reserves.

Many species will regenerate naturally provided the right conditions are also available and that the area being regenerated has stock removed and vermin controlled. Weed control provides an important factor where competition from weeds for light, moisture and warmth can be reduced to allow regeneration to occur. The factors of weed, vermin and livestock control are essential for success.

Areas can be monitored for species that have regenerated and an assessment made of species that could be reintroduced over time.

» Refer to: Fact Sheet - Natural Regeneration of Native Vegetation (Martin, 1999).

IVb Seedling Planting

Seedlings can be grown from seed and cuttings depending on the propagation material available and the best technique for the species being propagated. Tubestock can be labour intensive and costly on large-scale projects. Planting of seedlings is useful on all sites, particularly incorporating more difficult species into natural regeneration and previously established revegetation. Boggy and steep sites with difficult access can be planted with seedlings.

Seedlings are grown in a range of container sizes from speedlings (trays of 30-40 seedlings with small root balls) and traditional tube containers to more advanced pot stock. Speedlings and tubestock have advantages of cost, ease of planting and good establishment.

Generally spot spraying is suitable for seedling planting. Strip spraying is most practical where a site requires ripping. Ripping compacted sites can provide easier planting conditions. A good rip lifts and fractures the subsoil, which is best achieved using a wide boot or a winged tine. The main concern with getting a good rip is in clay soils. If the soil is too wet, the tine and boot slice through the soil leaving a slicked channel, this causes problems with plant establishment and root development. Early winter is a good time where following some initial rains the surface soil is damp and the subsoil is relatively dry.
from the summer. Ripping should ideally take place 12 months prior to planting to allow the rip line to settle and reduce air pockets and to provide time for weed control activities. The soil disturbance from ripping opens the site up to weeds.

**IVc Hand Direct Seeding**
Hand direct seeding is a technique where seed is placed by hand directly on to a prepared soil bed and pressed in, it is labour intensive and often used in combination with other techniques. The seedbed is prepared using a fire rake/rake hoe to chip away trash and dead weeds from the surface, break soil clods and firm seed into the soil.

As with tubestock planting you have control of placement of seedlings and can vary density of seeding and placement of species. Hand seeding is suitable on all sites and is particularly useful on steep, rocky and less accessible sites for machine seeders and where moving tubestock around the site is difficult. It is also useful for incorporating missing species into degraded remnant areas where machine seeding is inappropriate.

Amounts of seed used are considerably less than those used in machine seeding: 200-300 grams/ha of fine seed and 300-500 grams/ha of large seed, 500-600 grams of seed required all up if a fine and large seed being used on a site. Ideally the germination from hand seeding will occur within 2-3 weeks of sowing the seed. For this to occur some species require the pre-treatment of seed, such as heat treating (wattles and other hard coated seeds) or cooling of seed (such as *Bursaria* sp.). Species from the Eucalyptus, Melaleuca, Leptospermum genus’s and other fine seed generally requires no treatment and germinate readily where the right conditions are provided. Fine seed can however be pre-treated and some contactors will pre-treat this seed. Advice should be sought on the appropriate treatment of seed.

Refer to:
- Fact Sheet – Hand Direct Seeding of Native Plants (PIRSA, 1998), and
- Fact Sheet - Seed Pre-treatments for Native Understorey Species (Murphy and Martin, 1999).

**IVd Machine Direct Seeding**
Machine direct seeding is an easy and cost effective way of seeding large accessible areas. The seeding machine is towed behind a four-wheel drive vehicle or a tractor, so access is limited on steeper areas and boggy sites.

A lot of seed (1000-1500 grams/ha) is required for machine seeding in comparison to tube stock establishment and hand seeding. And the control of the placement of seed is restricted to the seeding lines and changing species mixes for different sites. The germination of seed in the seeding lines varies in density of seedlings and placement of species, germination can be dense or very patchy and a range of species can come up next to one another. As with hand seeding some species require the pre-treatment of seed for germination to occur quickly.

Refer to: Fact Sheet – Direct Seeding (Rural Solutions SA, 2003)
**IVe What Technique to Use Where**

Using a combination of establishment techniques can assist to achieve success on a range of sites with a range of issues. Table (iv) below gives an example of site issues that may be encountered and appropriate establishment techniques.

**Table (iv) - Site issues and establishment technique options**

<table>
<thead>
<tr>
<th>Site Issues</th>
<th>Establishment Technique</th>
<th>Natural Regeneration</th>
<th>Machine Seeding</th>
<th>Hand Seeding</th>
<th>Tubestock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remnant vegetation restoration</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Understorey and native grassy species present</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Rocky ground</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Difficult vehicle access such as steep and boggy sites</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Large sites with easy access</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Figure (i) below indicates a range of revegetation techniques being used across a site where site conditions change from a wet creekline area (top left hand corner), across a large open gentle slope to a steep rocky thin soiled area (bottom right hand corner).

**V Issues**

**Va Revegetation and landslips**

High rainfall, cleared land of the region is prone to landslip issues where soil becomes sodden and liquefies and mass movement of soil occurs down the slope. These sites require particular planning and establishment actions to ameliorate the issue.

The area that needs to be planted up is not just the slip area, the hillside above the slip also needs to be planted. This will intercept (use) some of the ground water moving down the slope and reduce the soil moisture levels in the slip prone soils. A range of trees, shrubs and native grasses can be established above the slip, however trees should be
avoided on the slip and a range of shrubs and grasses used. If possible it is good to plant the recharge areas on the hill tops to reduce the recharge of ground water.

Weed control on slump prone areas is still required and spot spraying is appropriate, blanket spraying should not be carried out and the sites are generally too steep for strip spraying.

**Vb Maintenance**
Maintaining your remnant vegetation and revegetation is an investment in your property and the broader community and must have long term, ongoing, action for it to thrive. Ongoing weed control is essential for the initial survival and establishment of seed and seedlings used in revegetation. Refer to the weed control section for details.

Electric fences have been used effectively to protect remnants and revegetation from livestock and vermin, they do however require checking and ongoing maintenance. Absentee landholders may consider using pre-emergent herbicides along fence lines to reduce weed growth and shorting of electrics.

In areas of remnant grassland, slashing of grasses can be utilised to reduce the seed set of weedy grasses and promote the seed set and establishment of native grass species. This can be carried out with slashing or spraying. Spraying is of concern as it could damage the grassland species. High slashing is another option, being aware of fire issues, this could take place in late winter/ early spring to reduce annual grass seed set.
Annual grass management should take place over 5-10 years to assist with the natural regeneration of the native grassland species. If possible it is best to catch or rake and remove cut grass, as this impacts on the regenerative processes of the grassland species.

Tree guards are only useful if fitted properly and they stay in place, check them regularly for placement. Removal of tree guards is required once seedlings are established and the tree guards no longer serve a purpose. A good indicator to remove guards is when the seedlings are just over the top of the guard. Removing guards prevents them from becoming rubbish in the environment and allows them to be recycled and prevents the guard strangling the plant as it grows, depending on the type of guard.

Native vegetation is prone to attack from insects. Young wattles can get galls and Eucalypts can be prone to leaf blister and defoliation. In general these pests are natural species and are crucial for our natural systems. They provide food sources for birds and mammals and other insects and can provide lifecycle links for flora and fauna. The damage caused by insects can actually be beneficial for vegetation structure, where weaker plants may be killed by persistent attack and provide a natural thinning of vegetation. Other plants will be promoted in to lateral branching and growth with habitat, forage and perch benefits for birds. It is generally not required to control insect attack on natural regeneration and revegetation, insects can be removed by hand to a limited degree and control with chemicals can be fairly toxic with limited benefit. A major insect attack on vegetation generally indicates an imbalance in the natural processes and interactions between flora, fauna and insects. As vegetation grows and the system changes and these imbalances can even out with less severe insect attacks occurring.

It can be frustrating when tubestock and seeded areas fail, however all may not be wasted. Tubestock can be replanted and the weed control already carried out can be continued and benefit the project when re-planting occurs.

Machine and hand seeding gaps can be used to create patchiness, habitat for seed foraging birds, insect catching birds and reptiles. Seeding should be allowed to come up over a couple of years. This is possible because more seed is put in than required and can germinate when the conditions are suitable.

It is important therefore to manage weeds into the second and third years- spot spray hand seeded areas and strip spray machine seeded areas. Use a shielded spray to avoid contacting seedlings that have come up in the first year. This weed control will also assist germinated seedlings to become established.

Adding in more difficult species can be done as the initial revegetation species form canopies, microclimates develop, humus builds up, recycling of nutrients begins and other natural process occur. These are species that require protection from exposure and a degree of natural process occurring and are listed in the phase 2 revegetation species list. These species can also be difficult to collect seed from; seed can show poor viability and propagation techniques may be poorly understood. Part of this process may be thinning some of the larger canopy trees where densities are high and lateral branching is
not occurring. This can take place at 3-5 years and is more likely to be required in machine direct seeded areas or natural regeneration areas where Eucalyptus species can dominate.

Vc Threats
As previously mentioned, unexpected weather patterns can affect germination in direct seeding, however selection of correct species can partly overcome this problem.

The biggest threats to revegetation work often come from inadequate weed control and grazing from vermin (rabbits and hares). Direct seeding can be effected severely from red-legged earth mite and snails, so this needs to be taken into account before the project begins. Kangaroos can also do a lot of damage through grazing especially when in large numbers.

The following list can be used as a checklist before planting:

1. Area for planting/seeding be sprayed with a translocated herbicide two months before implementation. If possible, this could also take place in the year prior to planting/seeding.
2. Rabbit/hare control be implemented in conjunction with revegetation work (Animal and Plant Control Board can provide advice, also on weed control).
3. If direct-seeding, spray for red-legged earth mite if required.
4. Snail bait should be laid if required.
5. Guard plants or plan other control/deterrent if kangaroos present a major threat (see Part Vd of this Appendix).
6. Plan for on-going maintenance after planting.
7. If ripping is required on hard ground, this needs to be done 12 months before planting if possible.
8. Make sure fences for stock are finished before planting.

These actions will not be required for every site, but may need to be incorporated into a revegetation plan, depending on site conditions.

It should be noted that weed control is just that, it is the control of weeds for the establishment period. Weeds will return to the area, but if adequate planting density is achieved then competition from native plants will help to suppress weeds. Some species of weeds are particularly difficult to control and professional advice should be sought to obtain the best methodology for a single species or group of species.

The planting of *Themeda triandra* (Kangaroo Grass) in areas of Phalaris can also assist in its control. This native grass does well in high rainfall and fertile soils, and can hold it’s own against Phalaris once established.

Vd Kangaroo Issues
Kangaroo browsing can reduce the successful establishment of revegetation and is noted as a particular issue on the Southern Fleurieu. A number of techniques have been used to reduce kangaroo browsing.
Fencing your revegetation is required to exclude stock. A hot wire top and bottom has been used to reduce kangaroo access to revegetation areas. Caution is required here as a bottom hot wire can entangle and harm echidnas. Electricity should not be applied to fences with barbs as kangaroos and livestock can be caught up in the barbs and electrified wires, with severe damage resulting from movement with each shock.

Particular species are preferred by kangaroos such as the sheoaks and will often be sought out. During the summer period when food is scarce and on sites where kangaroos are in large numbers many species will be damaged. Prickly species are generally less palatable once fresh growth has hardened off, and can be utilised as a nurse species to protect more palatable species. *Acacia paradoxa* (kangaroo thorn) and *A. verticillata* (prickly moses) are species found in the Inman region and can be used for this purpose. This technique can be used with machine and hand direct seeding where a high proportion of prickly species seed is in the seed mix for machine seeding. With hand seeding, prickly species seed is placed on the seeding site with seed of the species you are trying to protect. Where tubestock is used, clumps of prickly species can be planted with the more palatable species. Encouraging native grass re-establishment throughout your revegetation area provides an alternative food source for kangaroos. This is particularly effective during summer when feed is short.

The use of tree guards has had mixed success. Narrow cardboard carton guards with one stake have worked. Being narrow they minimise browsing from above and a stake pushed well into the ground and secured holds the guard down. Another guard that has been used is the stretchy orange bag mesh, this sits firmly around the foliage of the seedling and provides mechanical protection from browsing.

Browsing deterrents have had some interest in recent years where concoctions with deterring odours, flavour and texture have been tried. These deterrents can be placed on the ground around the seedlings (odour deterrents) or applied to the seedlings (odour, taste and palatability deterrents).

Kangaroos are fairly easily harassed and easily moved on either through deliberate noise and activity in areas where they congregate, or through heavier stocking of paddocks surrounding areas being established with revegetation. “Roo Shoo” devices may also deter kangaroos from hanging around and research into the effectiveness of different devices for particular situations is required.

Culling of kangaroos is an option to reduce the size of large mobs or to disturb a mob. This activity requires a Permit from DEH and may be required periodically as mob numbers build up. Taking out the buck disturbs the mob, however reducing buck, doe and joey numbers across the mob reduces the genetic impact on the mob. Leaving a carcass as a deterrent has reduced kangaroo activity in areas.

- **Refer to:** Fact Sheet – Animal Repellants (QLD DNR, 1996) (this does not refer to roos but some recipes are worth a go).
Ve Hygiene
The possibility of spreading plant diseases and environmental weeds through seed collection and revegetation activities is a real one. These threats can be spread through soil on vehicles, machinery, equipment and boots. And spread through infected tubestock and plant materials. The soil borne root rot disease, *phytophthora sp.* is known to occur in the region and has a huge potential to damage remnant vegetation areas and affect revegetated areas.

Best practice techniques should be put in place to reduce the risk of spread of these threats. Best practice activities should be implemented by LandCare Groups, seed collection contractors, spray contractors, revegetation contractors and local government workers. See Edwards (2001), *Section 9 - Planning Principles for Hygiene Management* for details on best practice activities. The Department of Environment and Heritage (DEH) also has a Phytophthora Species Project Officer who should be worked with (for more information contact your local DEH office).

VI Additional Information

VIa Revegetation Species Lists
The following pages contains lists of species suitable for revegetation based on revegetation zones identified. ‘Reveg Phase’ indicates the suitability of a species to be used in the initial revegetation stages (reveg phase 1) or in the latter stages of revegetation and degraded remnant vegetation enhancement (reveg phase 2), where suitable conditions exist. Species from reveg phase 1 can be used at any stage through the revegetation process. Note that species marked as Direct Seeding establishment method can be established through Seed Grown Tubestock.
<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia myrtifolia (NC)</td>
<td>Myrtle Wattle</td>
<td>Bitter Leaf Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia retinodes var.</td>
<td>Silver Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia retinodes var. retinodes (swamp form)</td>
<td>Swamp Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia sinapoida</td>
<td>Spiny Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia verticillata</td>
<td>Prickly Moses</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Allocasuarina macrana ssp. macrana</td>
<td>Macklin’s Oak-bush</td>
<td>Coarse Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina muelleriana ssp. muelleriana</td>
<td>Common Oak-bush</td>
<td>St Aly Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina muelleriana</td>
<td>Common Oak-bush</td>
<td>Slaty Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasaurina pauciseta</td>
<td>Swamp Oak-bush</td>
<td>Scrub Sheoak</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasaurina pusilla</td>
<td>Dwarf Oak-bush</td>
<td>Heath Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasaurina strigata</td>
<td>Stalked Oak-bush</td>
<td>Tall Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasaurina verticillata</td>
<td>Drooping Sheoak</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Banksia marginata</td>
<td>Silver Banksia</td>
<td>Honeysuckle</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Banksia ornata</td>
<td>Desert Banksia</td>
<td>Sand-heath Banksia</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Banksia spinulosa</td>
<td>Sweet Bursaria</td>
<td>South Australian Christmas Bush</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Carex apressa</td>
<td>Tall Sedge</td>
<td>Tussock Sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Carex brevicaulis</td>
<td>Short-sdist Sedge</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Carex fasciculata</td>
<td>Tassel Sedge</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Clematis microphylla var.</td>
<td>Old Man’s Beard</td>
<td>Small-leaf Clematis</td>
<td>1</td>
<td>S</td>
<td>CL</td>
</tr>
<tr>
<td>Danthonia caespitosa</td>
<td>Common Wallaby-grass</td>
<td>White-top</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia eriantha</td>
<td>Hill Wallaby-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia pillosa var. paleacea</td>
<td>Velvet Wallaby-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>Britty Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia sp.</td>
<td>Wallaby-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia tenax</td>
<td>Short-aen Wallaby-grass</td>
<td>Purplish Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Daviesia leptophylla</td>
<td>Narrow-leaf Bitter-pea</td>
<td></td>
<td>1</td>
<td>S</td>
<td>U/M</td>
</tr>
<tr>
<td>Dodonaea viscosa ssp.</td>
<td>Sticky Hop-bush</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spathulata</td>
<td>Sticky Hop-bush</td>
<td>Spoon-leaf Hop-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Euclayptus baxteri</td>
<td>Brown Stringybark</td>
<td>Baxter’s Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus camaldulensis var.</td>
<td>River Red Gum</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus camaldulensis var. camaldulensis</td>
<td>River Red Gum</td>
<td>Red Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus creosotebush</td>
<td>Kangaroo Island Narrow-leaf Maltee</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus cosmoophylla</td>
<td>Cup Gum</td>
<td>Bog Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus fasciculosa</td>
<td>Pink Gum</td>
<td>Hill Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus leucocorys ssp. leucocorys</td>
<td>South Australian Blue Gum</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus leucocorys (NC)</td>
<td>South Australian Blue Gum</td>
<td>Yellow Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus obliqua</td>
<td>Messmate Stringybark</td>
<td>Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus obliqua var. obliqua (NC)</td>
<td>Messmate Stringybark</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus obliqua var. (NC)</td>
<td>Messmate Stringybark</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus rubida ssp. rubida</td>
<td>Candlebark Gum</td>
<td>White Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus viminalis ssp.</td>
<td>Manna Gum</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclayptus viminalis ssp. cygnenensis</td>
<td>Rough-bark Manna Gum</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Goodenia varia</td>
<td>Sticky Goodenia</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Hakea carinata</td>
<td>Erect Hakea</td>
<td></td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>Turkey Gobblers</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td>Wrinkled Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Helichrysum scopolioides</td>
<td>Button Everlasting</td>
<td></td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Indigofera australis var. australis</td>
<td>Coastal Indigo</td>
<td>Hill Indigo</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Isopogon flavidus</td>
<td>Floating Club-rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Isopogon inermis</td>
<td>Swamp Club-rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Isopogon nodosa</td>
<td>Knooby Club-rush</td>
<td>Knooby Club-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus bufonius</td>
<td>Toad Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus caespitosis</td>
<td>Grassly Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus kraussii</td>
<td>Sea Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus pallidus</td>
<td>Pale Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus paradoxicus</td>
<td>Loose-flower Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus plantarius</td>
<td>Broadleaf Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus sarophorus</td>
<td></td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus sp.</td>
<td></td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus subsecundus</td>
<td></td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td></td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Lavatera plebeja</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Lepidosperma concave</td>
<td>Australian Hollycock</td>
<td>Native Hollycock</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Leptospermum callistemon</td>
<td>Spreading Sword-sedge</td>
<td>Sandhills Sword-sedge</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Leptospermum continentale</td>
<td></td>
<td></td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>Woolly Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Leptospermum myosmiodes</td>
<td>Heath Tea-tree</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Leptospermum sp.</td>
<td>Tea-tree</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Melaleuca brevifolia</td>
<td>Short-leaf Honey-myrtle</td>
<td>Swamp Honey-myrtle</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Tollem poles</td>
<td>Cross-leafed Honey-myrtle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Oleaena ramosa</td>
<td>Twiggly Daisy-bush</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>Common Reed</td>
<td>Bamboo Reed</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Pila clavigera</td>
<td>Mateld Tussock-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Poa aperta</td>
<td>Meadow-grass/Tussock-grass</td>
<td>Poa</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Poa lanosa</td>
<td>Slighter Tussock-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Pulluna daphnoides</td>
<td>Large-leaf Bush Pea</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus brevicolius</td>
<td>Mateld Bog-rush</td>
<td>Moss Bog-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Stipa mollis</td>
<td>Soft Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa sp.</td>
<td>Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>Ilmcity</td>
<td>1</td>
<td>D</td>
<td>T</td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>REVEG PHASE</td>
<td>EST</td>
<td>PLANT TYPE</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------</td>
<td>-------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td><em>Typha domingensis</em></td>
<td>Narrow-leaf Bulrush</td>
<td>Narrow-leaf Cumbungi</td>
<td>1</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td><em>Daviesia balfourii</em></td>
<td>Leafless Bitter-pea</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td><em>Daviesia urophylla ssp. harcarnata</em></td>
<td>Bitter-pea</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td><em>Dianella brevicaulis</em></td>
<td>Short-dram Flax-illy</td>
<td>Coast Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Dianella brevicaulis revoluta var.</em></td>
<td>Black-anther Flax-illy</td>
<td>Spreading Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Dianella revoluta var.</em></td>
<td>Black-anther Flax-illy</td>
<td>Spreading Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Eutaxia sp.</em></td>
<td></td>
<td>Eggs-and-bacon</td>
<td>1-2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Lomandra juncea</em></td>
<td>Desert Mat-rush</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td><em>Lomandra multiflora ssp. duva</em></td>
<td>Hard Mat-rush</td>
<td>Iron-grass</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td><em>Acrotriche serrulata</em></td>
<td>Cushion Ground-berry</td>
<td>Honeypots</td>
<td></td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Adenanthera terminalis</em></td>
<td>Yellow Gland-flower</td>
<td></td>
<td></td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Arthropodium strictum</em></td>
<td>Nodding Vanilla-illy</td>
<td></td>
<td></td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Astra consostylis</em></td>
<td>Common Vanilla-illy</td>
<td>Common Chocolate-illy</td>
<td></td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Astrolobium flammeum</em></td>
<td>Flame Heath</td>
<td>Cranberry Heath</td>
<td></td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Austrochilus hypurata</em></td>
<td></td>
<td>Native Cranberry</td>
<td></td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Baecnea ramossissima ssp. ramossissima</em></td>
<td></td>
<td>Rosy Baecnea</td>
<td></td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Baenacea juncea</em></td>
<td>Bare Twig-rush</td>
<td>Blue Twig-rush</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Bibitiera bignoniae</em></td>
<td>Orange Bell-climber</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Bibitiera cymosa</em></td>
<td>Sweet Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Bibitiera decorispha</em></td>
<td>Silky Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Bibitiera sp.</em></td>
<td>Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Bibitiera uniflora</em></td>
<td>One-flower Apple-berry</td>
<td>Single-flower Apple-berry</td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Biboniea edwardiana</em></td>
<td>Edwardi's <em>Boronia</em></td>
<td>Island Boronia</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Bossiaea prostrata</em></td>
<td>Creeping Bossiaea</td>
<td></td>
<td></td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Brachisandra brasicet</em></td>
<td>Golden Everlasting</td>
<td>Tjulpin-Tjulpumpa</td>
<td></td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Brunonia australis</em></td>
<td>Blue Pincushion</td>
<td>Tjulpin-Tjulpumpa</td>
<td></td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Burchardia umbellata</em></td>
<td>Milkmaids</td>
<td></td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Calytrix todomacoma</em></td>
<td>Common Fringe-myrtle</td>
<td>Finger-flower</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Cheiranthera alternifolia</em></td>
<td>Hand-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Chrysocephalum apiculatum</em></td>
<td>Common Everlasting</td>
<td>Small Yellow Button</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Chrysocephalum baxtari</em></td>
<td>White Everlasting</td>
<td>Fringed Everlasting</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Conna aemuleum ssp.</em></td>
<td>Hairy Correa</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Conna aemuleum</em></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Conna edumea</em></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Conna reflexa</em></td>
<td>Common Correa</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Conna reflexa ssp. reflexa</em></td>
<td>Common Correa</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Craspedia glauca</em></td>
<td>Billy-buttons</td>
<td>Bachelor Buttons</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Crypandra tomentosa</em></td>
<td>Health Cryptandra</td>
<td>Velvet Cryptandra</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Cullen australismicum</em></td>
<td>Tall Scour-pea</td>
<td>Verbeine Scour-pea</td>
<td></td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Cyperus tenellus</em></td>
<td>Tiny Flat-sedge</td>
<td>Puta-pata</td>
<td></td>
<td>2</td>
<td>D/P T</td>
</tr>
<tr>
<td><em>Cyperus vaginatus</em></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>D/P T</td>
</tr>
<tr>
<td><em>Dalemia frigida</em></td>
<td>Red Parrot-pea</td>
<td>Downy Parrot-pea</td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Ditlewyna sericea</em></td>
<td>Showy Parrot-pea</td>
<td></td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Epacris impressa</em></td>
<td>Common Heath</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Exoicarpa coryophylloides</em></td>
<td>Native Cherry</td>
<td>Carolina Flannel</td>
<td></td>
<td>2</td>
<td>S* M</td>
</tr>
<tr>
<td><em>Exoicarpa spartae</em></td>
<td>Slender Cherry</td>
<td>Brook Ballart</td>
<td></td>
<td>2</td>
<td>S* U</td>
</tr>
<tr>
<td><em>Gahnia sieberiana</em></td>
<td>Red-flower Cutting-grass</td>
<td>Red-flower Saw-sedge</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Gomphoebium ecostatum</em></td>
<td>Dwarf Wedge-peak</td>
<td></td>
<td></td>
<td>2</td>
<td>S* U</td>
</tr>
<tr>
<td><em>Gonocarpus meianus</em></td>
<td>Broad-leaf Raspwort</td>
<td>Raspwort</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Gonocarpus tetragynus</em></td>
<td>Small-leaved Raspwort</td>
<td>Common Raspwort</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Goodenia biflora</em></td>
<td>Native Primrose</td>
<td>Black's Goodenia</td>
<td></td>
<td>2</td>
<td>S* U</td>
</tr>
<tr>
<td><em>Goodenia geminata</em></td>
<td>Bent Goodenia</td>
<td>Native Primrose</td>
<td></td>
<td>2</td>
<td>S* U</td>
</tr>
<tr>
<td><em>Grevillea phoenicifolia var.</em></td>
<td>Holly-leaved Grevillea</td>
<td>Native Holly</td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Grevillea lavandoitacea var.</em></td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Grevillea lavandoitacea var.</em></td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Hibbertia aspera</em></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia exuatices</em></td>
<td>Prickly Guinea-flower</td>
<td>Spiky Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia incana</em></td>
<td>Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia riparia</em></td>
<td>Smooth Georgia-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia riparia</em></td>
<td>Brittle Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia sericea var.</em></td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia sericea var.</em></td>
<td>Silky Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia sp.</em></td>
<td>Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia sp.</em></td>
<td>Scrambling Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia stricha var.</em></td>
<td>Stalked Guinea-flower</td>
<td>Erect Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Hibbertia virgata</em></td>
<td>Twiggly Guinea-flower</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td><em>Isopogon ceratophyllus</em></td>
<td>Horned Cone-bush</td>
<td>Cone-bush</td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Isodia achilleoides</em></td>
<td>Isodia</td>
<td></td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Isodia achilleoides ssp.</em></td>
<td>Coast Isodia</td>
<td></td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Isodia achilleoides ssp.</em></td>
<td>Hills Daisy</td>
<td>Wnged Isodia</td>
<td></td>
<td>2</td>
<td>S/C U</td>
</tr>
<tr>
<td><em>Laxmannia orientalis</em></td>
<td>Dwarf Wire-illy</td>
<td></td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Laxmannia sessiliflorica</em></td>
<td>Dwarf Wire-illy</td>
<td></td>
<td></td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td><em>Lepidosperma carphodes</em></td>
<td>Black Raper-sedge</td>
<td></td>
<td></td>
<td>2</td>
<td>S/P T</td>
</tr>
<tr>
<td><em>Lepidosperma curhiae</em></td>
<td>Little Sword-sedge</td>
<td></td>
<td></td>
<td>2</td>
<td>S/P T</td>
</tr>
<tr>
<td><em>Lepidosperma laterale s.str.</em></td>
<td>Tall Sword-sedge</td>
<td></td>
<td></td>
<td>2</td>
<td>S/P T</td>
</tr>
<tr>
<td><em>Lepidosperma longitudinalis</em></td>
<td>Pitty Sword-sedge</td>
<td>Swamp Sword-sedge</td>
<td></td>
<td>2</td>
<td>S/P T</td>
</tr>
<tr>
<td><em>Lepidosperma semiferis</em></td>
<td>Wire Raper-sedge</td>
<td></td>
<td></td>
<td>2</td>
<td>S/P T</td>
</tr>
<tr>
<td><em>Lepidosperma viscidum</em></td>
<td>Sticky Sword-sedge</td>
<td></td>
<td></td>
<td>2</td>
<td>S/P T</td>
</tr>
<tr>
<td><em>Leucopogon australis</em></td>
<td>Spike Beard-heath</td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
</tr>
</tbody>
</table>
## Mixed Stringybark Forest Revegetation Species List

**NOTES:**
- Reveg Phase: 1 = Initial reveg (Phase 1 species can also be used for Phase 2), 2 = Infill for established reveg AND for degraded remnant vegetation.
- Establishment Method: C = Cutting grown tubestock, S = Seed grown tubestock, D = Direct seeding (can also be established from Seed grown tubestock), P = Divided material and Plugged directly into the site, *= Very difficult to propagate.
- Plant Type: C = Canopy, M = Mid Storey, U = Understorey, CL = Climber, T = Tussock (grasses, sedges etc)

### Species List

<table>
<thead>
<tr>
<th>Species Common Name 1</th>
<th>Common Name 2</th>
<th>Reveg Phase</th>
<th>Est</th>
<th>Plant Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leucopogon concursus</td>
<td>Scrambling Beard-heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Leucopogon lanceolatus</td>
<td>Lance Beard-heath</td>
<td>2</td>
<td>S/C*</td>
<td>U</td>
</tr>
<tr>
<td>Leucopogon rufulus</td>
<td>Rudy Beard-heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Logania recurva</td>
<td>Recurved Logania</td>
<td>2</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td>Lomandra ciliata</td>
<td>Sand Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra fibrata</td>
<td>Mount Lofty Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra micrantha ssp.</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra micrantha ssp. micrantha</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra micrantha ssp. tuberculata</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra nana</td>
<td>Small Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra porosa</td>
<td>Small Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra sp.</td>
<td>Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Micranthemum demissum</td>
<td>Dwarf Micranthemum</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Microleptospermum stipoloides</td>
<td>Weeping Rice-grass</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Olearia grandiflora</td>
<td>Mount Lofty Daisy-bush</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Palaearctis fragilis</td>
<td>Short Purple-flag</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Palaearctis occidentalis</td>
<td>Long Purple-flag</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Parochnia juniperina</td>
<td>Prickly Grevillea</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Phyllosticta pleurocladia</td>
<td>Healthy Phylloclade</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea glauca</td>
<td>Smooth Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea humilis</td>
<td>Low Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea littoralis ssp. littoralis</td>
<td>Slender Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea octophylla</td>
<td>Woolly Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea phylloclada</td>
<td>Healthy Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Platycerium ciliatum</td>
<td>Holy Flax-flower</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Pomaderris paniculata ssp.</td>
<td>Dwarf Pomaderris</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Poranthera ericoides</td>
<td>Heath Poranthera</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Poranthera micropila</td>
<td>Small Poranthera</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea acerosa</td>
<td>Brittle Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea canaliculata</td>
<td>Soft Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea canaliculata ssp. canaliculata</td>
<td>Coast Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea graveolens</td>
<td>Scented Bush-pea</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea involucrata</td>
<td>Mount Lofty Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea lateriflora</td>
<td>Twisted Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea pedunculata</td>
<td>Matt Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea trinervis</td>
<td>Three-nerved Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Scaevola australis</td>
<td>Pale Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Scaevola australis var. australis</td>
<td>Pale Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Scaevola australis var. (NC)</td>
<td>Pale Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Senecio glomeratus</td>
<td>Swamp Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio hispanicus var. hispanicus</td>
<td>Rough Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio o�oratus var. o�oratus</td>
<td>Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio quadrimaritimus</td>
<td>Cotton Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio squarrosum</td>
<td>Squarrose Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio jepsonii</td>
<td>Woodland Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Sprennula coxiioides</td>
<td>Swallowtail Sprennula</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Spyridium sp.</td>
<td>Spyridium</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Spyridium thymifolium</td>
<td>Thyme-leaf Spyridium</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Stipa muelleri</td>
<td>Tangled Spear-grass</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stylium graminifolium</td>
<td>Grass Trigger-plant</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Tetraethulia pascas ssp. pascas</td>
<td>Hairy Pink-bells</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Thomasia petalocalyx</td>
<td>Paper-flower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Thyrsanthus junciflosus</td>
<td>Rush Fringe-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Thyrsanthus paterosporia</td>
<td>Twining Fringe-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Viola oleandrogemoides</td>
<td>Shy Violet</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Viola hederaeae</td>
<td>Ivy-leaf Violet</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Viola sieberiana</td>
<td>Tiny Violet</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Wahlenbergia gracilenta</td>
<td>Annual Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
</tr>
<tr>
<td>Wahlenbergia multiflora</td>
<td>Tall Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. stricta</td>
<td>Tall Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. sesquipedala</td>
<td>Yacca</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. sesquipedala</td>
<td>Yacca</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tate’s Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthoxyla pumila</td>
<td>Hairy Xanthoxyla</td>
<td>2</td>
<td>S</td>
<td>C</td>
</tr>
<tr>
<td>Xanthoxyla tasmanica</td>
<td>Southern Xanthoxyla</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
</tbody>
</table>
Coastal Revegetation Species List

NOTES:
Reveg Phase- 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

Establishment Method- C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

Plant Type- C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia longifolia var. sophorae</td>
<td>Coastal Wattie</td>
<td>False Boobialla</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Acacia myrtifolia var. myrtifolia</td>
<td>Myrtle Wattie</td>
<td>Scrub Wattie</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia myrtifolia(NC)</td>
<td>Myrtle Wattie</td>
<td>Bitter Leaf Wattie</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattie</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var. unifolia</td>
<td>Coast Silver Wattie</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia spinescens</td>
<td>Spiny Wattie</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muellariana ss.</td>
<td>Common Oak-bush</td>
<td>Slaty Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina muellariana ss. muelleriana</td>
<td>Common Oak-bush</td>
<td>Slaty Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina pauciflora</td>
<td>Swamp Oak-bush</td>
<td>Scrub Sheoak</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina pulchra</td>
<td>Dwarf Oak-bush</td>
<td>Heath Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Staked Oak-bush</td>
<td>Tall Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Sheoak</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Alyxia buxifolia</td>
<td>Sea Box</td>
<td>1</td>
<td>C?</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Altriplex cinerea</td>
<td>Coast Saltbush</td>
<td>Grey Saltbush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Banksia marginata</td>
<td>Silver Banksia</td>
<td>Honeysuckle</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Banksia ornata</td>
<td>Desert Banksia</td>
<td>Sand-heath Banksia</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td>South Australian Christmas Bush</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Callistemon rugulosus var. rugulosus</td>
<td>Scarlet Bottlebrush</td>
<td>1</td>
<td>S</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Carex breviculmis</td>
<td>Short-stem Sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Carpodetus rossii</td>
<td>Native Figface</td>
<td>Karkalla</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man's Beard</td>
<td>Small-leaf Clematis</td>
<td>1</td>
<td>S</td>
<td>CL</td>
</tr>
<tr>
<td>Dianthus caespitosus</td>
<td>Common Wallaby-grass</td>
<td>White-top</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Dianthus gniculata</td>
<td>Knead Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Dianthus racemosa var. racemosa</td>
<td>Slender Wallaby-grass</td>
<td>Stiped Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Dianthus setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>Bristy Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Dianthus sp.</td>
<td>Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Diphasia crassifolium spp. clavellatum</td>
<td>Round-leaf Figface</td>
<td>Rounded Noon-flower</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Distichlis distichophylla</td>
<td>Emu-grass</td>
<td>Australian Salt-grass</td>
<td>1</td>
<td>S/C</td>
<td>T</td>
</tr>
<tr>
<td>Dodonaea humilis</td>
<td>Dwarf Hop-bush</td>
<td>Limestone Hop-bush</td>
<td>1</td>
<td>D</td>
<td>U</td>
</tr>
<tr>
<td>Dodonaea viscosa var. spatulata</td>
<td>Sticky Hop-bush</td>
<td>Spoon-leaf Hop-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Elymus scabrus var. scabrus</td>
<td>Native Wheat-grass</td>
<td>Common Wheat-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Enchytraea formosa var. formosa</td>
<td>Ruby Saltbush</td>
<td>Barrier Saltbush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Eucalyptus aniceps</td>
<td>Sessile-fruit White Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus baxteri</td>
<td>Brown Stringybark</td>
<td>Baxter's Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus conglobata</td>
<td>Port Lincoln Mallee</td>
<td>Cong Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus cosmocephala</td>
<td>Cup Gum</td>
<td>Bog Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus diversifolia</td>
<td>Coastal White Mallee</td>
<td>Soap Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus fuscus</td>
<td>Pink Gum</td>
<td>Hill Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus fuscus(NC)</td>
<td>Narrow-leaved Mallee</td>
<td>Slender-leaved Red Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus incressata</td>
<td>Ridge-fruited Mallee</td>
<td>Yellow Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus lateritia</td>
<td>Narrow-leaf Red Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon(NC)</td>
<td>South Australian Blue Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon</td>
<td>South Australian Blue Gum</td>
<td>Yellow Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus marginata</td>
<td>Red Mallee</td>
<td>Acorn Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus porosa</td>
<td>Mallee Box</td>
<td>Black Mallee Box</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus rugosa</td>
<td>Coastal White Mallee</td>
<td>Kingscote Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Eucalyptus sp.</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glischnochara bekihi</td>
<td>Golden Pennants</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Goodenia varia</td>
<td>Sticky Goodenia</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hakea carinata</td>
<td>Erect Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hakea mueellariana</td>
<td>Heath Needlebush</td>
<td>Desert Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>Turkey Gobbler</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td>Winkled Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Hardenbergia violacea</td>
<td>Native Lilac</td>
<td>Purple Coral-peat</td>
<td>1</td>
<td>D</td>
<td>U/CL</td>
</tr>
<tr>
<td>Helichrysum leucopsidium</td>
<td>Satin Everlasting</td>
<td>Coast Everlasting</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Helichrysum scopoides</td>
<td>Button Everlasting</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Helichrysum sp.(NC)</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolepis cernua</td>
<td>Nodding Club-rush</td>
<td>Low Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Isolepis marginata</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Isolepis nodosa</td>
<td>Knobby Club-rush</td>
<td>Knobby Club-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Isolepis platyacarpa</td>
<td>Flat-fruit Club-rush</td>
<td>Flat-fruit Club-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncus bufonius</td>
<td>Toad Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus kraussii</td>
<td>Sea Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus pallidus</td>
<td>Pale Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus parauicollis</td>
<td>Loose-flower Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus planifolius</td>
<td>Broad-leaf Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus subsecundus</td>
<td>Finger Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Kenedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Kunzea pomifera</td>
<td>Muntries</td>
<td>Pink Buttons</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Lavatera plebeia</td>
<td>Australian Hollyhock</td>
<td>Native Hollyhock</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Lepidosperma canescens</td>
<td>Heay Rapier-sedge</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lepidosperma concavum</td>
<td>Spreading Sword-sedge</td>
<td>Sandhill Sword-sedge</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Lepidosperma congestum</td>
<td>Clustered Sword-sedge</td>
<td>Limestone Sword-sedge</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Lepidosperma gladiatum</td>
<td>Coast Sword-sedge</td>
<td>Sword Rush</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Lepidosperma laterale(NC)</td>
<td>Sharp Sword-sedge</td>
<td>Variable Sword-sedge</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
</tbody>
</table>
Coastal Revegetation Species List

NOTES:
Reveg Phase- 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

Establishment Method- C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

Plant Type- C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lepidosperma sp.</td>
<td>Sword-sedge/Raper-sedge</td>
<td></td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Leptospermum continentale</td>
<td>Prickly Tea-tree</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Leptospermum myrsinoides</td>
<td>Heath Tea-tree</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Leucophyta brownii</td>
<td>Coast Cushion Bush</td>
<td>Cushion Bush</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Logania crassifolia</td>
<td>Coast Logania</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td>Logania flaxifolia</td>
<td>Flex-leaf Logania</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td>Logania minor</td>
<td>Spoon-leaf Logania</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td>Melaleuca brevifolia</td>
<td>Short-leaf Honey-myrtle</td>
<td>Swamp Honey-myrtle</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>Cross-leaved Honey-myrtle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Melaleuca lanceolata ssp. lanceolata</td>
<td>Dryland Tea-tree</td>
<td>Black Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M/C</td>
</tr>
<tr>
<td>Muehlenbeckia adpressa</td>
<td>Climbing Lignum</td>
<td>Native Sanparrilla</td>
<td>1</td>
<td>S/C</td>
<td>M/C</td>
</tr>
<tr>
<td>Muehlenbeckia florivora</td>
<td>Lignum</td>
<td>Tangled Lignum</td>
<td>1</td>
<td>S/C</td>
<td>M/C</td>
</tr>
<tr>
<td>Muehlenbeckia gunnii</td>
<td>Coastal Climbing Lignum</td>
<td>Native Sanparrilla</td>
<td>1</td>
<td>S/C</td>
<td>M/C</td>
</tr>
<tr>
<td>Myoporum insulare</td>
<td>Common Boobialla</td>
<td>Native Juniper</td>
<td>1</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Myoporum viscosum</td>
<td>Sticky Boobialla</td>
<td></td>
<td>1</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Nitraria billardieri</td>
<td>Nitre-bush</td>
<td>Dillon Bush</td>
<td>1</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td>Olearia axillaris</td>
<td>Coast Daisy-bush</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twiggly Daisy-bush</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Ozothamnus turbinatus</td>
<td>Coast Bush-everlasting</td>
<td>Coast Everlasting</td>
<td>1</td>
<td>S</td>
<td>U/M</td>
</tr>
<tr>
<td>Phegmites australis</td>
<td>Common Reed</td>
<td>Bamboo Reed</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Poa halmaturina</td>
<td>Kangaroo Island Poa</td>
<td>Salt Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Poa poiformis</td>
<td>Coast Tussock-grass</td>
<td>Blue Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>Poa</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Pozenera</td>
<td>Slender Tussock-grass</td>
<td>Spreading Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Pullenaea densifolia</td>
<td>Dense Bush-pee</td>
<td></td>
<td>1</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pullenaea tensifolia</td>
<td>Narrow-leafe Bush-pee</td>
<td>Slender Bush-pee</td>
<td>1</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Rhagodia candolea sp.</td>
<td>Sea-berry Saltbush</td>
<td></td>
<td>1</td>
<td>D/C</td>
<td>U/M</td>
</tr>
<tr>
<td>Rhagodia candolea sp.</td>
<td>Sea-berry Saltbush</td>
<td></td>
<td>1</td>
<td>D/C</td>
<td>U/M</td>
</tr>
<tr>
<td>Schoenoplectus validus</td>
<td>River Club-rush</td>
<td>River Club-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus brevifolius</td>
<td>Matted Bog-rush</td>
<td>Moss Bog-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus deformis</td>
<td>Small Bog-rush</td>
<td>Limestone Bog-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus nitens</td>
<td>Shiny Bog-rush</td>
<td>Shiny Bog-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus sp.</td>
<td>Bog-rush</td>
<td>Bog-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Spinifex sericeus</td>
<td>Rolling Spinifex</td>
<td>Coast Spinifex</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Stipa exilis</td>
<td>Heath Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa flavescens</td>
<td>Coast Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa hemigras</td>
<td>Half-and Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa macalpinei</td>
<td>Annual Spear-grass</td>
<td>One-year Grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa mollis</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa mundula</td>
<td>Near Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa scabra ssp. falcata</td>
<td>Slender Spear-grass</td>
<td>Rough Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa sp.</td>
<td>Spear-grass</td>
<td></td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Stipa stipoides</td>
<td>Coast Spear-grass</td>
<td>Prickly Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Tetragonia implexicoma</td>
<td>Bower Spinach</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>Jintji</td>
<td>1</td>
<td>D</td>
<td>T</td>
</tr>
<tr>
<td>Triodia compacta</td>
<td>Spinifex</td>
<td>Porcupine-grass</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Typha domingensis</td>
<td>Narrow-leaf Bulrush</td>
<td>Narrow-leaf Cumbungi</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Vittadinia australasia var. australasia</td>
<td>Sticky New Holland Daisy</td>
<td>New Holland Daisy</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Vittadinia cuneata var. cuneata forma cuneata</td>
<td>Fuzzy New Holland Daisy</td>
<td>Fuzzweed</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Wahlenbergia litticola</td>
<td>Coast Bluebell</td>
<td>Edge Bluebell</td>
<td>1</td>
<td>S/P</td>
<td>U</td>
</tr>
<tr>
<td>Wahlenbergia luteola</td>
<td>Yellowwash Bluebell</td>
<td>Yellowwash Bluebell</td>
<td>1</td>
<td>S/P</td>
<td>U</td>
</tr>
<tr>
<td>Daviesia brevifolia</td>
<td>Leafless Bitter-pea</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Daviesia ulicifolia ssp. incurvata</td>
<td></td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Daviesia ulicifolia(NC)</td>
<td>Gorse Bitter-pea</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Danellia brevicaulis</td>
<td>Short-stem Flax-illy</td>
<td>Coast Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Danellia brevicaulis/revoluta var.</td>
<td>Black-anther Flax-illy</td>
<td>Spreading Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Danellia revoluta var. revoluta</td>
<td>Black-anther Flax-illy</td>
<td>Spreading Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Danellia revoluta(NC)</td>
<td></td>
<td></td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Eutaxia microphylla var. microphylla</td>
<td>Common Eutaxia</td>
<td>Eggs-and-bacon</td>
<td>1-2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Eutaxia sp.</td>
<td>Eutaxia</td>
<td>Eggs-and-bacon</td>
<td>1-2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Lomandra densifolia</td>
<td>Soft Tussock Mat-rush</td>
<td>Pointed Mat-rush</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra effusa</td>
<td>Scented Mat-rush</td>
<td>Scented Iron-grass</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra juncea</td>
<td>Desert Mat-rush</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra multiflora ssp. dura</td>
<td>Hard Mat-rush</td>
<td>Iron-grass</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Azorina sernulata</td>
<td>Cushion Ground-berry</td>
<td>Honeypots</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Adenanthos terminais</td>
<td>Yellow Gland-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Adriana klotzschii</td>
<td>Coast Bitter-bush</td>
<td></td>
<td>2</td>
<td>C/D</td>
<td>M</td>
</tr>
<tr>
<td>Arthrocnemum frondatum</td>
<td>Nodding Vanilla-illy</td>
<td>Summer Vanilla-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Arthrocnemum strictum</td>
<td>Common Vanilla-illy</td>
<td>Common Chocolate-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Astronium costeopoides</td>
<td>Flame Heath</td>
<td></td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Astronium hamillus</td>
<td>Cranberry Heath</td>
<td>Native Cranberry</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td>Baesia crassifolia</td>
<td>Desert Baesica</td>
<td>Desert Heath-myrtle</td>
<td>2</td>
<td>C*</td>
<td>M</td>
</tr>
<tr>
<td>Baumea juncea</td>
<td>Bare Twig-rush</td>
<td>Blue Twig-rush</td>
<td>2</td>
<td>SP</td>
<td>T</td>
</tr>
<tr>
<td>Beyeria lechenuatula</td>
<td>Pale Turpentine Bush</td>
<td>Felted Wallaby-bush</td>
<td>2</td>
<td>C</td>
<td>M/C</td>
</tr>
<tr>
<td>Billardiera cymsia</td>
<td>Sweet Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td>Billardiera sp.</td>
<td>Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td>Billardiera uniflora</td>
<td>One-flower Apple-berry</td>
<td>Single-flower Apple-berry</td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
</tbody>
</table>
### Coastal Revegetation Species List

**NOTES:**
- Reveg Phase: 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.
- Establishment Method: C= Cutting grown tubestock, S= Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

### Plant Type: C= Canopy, M= Mid Storey, U= Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

#### Establishment Method

- **SPECIES**: Common Name 1, Common Name 2
- **REVEG PHASE**: EST
- **PLANT TYPE**: Material and Plugged directly into the site, *= Very difficult to propagate.
Coastal Revegetation Species List

NOTES:
Reveg Phase- 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.
Establishment Method- C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

Plant Type- C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lomandra collina (NC)</td>
<td>Sand Mat-rush</td>
<td>Sharp-leaf Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra macrophylla</td>
<td>Pale Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra microphylla</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra microphylla ssp.</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra microphylla ssp.</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra nana</td>
<td>Small Mat-rush</td>
<td>Soft Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra sororia</td>
<td>Sword Mat-rush</td>
<td>Small Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Micranthemum demissum</td>
<td>Dwarf Micranthemum</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Microleia stipoides var.</td>
<td>Weeping Rice-grass</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Olearia pannosa var.</td>
<td>Silver Daisy-bush</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Patersonia fragilis</td>
<td>Short Purple-Flag</td>
<td>Swamp Iris</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Persoonia juniperina</td>
<td>Prickly Geebung</td>
<td>2</td>
<td>C*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Physilota pleuropetala</td>
<td>Heathy Physilota</td>
<td>2</td>
<td>*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea glauca</td>
<td>Smooth Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea humilis</td>
<td>Low Riceflower</td>
<td>Common Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea octophylla</td>
<td>Wooly Riceflower</td>
<td>Downy Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea phyllisticta</td>
<td>Heath Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea serpyllifolia ssp.</td>
<td>Thyme Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea striata</td>
<td>Erect Riceflower</td>
<td>Gaunt Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Platypodium obtusangulum</td>
<td>Holly Flat-peat</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pomaderris ochlandica</td>
<td>Wedge-leaf Pomaderris</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pomaderris oraria (NC)</td>
<td>Coast Pomaderris</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pomaderris paniculosa ssp.</td>
<td>Mallee Pomaderris</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Poranthera ericoides</td>
<td>Heath Poranthera</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Poranthera microphylla</td>
<td>Small Poranthera</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Poranthera triandra</td>
<td>Three-petal Poranthera</td>
<td>Pink Poranthera</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Prostanthera chlorantha</td>
<td>Green Mintbush</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea langiflora</td>
<td>Twispy Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea trienvis</td>
<td>Three-nerve Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Rhabdanthus laevis</td>
<td>Smooth Daisy</td>
<td>Smooth Sundray</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Santalum acuminatum</td>
<td>Quandong</td>
<td>2</td>
<td>S</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Santalum murrayanum</td>
<td>Bitter Quandong</td>
<td>2</td>
<td>S</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Scaevola albida</td>
<td>Pale Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Scaevola crassifolia</td>
<td>Cushion Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Scaevola linears ssp.</td>
<td>Bundled Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio bigelularis</td>
<td>Swamp Groundsel</td>
<td>Toothed Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio angulatus</td>
<td>Annual Groundsel</td>
<td>Slender Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio laetus</td>
<td>Variable Groundsel</td>
<td>Elegant Yellow-top</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio odoratus var.</td>
<td>Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var.</td>
<td>Broadleaf Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var.</td>
<td>Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio pinnfolioides</td>
<td>Purple-leaf Groundsel</td>
<td>Scabrid Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio quadridentatus</td>
<td>Cotton Groundsel</td>
<td>Cotton Fireweed</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio tenuiflorus</td>
<td>Narrow Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Solanum laciniatum</td>
<td>Cut-leaf Kangaroo-apple</td>
<td>Large Kangaroo-apple</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Spirydium coelatophyllum</td>
<td>Butterfly Spirydium</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Spirydium thymifolium</td>
<td>Thyme-leaf Spirydium</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Stylidium calcaratum</td>
<td>Spurred Trigger-plant</td>
<td>Book Trigger-plant</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Stylidium graminifolium</td>
<td>Grass Trigger-plant</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Stylidium peappulosis</td>
<td>Tiny Trigger-plant</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Swainsonia lesserflora</td>
<td>Coast Swainson-pea</td>
<td>Poison Pea</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Tetraetheca pilaosa ssp.</td>
<td>Hairy Pink-bells</td>
<td>Pink-eyed Susan</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Thamisia talpina</td>
<td>Paper-flower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thysanotus bauer</td>
<td>Maliee Fringe-ily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thysanotus junifolius</td>
<td>Rush Fringe-ily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thysanotus patersonii</td>
<td>Twinning Fringe-ily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia gracilenta</td>
<td>Annual Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia stricta ssp.</td>
<td>Tall Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Tate's Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Xanthosia pulsatilla</td>
<td>Hairy Xanthosia</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Zieria veronica</td>
<td>Pink Zieria</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Zygocephalum bilarderi</td>
<td>Coast Twinleaf</td>
<td>2</td>
<td>C</td>
<td>U/M</td>
<td></td>
</tr>
</tbody>
</table>
## Perched Swamps Revegetation Species List

**NOTES:**
- Reveg Phase: 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

**Establishment Method:**
- C= Cutting grown tubestock
- S= Seed grown tubestock
- D= Direct seeding (can also be established from Seed grown tubestock)
- P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

**Plant Type:**
- C= Canopy
- M= Mid Storey
- U=Understorey
- CL= Climber
- T= Tussock (grasses, sedges etc)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia pauroxylon</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia raddiodes var.</td>
<td>Silver Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia spinescens</td>
<td>Spiny Wattle</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia verticillata</td>
<td>Prickly Moses</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Allocasuarina pulchra</td>
<td>Dwarf Oak-bush</td>
<td>Heath Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Staked Oak-bush</td>
<td>Tall Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Banksia ornata</td>
<td>Desert Banksia</td>
<td>Sand-heath Banksia</td>
<td>1</td>
<td>S</td>
<td>M</td>
</tr>
<tr>
<td>Carex appressa</td>
<td>Tail Sedge</td>
<td>Tussock Sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Carex tetralicus</td>
<td>Rush Sedge</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Danthonia setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>Bristly Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Dodonaea viscosa ssp.</td>
<td>Sticky Hop-bush</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spatulata</td>
<td>Sticky Hop-bush</td>
<td>Spoon-leaf Hop-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Eleochras gracilis</td>
<td>Slender Spike-rush</td>
<td>Slender Spike-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Euclalyptus Baxteri</td>
<td>Brown Stringy Bark</td>
<td>Baxter’s Stringy Bark</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclalyptus fasciculosa</td>
<td>Pink Gum</td>
<td>Hill Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclalyptus leucoxylon ssp. leucoxylon</td>
<td>South Australian Blue Gum</td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclalyptus obliqua</td>
<td>Swamp Gum</td>
<td>Stringy Bark</td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Euclalyptus ovata</td>
<td></td>
<td></td>
<td>1</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Haakia rostrata</td>
<td>Boaked Hakea</td>
<td>Turkey Gobblers</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Helichrysum scorpoides</td>
<td>Button Everlasting</td>
<td></td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Isopogon undulatus</td>
<td>Swamp Club-rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Isopogon marginata</td>
<td>Little Club-rush</td>
<td>Coarse Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox biformis</td>
<td>Toad Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox caespiticosus</td>
<td>Grassy Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox holochinoeunus</td>
<td>Joint-leaf Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox pallidus</td>
<td>Pale Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox planifolius</td>
<td>Broad-leaf Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox prismaticus</td>
<td>Branching Rush</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Juncox samphorae</td>
<td></td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>Running Postman</td>
<td>1</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Leptospermum contientale</td>
<td>Prickly Tea-tree</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>Woolly Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Leptospermum myrnoides</td>
<td>Heath Tea-tree</td>
<td></td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>Cross-leaved Honey-myrtle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twisgy Daisy-bush</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Phragmites communis</td>
<td>Common Reed</td>
<td>Bamboo Reed</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus apon</td>
<td>Common Bog-rush</td>
<td>Common Bog-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus brevifolius</td>
<td>Matted Bog-rush</td>
<td>Moss Bog-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Schoenus maschalinus</td>
<td>Leafy Bog-rush</td>
<td>Creeping Bog-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td>Stipa mollis</td>
<td>Soft Spear-grass</td>
<td>Supple Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Typha domingensis</td>
<td>Narrow-leaf Buhush</td>
<td>Narrow-leaf Cumbungi</td>
<td>1</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Viminaria juncea</td>
<td>Native Broom</td>
<td>Golden Spray</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Daviesia brevifolia</td>
<td>Leafless Bitter-pea</td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Daviesia uliginosa ssp. incamata</td>
<td></td>
<td></td>
<td>1-2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Danellia rotundata</td>
<td></td>
<td>Black-anther Flax-lily</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Lomandra multiflora ssp. dura</td>
<td>Hard Mat-rush</td>
<td>Iron-glass</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Arthrocnemum strictum</td>
<td>Common Vanilla-grass</td>
<td>Common Chocolate-grass</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Astroloma costeioides</td>
<td>Flame Heath</td>
<td></td>
<td>2</td>
<td>C^*</td>
<td>U</td>
</tr>
<tr>
<td>Baeckea rossii ssp. ramosissima</td>
<td>Rosy Baeckea</td>
<td></td>
<td>2</td>
<td>C^*</td>
<td>U</td>
</tr>
<tr>
<td>Baumea juncea</td>
<td>Bare Twig-rush</td>
<td>Blue Twig-rush</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Baumea tetragona</td>
<td>Square Twig-rush</td>
<td>Square Twig-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td>Billardiera cymosa</td>
<td>Sweet Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td>Brunonia australis</td>
<td>Blue Pincushion</td>
<td>Tjulpun-tjulpunpa</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Bulbine bulbosa</td>
<td>Bulbine-lily</td>
<td>Native Leek</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Burchardia umbellata</td>
<td>Milkmaid</td>
<td>Milk Lily</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Calytrix tetragona</td>
<td>Common Fringe-myrtle</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U/M</td>
</tr>
<tr>
<td>Cheiranthus alternifolia</td>
<td>Hand-flower</td>
<td>Finger-flower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Chrysobalanus latifoli</td>
<td>Everlasting</td>
<td>Fringed Everlasting</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Correa reflexa var. reflexa</td>
<td>Common Correa</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Craspedia glauca</td>
<td>Billy-buttons</td>
<td>Bachelor Buttons</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Crystandra tennotus</td>
<td>Heath Crystandra</td>
<td>Velvet Crystandra</td>
<td>2</td>
<td>C^*</td>
<td>U</td>
</tr>
<tr>
<td>Daviesia arenaria</td>
<td>Sand Bitter-pea</td>
<td>Maliee Bitter-pea</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Dentaria hispida</td>
<td>Red Parrot-pea</td>
<td>Dwny Parrot-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Dimyria sertacea</td>
<td>Showy Parrot-pea</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Epacris impressa</td>
<td>Common Heath</td>
<td>Heath</td>
<td>2</td>
<td>C^*</td>
<td>U</td>
</tr>
<tr>
<td>Gahnia seberiana</td>
<td>Red-fruits Cutting-grasss</td>
<td>Red-fruits Saw-sedge</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Glycine clandestina var. seberiana</td>
<td>Twinning Glycine</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Gomphocarpus mezeziana</td>
<td>Broad-leaf Raspwort</td>
<td>Hairy Raspwort</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Gomphocarpus micranthus ssp. micranthus</td>
<td>Creeping Raspwort</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Gomphocarpus tetragynus</td>
<td>Small-leaves Raspwort</td>
<td>Common Raspwort</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Goodenia gincuta</td>
<td>Broad Goodenia</td>
<td>Native Primrose</td>
<td>2</td>
<td>S^*</td>
<td>U</td>
</tr>
<tr>
<td>Grevillea lavandulacea var.</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Grevillea lavandulacea var. lavandulacea</td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Hibbertia riparia</td>
<td>Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Hibbertia virgata</td>
<td>Twisgy Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Laxmaninia orientalis</td>
<td>Dwarf Wire-lily</td>
<td></td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
</tbody>
</table>
**Perched Swamps Revegetation Species List**

**NOTES:**
Reveg Phase: 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

Establishment Method: C= Cutting grown tubestock, S= Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

Plant Type: C= Canopy, M=Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lepidosperma carphoides</td>
<td>Black Rapier-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lepidosperma laterale s.str.</td>
<td>Tall Sword-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lepidosperma longitudinalis</td>
<td>Pitty Sword-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lepidosperma semiternas</td>
<td>Wire Rapier-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Leucopogon hirsutus</td>
<td>Hairy Beard-heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Lomandra collina</td>
<td>Sand Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra micrantha ssp.</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Micanthum demissum</td>
<td>Dwarf Micranthum</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Patersonia fragilis</td>
<td>Short Purple-flag</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Patersonia occidentalis</td>
<td>Long Purple-flag</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Pimelea humilis</td>
<td>Low Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea octophylla</td>
<td>Woolly Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Platyllobium obtusangulum</td>
<td>Holly Flat-pea</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pymagrostis pedunculata</td>
<td>Mattet Pratia</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Scaevola albida</td>
<td>Pale Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio glomeratus</td>
<td>Swamp Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio quadridentatus</td>
<td>Cotton Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Spyridium thymifolium</td>
<td>Thyme-leaf Spyridium</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Stylidium graminifolium</td>
<td>Grass Trigger-plant</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Tetraphis pilosa ssp. pilosa</td>
<td>Hairy Pink-bells</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thysanotus junceolus</td>
<td>Rush Fringe-lily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thysanotus patersonii</td>
<td>Twining Fringe-lily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Vicia sieberiana</td>
<td>Tiny Violet</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia gracilenta</td>
<td>Annual Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia stricta ssp. stricta</td>
<td>Tall Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. semiplana</td>
<td>Yacca</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Xanthosia pusilla</td>
<td>Hairy Xanthosia</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>REVEG PHASE</td>
<td>EST</td>
<td>PLANT TYPE</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>---------------</td>
<td>-------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>Acacia melanoxylon</td>
<td>Blackwood</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia var. myrtifolia</td>
<td>Myrtle Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia</td>
<td>Myrtle Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var.</td>
<td>Silver Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var. retinodes (wasp form)</td>
<td>Swamp Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia spinescens</td>
<td>Spiny Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia verticillata</td>
<td>Prickly Moses</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muellariana ssp.</td>
<td>Common Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Allocasuarina muellariana ssp. muellariana</td>
<td>Common Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Allocasuarina striata</td>
<td>Stalked Oak-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Sheoak</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td>1</td>
<td>S</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Carex appressa</td>
<td>Tall Sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Carex breviculmis</td>
<td>Short-stem Sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man's Beard</td>
<td>1</td>
<td>S</td>
<td>CL</td>
<td></td>
</tr>
<tr>
<td>Danthonia caespitosa</td>
<td>Common Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia pilosa var. paleacea</td>
<td>Velvet Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia sp.</td>
<td>Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Daviesia lepismatophylla</td>
<td>Narrow-leaf Bitter-pea</td>
<td>1</td>
<td>S</td>
<td>U/M</td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa ssp.</td>
<td>Hop-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spatulata</td>
<td>Sticky Hop-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus baxteri</td>
<td>Brown Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var. camaldulensis</td>
<td>River Red Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus cosmophylla</td>
<td>Cup Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fasciculosa</td>
<td>Pink Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus ficifolia(NC)</td>
<td>Narrow-leaved Mallee</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon ssp. leucoxylon</td>
<td>South Australian Blue Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua</td>
<td>Messmate Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus obliqua var. obliqua(NC)</td>
<td>Messmate Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus riedlei var. (NC)</td>
<td>Messmate Stringybark</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus villosa eximia ssp. villosa</td>
<td>Rough-bark Manna Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus villosa ssp.</td>
<td>Manna Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Goodenia varia</td>
<td>Sticky Goodenia</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hakea carinata</td>
<td>Erect Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hakea rostrata</td>
<td>Beaked Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hakea rugosa</td>
<td>Dwarf Hakea</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Helichrysum scoparium</td>
<td>Button Everlasting</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Indigofera australis var. australis</td>
<td>Austral Indigo</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Isolepis cernua</td>
<td>Nodding Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Isolepis inundata(NC)</td>
<td>Swamp Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Isolepis marginata</td>
<td>Little Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus caespiticensis</td>
<td>Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus decipiens</td>
<td>Finger Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Kennedia prostrata</td>
<td>Scarlet Runner</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Lepidospernum sp.</td>
<td>Sow-wedge/Rapier-sedge</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Leptospermum continentale</td>
<td>Prickly Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Leptospermum myrtoides</td>
<td>Heath Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>1</td>
<td>D</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Melaleuca lanceolata ssp. lanceolata</td>
<td>Dryland Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Myoporum viscosum</td>
<td>Sticky Boobialla</td>
<td>1</td>
<td>C</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twigg Daisy-bush</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Phegopteris australis</td>
<td>Common Reed</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Poa clevelandii</td>
<td>Matted Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Poa labillardieri var. labillardieri</td>
<td>Common Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Poa poiformis</td>
<td>Common Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Pultenaea daphnoides</td>
<td>Large-leaf Bush Pea</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Schinus apogon</td>
<td>Common Bog-rush</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Schinus brevifolius</td>
<td>Matted Bog-rush</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Sitka molly</td>
<td>Soft Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Sitka semiarborea</td>
<td>Fibrous Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Sitka sp.</td>
<td>Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Daviesia brevifolia</td>
<td>Leafless Bitter-pea</td>
<td>1-2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Daviesia ulicifolia ssp. incanata</td>
<td>Gorse Bitter-pea</td>
<td>1-2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Daviesia ulicifolia(NC)</td>
<td>Gorse Bitter-pea</td>
<td>1-2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulis</td>
<td>Short-stem Flax-illy</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
</tbody>
</table>
### Pink Gum Woodlands Revegetation Species List

**NOTES:**

Establishment Method: C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

### Plant Type- C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

#### Species List

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Common Name 1</th>
<th>Common Name 2</th>
<th>Reveg Phase</th>
<th>Est</th>
<th>Plant Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Dianella brevicaulis/revoluta var.</em></td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Dianella longifolia var. graminis</em></td>
<td>Pale Flax-lily</td>
<td>Yellow-anther Flax-lily</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Dianella revoluta var. revoluta</em></td>
<td>Black-anther Flax-lily</td>
<td>Spreading Flax-lily</td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Dianella revoluta(NC)</em></td>
<td></td>
<td></td>
<td>1-2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Lomandra densiflora</em></td>
<td>Soft Tussock Mat-rush</td>
<td>Pointed Mat-rush</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td><em>Lomandra multiflora ssp. dura</em></td>
<td>Hard Mat-rush</td>
<td>Iron-grass</td>
<td>1-2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td><em>Acrotriche semulata</em></td>
<td>Cushion Ground-berry</td>
<td>Honeypots</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Anthropodium fimbriatum</em></td>
<td>Nodding Vanilla-illy</td>
<td>Summer Vanilla-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Arthrostemma</em></td>
<td>Vanilla-illy</td>
<td>Chocolate-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Arthrostemma strictum</em></td>
<td>Common Vanilla-illy</td>
<td>Common Chocolate-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Astronium conoschepoides</em></td>
<td>Flame Heath</td>
<td></td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Astroloma humifusum</em></td>
<td>Cranberry Heath</td>
<td>Native Cranberry</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Baeckea rossoassima ssp. rossoassima</em></td>
<td>Rosy Baeckea</td>
<td></td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Billardiera bigoniacea</em></td>
<td>Orange Bell-climer</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Billardiera cymosa</em></td>
<td>Sweet Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Billardiera sp.</em></td>
<td>Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Billardiera uniflora</em></td>
<td>One-flower Apple-berry</td>
<td>Single-flower Apple-berry</td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
</tr>
<tr>
<td><em>Bossiaea prostrata</em></td>
<td>Creeping Bossiaea</td>
<td></td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Bracteantha bracteata</em></td>
<td>Golden Everlasting</td>
<td>Tjuljum-tjulpumpa</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Brunonia australis</em></td>
<td>Blue Pincushion</td>
<td>Tjuljum-tjulpumpa</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Burchardia umbellata</em></td>
<td>Milkmaids</td>
<td></td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Calixtia tetragona</em></td>
<td>Common Fringe-myrtle</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U/M</td>
</tr>
<tr>
<td><em>Cassinia uncatia</em></td>
<td>Sticky Cassinia</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>M</td>
</tr>
<tr>
<td><em>Cheiranthus alternifolia</em></td>
<td>Hand-flower</td>
<td>Finger-flower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Chrysocephalum apiculatum</em></td>
<td>Common Everlasting</td>
<td>Small Yellow Button</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Chrysocephalum baerteri</em></td>
<td>White Everlasting</td>
<td>Fringed Everlasting</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Convolvulus nesiotis</em></td>
<td>Grassy Bindweed</td>
<td></td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Correa amela s.str.</em></td>
<td>Hairy Correa</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Correa calyana</em></td>
<td>Hindmarsh Correa</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Correa paludicola</em></td>
<td>Salmon Correa</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Correa reflexa</em></td>
<td>Common Correa</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Craspedia glauca</em></td>
<td>Billy-buttons</td>
<td>Bachelor Buttons</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Cryptandra tomentosa</em></td>
<td>Heath Cryptandra</td>
<td>Velvet Cryptandra</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Cryptandra tomentosa(NC)</em></td>
<td></td>
<td></td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Cullen australasicum</em></td>
<td>Tall Scurf-pea</td>
<td>Verbine Scurf-pea</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Cyperus vaginatus</em></td>
<td>Stiff Flat-sedge</td>
<td>Puts-puta</td>
<td>2</td>
<td>D/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Dampiera dysantha</em></td>
<td>Shrubby Dampiera</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Dillwynia hispida</em></td>
<td>Red Parrot-pea</td>
<td>Downy Parrot-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Dillwynia sp.</em></td>
<td>Parrot-pea</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Epaonis impressa</em></td>
<td>Common Heath</td>
<td>Heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Eucarpos cupressiformis</em></td>
<td>Native Cherry</td>
<td>Cherry Ballart</td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Gahnia sieberiana</em></td>
<td>Red-flower Cutting-grass</td>
<td>Red-flower Saw-sedge</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td><em>Glycine clandestina var. sericea</em></td>
<td>Twinning Glycine</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Glycine latrobeana</em></td>
<td>Clover Glycine</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Gompholobium ecostatum</em></td>
<td>Dwarf Wedge-pea</td>
<td></td>
<td>2</td>
<td>S/C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Gonocarpus mezianus</em></td>
<td>Broadleaf Raspwort</td>
<td>Hairy Raspwort</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Gonocarpus sp.</em></td>
<td>Raspwort</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Gonocarpus tetragynus</em></td>
<td>Small-flower Raspwort</td>
<td>Common Raspwort</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Goodenia amplexans</em></td>
<td>Clasping Goodenia</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Goodenia blackiana</em></td>
<td>Native Primrose</td>
<td>Black’s Goodenia</td>
<td>2</td>
<td>S*</td>
<td>U</td>
</tr>
<tr>
<td><em>Goodenia geniculata</em></td>
<td>Bent Goodenia</td>
<td>Native Primrose</td>
<td>2</td>
<td>S*</td>
<td>U</td>
</tr>
<tr>
<td><em>Goodenia sp.</em></td>
<td>Goodenia</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Goodia medicaginea</em></td>
<td>Western Golden-tip</td>
<td>Golden-tip</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Grevillea lavandulacea var.</em></td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Grevillea lavandulacea var. lavandulacea</em></td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Grevillea lavandulacea var. sericea</em></td>
<td>Spider-flower</td>
<td>Heath Grevillea</td>
<td>2</td>
<td>S/C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia aspera(NC)</em></td>
<td></td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia exuviacea</em></td>
<td>Prickly Guinea-flower</td>
<td>Spiky Guinea-flower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia riparia</em></td>
<td>Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia riparia (gabriuscula)</em></td>
<td>Smooth Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia riparia (long-leaved aff. H. stricta)</em></td>
<td>Britsky Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia sericea var. sericea</em></td>
<td>Silky Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia sp.</em></td>
<td>Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia sp. B</em></td>
<td>Scrambling Guinea-flower</td>
<td></td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Hibbertia stricta var. stricta</em></td>
<td>Stalked Guinea-flower</td>
<td>Erect Guinea-flower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td><em>Iresine caryophyllus</em></td>
<td>Horny Cone-bush</td>
<td>Cone-bush</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td><em>Irida achilleaoides sp. ssp.</em></td>
<td>Irida</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Irida achilleaoides sp. alta</em></td>
<td>Hills Daisy</td>
<td>Winged Irida</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Lassietetum baueiri</em></td>
<td>Slender Velvet-bush</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td><em>Laxmannia sessiliflora(NC)</em></td>
<td>Dwarf Wire-lily</td>
<td></td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td><em>Lepidopogon curtisiae</em></td>
<td>Black Rapier-sedge</td>
<td></td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Lepidopogon longiflorum</em></td>
<td>Little Sword-sedge</td>
<td></td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Lepidopogon perpendiculare</em></td>
<td>Pitty Sword-sedge</td>
<td>Swamp Sword-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Lepidopogon semiteres</em></td>
<td>Wire Rapier-sedge</td>
<td></td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Lepidopogon viscosum</em></td>
<td>Sticky Sword-sedge</td>
<td></td>
<td>2</td>
<td>S/P</td>
<td>T</td>
</tr>
<tr>
<td><em>Leucopogon australis</em></td>
<td>Spike Beard-heath</td>
<td></td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Leucopogon concurvus</em></td>
<td>Scrambling Beard-heath</td>
<td></td>
<td>2</td>
<td>C*</td>
<td>U</td>
</tr>
<tr>
<td><em>Leucopogon lanceolatus</em></td>
<td>Lance Beard-heath</td>
<td></td>
<td>2</td>
<td>S/C*</td>
<td>U</td>
</tr>
</tbody>
</table>
**Pink Gum Woodlands Revegetation Species List**

**NOTES:**
Reveg Phase- 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

Establishment Method- C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

**Plant Type-** C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leucopogon parviflorus</td>
<td>Coast Beard-heath</td>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td>2</td>
<td>S/C*</td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td>2</td>
<td>C*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Lambda fibra</td>
<td>Mount Lofty Mat-rush</td>
<td>Lambda microcarpa ssp.</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>Lambda microcarpa ssp. microcarpa</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lambda nana</td>
<td>Small Mat-rush</td>
<td>Lambda sororia</td>
<td>Sword Mat-rush</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>Lambda sororia</td>
<td>Sword Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Micanthaemum semissimum</td>
<td>Dwarf Micanthaemum</td>
<td>Miconieta stipoides var. stipoides</td>
<td>Weeping Rice-grass</td>
<td>2</td>
<td>S</td>
</tr>
<tr>
<td>Oleaena grandiflora</td>
<td>Mount Lofty Daisy-bush</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Persoonia juniperina</td>
<td>Prickly Geebung</td>
<td>2</td>
<td>C*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Phyllota remota</td>
<td>Slender Phyllota</td>
<td>2</td>
<td>C*</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea glauca</td>
<td>Smooth Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea humulis</td>
<td>Low Riceflower</td>
<td>Common Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea infliceda ssp. infliceda</td>
<td>Slender Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pimelea microcarpa</td>
<td>Silky Riceflower</td>
<td>Curved Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea octophyla</td>
<td>Woolly Riceflower</td>
<td>Downy Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Pimelea phylloides</td>
<td>Heath Riceflower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Platyleobium obtusangulum</td>
<td>Holly Flat-pea</td>
<td>Common Flat-pea</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Pomaderris paniculosa ssp. paniculosa</td>
<td>Maltese Pomaderris</td>
<td>Inland Pomaderris</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Poranthera microphylla</td>
<td>Small Poranthera</td>
<td>Small-leaf Poranthera</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Prostanthera clavata</td>
<td>Green Mintbush</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea acerosa</td>
<td>British Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea canalicuata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea canalicuata var. canalicuata</td>
<td>Soft Bush-pea</td>
<td>Coast Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Pultenaea involucrata</td>
<td>Mount Lofty Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea larifolia</td>
<td>Twiggy Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Pultenaea pedunculata</td>
<td>Matted Bush-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Scaevola abida</td>
<td>Palm Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Scaevola abida var. abida</td>
<td>Palm Fanflower</td>
<td>Small-fruit Fanflower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Senecio gimeratus</td>
<td>Swamp Groundsel</td>
<td>Toothed Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio hispidulus var.</td>
<td>Rough Groundsel</td>
<td>Hispid Fireweed</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio taurus</td>
<td>Variable Groundsel</td>
<td>Elegant Yellow-top</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio odoratus var.</td>
<td>Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio odoratus var. obtusifolius</td>
<td>Broad-leaf Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio quadridentatus</td>
<td>Scented Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Senecio squamatus</td>
<td>Square Groundsel</td>
<td>Leafy Fireweed</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Senecio tenuifolius</td>
<td>Wooden Groundsel</td>
<td>Narrow Groundsel</td>
<td>2</td>
<td>S</td>
<td>U</td>
</tr>
<tr>
<td>Spirydium coactiliform</td>
<td>Butterfly Spirydium</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Spirydium thymifolium</td>
<td>Thyme-leaf Spirydium</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Stylium-graminifolium</td>
<td>Grass Trigger-plant</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Tetraphella pilosa ssp. pilosa</td>
<td>Hairy Pink-bells</td>
<td>Pink-eyed Susan</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>Thomasia petaloalcai</td>
<td>Paper-flower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thyssanotus jurundicola</td>
<td>Rush Fringe-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thyssanotus patersonii</td>
<td>Twinning Fringe-illy</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Vicia hederacea</td>
<td>Ivy-leaf Violet</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Vicia siebenanha</td>
<td>Tiny Violet</td>
<td>Sieber's Violet</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
</tr>
<tr>
<td>Wahlenbergia gracilenta</td>
<td>Annual Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia sp.</td>
<td>Native Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia stricta ssp. stricta</td>
<td>Tall Bluebell</td>
<td>2</td>
<td>S/P</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp.</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. semiplana</td>
<td>Yacca</td>
<td>Flat-leaf Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tate's Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Xanthosia pusilla</td>
<td>Hairy Xanthosia</td>
<td>Heath Xanthosia</td>
<td>2</td>
<td>C</td>
<td>U</td>
</tr>
<tr>
<td>SPECIES</td>
<td>COMMON NAME 1</td>
<td>COMMON NAME 2</td>
<td>REVEG PHASE</td>
<td>EST</td>
<td>PLANT TYPE</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>---------------</td>
<td>-------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>Acacia longifolia var.</td>
<td>Sallow Wattle</td>
<td></td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia myrtifolia var.</td>
<td>Myrtle Wattle</td>
<td>Scrub Wattle</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Acacia parrallara var. myrtifolia</td>
<td>Myrtle Wattle</td>
<td>Bitter Leaf Wattle</td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td>Common Oak-bush</td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Allocasaura muelleriana a. ssp.</td>
<td>Dwarf Oak-bush</td>
<td>Slate Oak-bush</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Allocasaura musculata</td>
<td>Elk Oak-bush</td>
<td>Heath Oak-bush</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Allocasaura striata</td>
<td>Slatted Oak-bush</td>
<td>Tall Oak-bush</td>
<td>1</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Allocasaura verticillata</td>
<td>Drooping Shoepink</td>
<td></td>
<td>1</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Banksia spinulosa</td>
<td>Sweet Banksia</td>
<td>South Australian Christmas Bush</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Banksia spinulosa var. macrophylla(NC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bursaria spinulosa</td>
<td>Sweet Bursaria</td>
<td>Native Blackthorn</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Cassinia laevis</td>
<td>Curly Bush</td>
<td>Cough Bush</td>
<td>1</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Climatis microphylla</td>
<td>Old Man's Beard</td>
<td>Small-leaf Clematis</td>
<td>1</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td></td>
<td>1</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia setacea var. setacea</td>
<td>Small-flower Wallaby-grass</td>
<td>Britty Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Danthonia sp.</td>
<td>Wallaby-grass</td>
<td></td>
<td>1</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Elymus scabridus var. scabridus</td>
<td>Native Broom-grass</td>
<td>Common Broom-grass</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus cheesemanni</td>
<td>Cup Gum</td>
<td>Bog Gum</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fasciculosa</td>
<td>Pink Gum</td>
<td>Hill Gum</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucoxylon</td>
<td>Narrow-leaf Red Maliee</td>
<td>Yellow Gum</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucophylyta</td>
<td>Eucalyptus leucophylla var.</td>
<td>South Australian Blue Gum</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucophylyta</td>
<td></td>
<td>Yellow Gum</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Goodenia variens</td>
<td>Sticky Goodenia</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Helipterum rostratum</td>
<td>Beaked Helipterum</td>
<td>Turkey Gollibers</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Helipterum rugosum</td>
<td>Dwarf Helipterum</td>
<td>Wrinkled Helipterum</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Hardenbergia violacea</td>
<td>Native Lilac</td>
<td>Purple Coral-pea</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Hardenbergia violacea</td>
<td></td>
<td>Uluru Lucky</td>
<td>1</td>
<td>U/CL</td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Yellow-wash Bluebell</td>
<td>Yellowish Bluebell</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td></td>
<td></td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Melaleuca alternifolia</td>
<td>Climbing Ligum</td>
<td>Native Sansparilla</td>
<td>1</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twitty Daisy-bush</td>
<td></td>
<td>1</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Poa sp.</td>
<td>Meadow-grass/Tussock-grass</td>
<td>Poa</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Schoenus nigricans</td>
<td>Common Broom-grass</td>
<td>Common Broom-grass</td>
<td>1</td>
<td>D/P</td>
<td></td>
</tr>
<tr>
<td>Schoenus nigricans</td>
<td></td>
<td>Bog Broom</td>
<td>1</td>
<td>D/P</td>
<td></td>
</tr>
<tr>
<td>Stipa megapotamica</td>
<td>Soft Speargrass</td>
<td>Supple Speargrass</td>
<td>1</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Stipa sp.</td>
<td></td>
<td></td>
<td>1</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>Ilului</td>
<td>1</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Wahlenbergia tubulosa</td>
<td>Yellow-wash Bluebell</td>
<td>Yellowwash Bluebell</td>
<td>1</td>
<td>S/P</td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulis</td>
<td>Black-anther Flax-lyl</td>
<td>Spreading Flax-lyl</td>
<td>1-2</td>
<td>S/P</td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td></td>
<td>Spreading Flax-lyl</td>
<td>1-2</td>
<td>S/P</td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td>Black-anther Flax-lyl</td>
<td>Spreading Flax-lyl</td>
<td>1-2</td>
<td>S/P</td>
<td></td>
</tr>
<tr>
<td>Eustoma sp.</td>
<td>EUSTOMA</td>
<td>Eggs-and-bacon</td>
<td>1</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Lomandra densiflora</td>
<td>Soft Tussock Mat-rush</td>
<td>Pointed Mat-rush</td>
<td>1</td>
<td>S/T</td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora ssp.</td>
<td>Hand Mat-rush</td>
<td>Iron-grass</td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora ssp.</td>
<td></td>
<td></td>
<td>1</td>
<td>S/T</td>
<td></td>
</tr>
<tr>
<td>Acroticile serrata</td>
<td>Cushion Ground-berry</td>
<td>Honeyebots</td>
<td>2</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Arctostaphylos australis</td>
<td>Common Vanilla-lily</td>
<td>Common Chocolate-lily</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Astronium costeophyliodeis</td>
<td>Flame Heath</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Astronium humifusum</td>
<td>Native Cranberry</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Billardiera cymosa</td>
<td>Apple-berry</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Cassinia uniflora</td>
<td>Sticky Cassinia</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Chrysopogon acuminatus</td>
<td>Common Everlasting</td>
<td>Small Yellow Button</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Corta reflexa</td>
<td>Common Correa</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Corta schlechtendalii</td>
<td>Maliee Correa</td>
<td>Narrow-white Correa</td>
<td>2</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Dampiera dysantha</td>
<td>Shubby Dampiera</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Diwendenia hispida</td>
<td>Red Parrot-pea</td>
<td>Downy Parrot-pea</td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus cupressiformis</td>
<td>Native Cherry</td>
<td>Cherry Ballart</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus sp.</td>
<td></td>
<td></td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Gymnocalyx elatus</td>
<td>Hill Rasplow</td>
<td></td>
<td>2</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Gymnocalyx macrophyllus</td>
<td>Myrtle Rasplow</td>
<td></td>
<td>2</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Black's Goodenia</td>
<td></td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Goodenia variens</td>
<td>Black's Goodenia</td>
<td></td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Grevillea lanceolata</td>
<td>Heath Grevillea</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hibbertia exuexecias</td>
<td>Prickly Guinea-flower</td>
<td>Spiky Guinea-flower</td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hibbertia papillosa</td>
<td>Guinea-flower</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hibbertia papillosa</td>
<td></td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hibbertia speciosa</td>
<td></td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Isopogon carnosus</td>
<td></td>
<td></td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Leucopogon virgatus</td>
<td>Common Beard-heath</td>
<td></td>
<td>2</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Lomandra fibrosa</td>
<td>Mount Lofty Mat-rush</td>
<td>Fine Mat-rush</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Lomandra microphylla ssp.</td>
<td>Small-flower Mat-rush</td>
<td></td>
<td>2</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra microphylla ssp.</td>
<td>Small-flower Mat-rush</td>
<td></td>
<td>2</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Microcalon stipites var. stipites</td>
<td>Weeping Rice-grass</td>
<td>Weeping Grass</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Olearia farinosa ssp. parviflora</td>
<td>Silver Daisy-bush</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Platycodium obtusangulum</td>
<td>Holy Flat-pea</td>
<td>Common Flat-pea</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Pulleaena canaliculata var.</td>
<td>Soft Bush-pea</td>
<td>Coast Buss-pea</td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Pulleaena scabra</td>
<td></td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Pulleaena trinervis</td>
<td>Three-nerve Bush-pea</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Scaevola lineata ssp.</td>
<td>Rough Fanflower</td>
<td></td>
<td>2</td>
<td>S/C</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea sempitanea ssp.</td>
<td>Yarra</td>
<td>Flat-leaved Grass-trees</td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea sempitanea ssp. tateana</td>
<td>Tata's Grass-tree</td>
<td></td>
<td>2</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Leptospermum carphophyllum</td>
<td>Black Rasplow-seige</td>
<td></td>
<td>2</td>
<td>S/P</td>
<td></td>
</tr>
<tr>
<td>Leptospermum carphophyllum</td>
<td></td>
<td></td>
<td>2</td>
<td>S/P</td>
<td></td>
</tr>
<tr>
<td>Leptospermum semitriotes</td>
<td>Little Sword-rasplow</td>
<td></td>
<td>2</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Leptospermum semitriotes</td>
<td></td>
<td></td>
<td>2</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Leptospermum viscidurn</td>
<td>Sticky Sword-rasplow</td>
<td></td>
<td>2</td>
<td>T</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
Revegetation Phase- 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

**Establishment Method-** C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

**Plant Type-** C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)
### Red Gum Woodlands Revegetation Species List

**NOTES:**
Reveg Phase- 1= Initial reveg (Phase 1 species can also be used for Phase 2), 2= Infill for established reveg AND for degraded remnant vegetation.

Establishment Method- C= Cutting grown tubestock, S=Seed grown tubestock, D= Direct seeding (can also be established from Seed grown tubestock), P= Divided material and Plugged directly into the site, *= Very difficult to propagate.

**Plant Type- C= Canopy, M= Mid Storey, U=Understorey, CL= Climber, T= Tussock (grasses, sedges etc)**

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>COMMON NAME 1</th>
<th>COMMON NAME 2</th>
<th>REVEG PHASE</th>
<th>EST</th>
<th>PLANT TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia paradoxa</td>
<td>Kangaroo Thorn</td>
<td>Hedge Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td>1</td>
<td>M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia retinodes var. retinodes</td>
<td>Swamp Wattle</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Sheoak</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Banksia marginata</td>
<td>Silver Banksia</td>
<td>1</td>
<td>S</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Bursaria spinosa</td>
<td>Sweet Bursaria</td>
<td>1</td>
<td>S</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Clematis microphylla</td>
<td>Old Man’s Beard</td>
<td>1</td>
<td>S</td>
<td>CL</td>
<td></td>
</tr>
<tr>
<td>Danthonia geniculata</td>
<td>Kneed Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia pilosa var. paleacea</td>
<td>Velvet Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Danthonia racemosa var. racemosa</td>
<td>Slender Wallaby-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Distichlis dichotophylla</td>
<td>Emu-grass</td>
<td>1</td>
<td>S/C</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Dodonaea viscosa ssp. spatulata</td>
<td>Sticky Hop-bush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Elymus scabrus var. scabrus</td>
<td>Native Wheat-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Enclathra lomentosa var. lomentosa</td>
<td>Ruby Saltbush</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var.</td>
<td>River Red Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis var.</td>
<td>River Red Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus fasciosula</td>
<td>Pink Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucocoryton</td>
<td>South Australian Blue Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus leucocoryton(NC)</td>
<td>South Australian Blue Gum</td>
<td>1</td>
<td>D</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus ovata</td>
<td>Swamp Gum</td>
<td>1</td>
<td>D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Helichrysum scorpioides</td>
<td>Button Everlasting</td>
<td>1</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Isolepis rupicola</td>
<td>Knobby Club-sedge</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus kraussii</td>
<td>Sea Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus pallidus</td>
<td>Pale Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus samphorus</td>
<td></td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Juncus subsecundus</td>
<td>Finger Rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Kunzea pomifera</td>
<td>Muntries</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Silky Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Leptospermum myricoides</td>
<td>Heath Tea-tree</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Melaleuca brevifolia</td>
<td>Short-leaf Honey-myrtle</td>
<td>1</td>
<td>S</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Melaleuca decussata</td>
<td>Totem-poles</td>
<td>1</td>
<td>D</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Muehlenbeckia adpressa</td>
<td>Climbing Lignum</td>
<td>1</td>
<td>S/C</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Muehlenbeckia gunnii</td>
<td>Coastal Climbing Lignum</td>
<td>1</td>
<td>S/C</td>
<td>M/C</td>
<td></td>
</tr>
<tr>
<td>Myoporum insulare</td>
<td>Common Boobaila</td>
<td>1</td>
<td>C</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Olearia ramulosa</td>
<td>Twiga Daisy-bush</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>Common Reed</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Poa labillardieri var. labillardieri</td>
<td>Common Tusssock-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Rhagodia candoleana ssp. candoleana</td>
<td>Sea-berry Saltbush</td>
<td>1</td>
<td>D/C</td>
<td>U/M</td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus validus</td>
<td>River Club-rush</td>
<td>1</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Scleria marginata</td>
<td>Supple-Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Sphagnum implexicoma</td>
<td>Spear-grass</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Symplocarpus gramineus</td>
<td>Bower Spinach</td>
<td>1</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>1</td>
<td>D</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Typha domingensis</td>
<td>Narrow-leaf Bulrush</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Dianella brevicaulis</td>
<td>Short-stem Flax-lily</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Dianella revoluta var. revoluta</td>
<td>Black-antler Flax-lily</td>
<td>1</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora ssp. dura</td>
<td>Hard Mat-rush</td>
<td>1</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Arthropodium strictum</td>
<td>Common Vanilla-lily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Billardiera cymosa</td>
<td>Sweet Apple-berry</td>
<td>2</td>
<td>S/C</td>
<td>CL</td>
<td></td>
</tr>
<tr>
<td>Calytrix tetragona</td>
<td>Common Fringe-sedge</td>
<td>2</td>
<td>S/C</td>
<td>U/M</td>
<td></td>
</tr>
<tr>
<td>Corema reflexa var. reflexa</td>
<td>Common Corea</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Cyperus vaginatus</td>
<td>Stiff Flat-sedge</td>
<td>2</td>
<td>D/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Dillenia indica</td>
<td>Red Parrot-pea</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Exacoptos cupressiformis</td>
<td>Native Cherry</td>
<td>2</td>
<td>S*M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grevillea lavandulacea var. seriosa</td>
<td>Spider-flower</td>
<td>2</td>
<td>S/C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Hibbertia rupestris</td>
<td>Guina-flower</td>
<td>2</td>
<td>C</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Isopegon ceratophyllum</td>
<td>Horni Cone-bush</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Lepidosperma carpophyllum</td>
<td>Black Rapier-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lepidosperma viscosum</td>
<td>Sticky Sword-sedge</td>
<td>2</td>
<td>S/P</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Leucochondus rufus</td>
<td>Ruddy Beard-heath</td>
<td>2</td>
<td>C*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucochondus virgatus</td>
<td>Common Beard-heath</td>
<td>2</td>
<td>C*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra microcarpa ssp. microcarpa</td>
<td>Small-flower Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Lomandra nana</td>
<td>Small Mat-rush</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Microlena stenosperae var. stipoides</td>
<td>Weeping Rice-grass</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Phyllostegia obtusangulum</td>
<td>Holly Flat-pea</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Thyrsostenus patersonii</td>
<td>Twining Flinge-lily</td>
<td>2</td>
<td>S</td>
<td>U</td>
<td></td>
</tr>
<tr>
<td>Xanthorrhoea semiplana ssp. tateana</td>
<td>Tate’s Grass-tree</td>
<td>2</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
</tbody>
</table>
References / Fact Sheets

[Note:  
- PIRSA fact sheets are available online through links found at:  
- Fact sheets can also be obtained through the Mt Lofty Ranges  
  Catchment Centre, cnr Mann and Walker Streets, Mt Barker]


Dalton, G. (1998) *Creating revegetation – Enhancing biodiversity by design*, Department of Primary Industries and Resources SA


Martin, B. (1999a) *Fact sheet – Natural regeneration of native vegetation*, Department of Primary Industries and Resources SA, Agdex 301/13

Martin, B. (1999b) *Fact sheet – Collecting native plant seed*, Department of Primary Industries and Resources SA, Agdex 301/42

Murphy, R. and Martin, B.M. (1999a) *Fact sheet – Seed pre-treatments for native understorey species*, Department of Primary Industries and Resources SA, Agdex 301/21

Murphy, R. and Martin, B.M. (1999b) *Fact sheet – Seed collection for native understorey species*, Department of Primary Industries and Resources SA, Agdex 301/21

PIRSA (1998a) *Fact sheet – Hand direct seeding of native plants*, Department of Primary Industries and Resources SA, Agdex 301/21

PIRSA (1998b) *Fact sheet – Growing local plants*, Department of Primary Industries and Resources SA, Agdex 301/30

QLD DNR (1996) *Tree facts: Animal repellents* (fact sheet T05), Community Education and Extension Support, Queensland Department of Natural Resources


APPENDIX 15. SALINITY TIME RECORDS FOR THE INMAN RIVER CATCHMENT

The following graphs refer to locations marked on the map at the end of this Appendix. (Data sources, listed in the attached data CD, include the Inman River Catchment Group, Camp Scott Furphy et al, 1992, EWS and EPA.)

Location 1:

Upper Inman River (above Mayfield Road) - Salinity

Location 2:

Upper Inman River (Millard Reserve) - Salinity

Location 3:

Inman River (junction with Boundary River) - Salinity

Location 4:
Location 5:

**Inman River (Glacier Rock) - Salinity**

Location 6:

**Inman River (Coote Road) - Salinity**
Location 7:

Inman River (Memory Grove) - Salinity

Location 8:

Back Valley Creek (Back Valley Bridge) - Salinity

Location 9: (Swain’s Crossing & GS501503 combined)

Inman River (Swain’s Crossing, u’s STW) - Salinity
Location 10:

[Graph showing salinity levels at Location 10.]

Location 11: (this site is located within the estuary)

[Graph showing salinity levels at Location 11, which is at the estuary mouth.]
SALINITY & WATER QUALITY MANAGEMENT IN THE INMAN RIVER, WAITPINGA & COOLAWANG CREEK CATCHMENTS

Salinity Time Record Locations

- Upper Inman River (Millard Reserve) - Salinity
- Inman River (Cockle Road) - Salinity
- Back Valley Creek (Back Valley Bridge) - Salinity
- Inman River (Smith Crossing) - Salinity

Sampling Sites
1. Upper Inman River - above Mayfield Rd
2. Upper Inman River - Millard Reserve
3. Upper Inman - junction with Boundary River
4. Inman River - above Pross Rd
5. Inman River - Glacier Rock
6. Inman River - Coose Rd
7. Inman River - Memory Grove
8. Back Valley Crk - Back Valley Bridge
9. Inman River - Swanee Crossing
10. Inman River - Footbridge d/t SW
11. Inman River - Kent Reserve (near mouth)

Datum GDA 94 - Map Projection MGA Zone 54

DWLBC Report 2004/05
Basic Suitability for Farm Forestry

Assessment of suitability for farm forestry is made solely on the basis of soil attribute mapping information (obtained from Soil and Land Information Group, DWLBC) and rainfall data. This map has not excluded land unavailable due to existing land use (eg. conservation parks, plantations, vineyards, roads, towns, etc.).
APPENDIX 17. EXAMPLE RECHARGE REDUCTION TARGETS

<table>
<thead>
<tr>
<th>Catchment</th>
<th>Combined Inman/ Waitpinga/ Coolawang/ Newland Cliffs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32000 ha in area, mostly 600 to 800 mm rainfall zone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Land use (approx.)</th>
<th>Remnant vegetation/forestry 20% of the catchment (~ 6400 ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improved pastures 20% (~6400 ha)</td>
</tr>
<tr>
<td></td>
<td>Other pasture 55% (~ 17600 ha)</td>
</tr>
<tr>
<td></td>
<td>Other 5% (~ 1600 ha)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water use</th>
<th>Currently 60% of annual rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Runoff coefficient ~ 0.1 to 0.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Salinity</th>
<th>Currently 150 ha of saltland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stream salinity at ~ 2500 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recharge Reduction Actions</th>
<th>Fence off and re-invigorate 1000 ha of remnant native vegetation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Convert 6000 ha of annual pasture to perennial pasture</td>
</tr>
<tr>
<td></td>
<td>Establish 4500 ha of woody perennials (farm forestry, woodlots, native vegetation)</td>
</tr>
<tr>
<td></td>
<td>Establish salt/waterlogging tolerant perennial vegetation on seepage/wetland areas</td>
</tr>
<tr>
<td></td>
<td>Increase productivity and total water use from annuals over 5000 ha (eg. liming, waterlogging control, improved grazing and agronomic practices)</td>
</tr>
</tbody>
</table>

The recharge reduction actions are an example of the land management and land use change that is required to:

- help stabilise and reduce stream salinity levels.
- help reduce the export of salt into wetland environments.
- stop the spread of salt.

On-ground works should be targeted initially in subcatchments where:

- The risk of salt spread is greatest (see Fig - Salinity Risk)
- Stream salinity levels are highest (see Fig - Geology and surfacewater salinity; also indicated by Fig - Salinity induced by Watertable)

On-ground works in these subcatchments are best located in any higher recharge zones (see Fig - Recharge Potential) that are contributing to the problem areas.
APPENDIX 18. TOTAL WATER USE FACTSHEET

(HIGHER RAINFALL AREAS > 550 MM)

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>WATER USE FACTOR</th>
<th>EXAMPLE FARM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>higher</td>
<td>lower</td>
</tr>
<tr>
<td>Farm forestry</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Native vegetation</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Lucerne/ phase farming</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Other perennial pasture</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Continuous cropping</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Crop/pasture</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Annual pasture</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Irrigation</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>64%</strong></td>
</tr>
</tbody>
</table>

Water use for each land use = water use factor x the % area of your farm.

In the example farm, higher water use factors have been used where the land use is well managed and highly productive, and lower factors used where things are not so productive. For example, the native vegetation is degraded whereas all the perennial pasture is growing vigorously and is highly productive.

To reduce recharge and successfully control salinity on this example farm, water use needs to increase to 82% of annual rainfall (64 + half [100 – 64]). Use this formula to see what the target future water use needs to be to control salinity on your farm.

FOR YOUR FARM

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>WATER USE FACTOR</th>
<th>YOUR FARM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>Farm forestry</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Native vegetation</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Lucerne/ phase farming</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Other perennial pasture</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Continuous cropping</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Crop/pasture</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>Annual pasture</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Irrigation</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
APPENDIX 19. NUTRIENT AND E.COLI TIME RECORDS FOR THE INMAN RIVER CATCHMENT

The following graphs refer to locations marked on the map in Appendix 15. (Data sources are provided in the data CD attached to this report.)

Location 9:

![Graph of Nutrients and E. coli for Location 9](image)

Location 10:

![Graph of Nutrients and Turbidity for Location 10](image)
Location 11:

**Inman River - Kent Reserve (Mouth) - Nutrients & Turbidity**

![Graph showing nutrient and turbidity levels](image)

**Inman River - Kent Reserve (Mouth) - E. coli**

![Graph showing E. coli levels](image)