



## **Introduction**

### **Referral of the inquiry**

- 1.1 On 18 August 2003, the Minister for Science, the Hon. Peter McGauran MP, wrote to the House of Representatives Standing Committee on Science and Innovation (the Committee) asking it to inquire into and report on the Commonwealth's role in managing and coordinating the best science in relation to Australia's salinity programs. The terms of reference for the inquiry are provided on page *xii* of the report.

### **Conduct of the inquiry**

- 1.2 A media release announcing the inquiry was issued on 25 August 2003. The Committee's terms of reference were advertised and written submissions invited in *The Land* on 28 August 2003 and *The Australian* on 3 September 2003. The inquiry was also advertised electronically, including through SALTLIST, a listserv managed by the *National Dryland Salinity Program*.
- 1.3 The Committee issued an inquiry information paper and brochure, which were made available on the Committee's web site.
- 1.4 The Committee wrote to more than 250 stakeholders inviting them to make submissions to the inquiry. These included regional/catchment management organisations (CMOs) in all states and territories, science organisations, regional universities, Research and Development Corporations, Cooperative Research Centres and industry associations.

- 1.5 The Committee received 81 written submissions, listed at Appendix A. The Committee also received 134 exhibits, which included ancillary material such as technical documents detailing salinity research findings. A list of the exhibits is at Appendix B.
- 1.6 The written evidence received by the Committee was a balanced reflection of the range of salinity interests. Approximately equal numbers of submissions were received from CMOs, governments and their agencies, science organisations, industry bodies and individuals. The Committee received submissions from the state governments of Western Australia, South Australia and New South Wales. Tables indicating the source of submissions by state and territory, and by type of submitter are provided at Appendix D.
- 1.7 Public hearings were conducted by the Committee in Sydney, Wagga Wagga, Shepparton, Perth and Canberra from October to December 2003. In total, 60 witnesses were examined. The dates and locations of the hearings, together with the names of witnesses who appeared before the Committee is at Appendix C.
- 1.8 Inspections were held by the Committee in areas of New South Wales (Wagga Wagga and the Kyeamba Valley), Victoria (Shepparton Irrigation Region) and Western Australia (the south western region of the Wheat Belt, including Katanning).
- 1.9 Access to the published submissions to the inquiry, transcripts of evidence taken at the public hearings and an electronic copy of the report is available on the internet from the Committee's web site:  
[www.aph.gov.au/house/committee/scin/salinity](http://www.aph.gov.au/house/committee/scin/salinity)

## **Structure of the report and principal findings**

- 1.10 In addition to this introductory chapter, the report comprises seven chapters. The contents and principal findings of the chapters are summarised as follows.

### **Chapter two: The nation's programs to combat salinity**

- 1.11 The chapter discusses the major national natural resource management (NRM) programs that address salinity, strategies to address salinity in the Murray-Darling Basin and the states, and local government initiatives. The Committee notes the role of regional planning and delivery of NRM programs through CMOs, and the evidence in response to the national

programs that relate to salinity research, research coordination and extension.

- 1.12 The Committee welcomes the commitment by the Australian and state governments to address salinity and notes the significant increase in funding for on-ground works through the *National Action Plan for Salinity and Water Quality*. The Committee discusses the implications for research activities and research coordination due to the regional delivery approach of NRM programs, and the alleged failure to incorporate key research findings into salinity programs. The Committee recommends that mechanisms be developed to ensure that salinity research findings are adequately considered in regional planning processes.

### Chapter three: The nature of the salinity problem

- 1.13 The chapter presents the dominant explanation of the salinity problem—salinisation processes, types of salinity, management options, and the extent, impacts and costs of salinisation. Alternative scientific perspectives for the sources of salt in the landscape, salinity processes, the extent of the salinity problem, and the veracity of some public sector research and audit findings are considered.
- 1.14 A consensus explanation of the salinity problem has developed which explains secondary, or human-induced, salinity as having resulted from changes to the hydrology of the Australian landscape caused by changed land use following European settlement. However, the consensus explanation of the basic salinisation process and sources of salt have been criticised and alternative models proposed. Although the Committee does not wish to definitively adjudicate on these debates, it urges that all contributors to the scientific understanding of salinity have adequate opportunity for their perspectives to be presented and examined.

### Chapter four: The salinity science base

- 1.15 The chapter reviews the agencies and programs whose research efforts constitute the ‘science base and research data’ to address salinity at the national level. The chapter summarises research findings and products of these initiatives.
- 1.16 The Committee concludes that a wealth of salinity research has been undertaken by a range of Australian Government funded agencies and programs. An array of research products and management tools has been developed. The Committee concludes that a comprehensive audit of the Australian Government investment in salinity research may be timely. The aims of such an audit would be to: map the salinity science base and

management tools currently available; identify critical research gaps; and assist in bringing greater coherence to the range of science investments for salinity and, potentially, improve their effectiveness. The audit may also assist in improving coordination with state and regional research efforts.

### **Chapter five: The coordination of salinity research**

- 1.17 The chapter describes the coordination of salinity research at national and state levels, the challenges for research coordination in the new NRM environment and proposals for improved coordination.
- 1.18 The Committee finds that there is a clear need for an on-going national coordination role for salinity research efforts, and recommends that the *National Dryland Salinity Program* be retained. The Committee further recommends that the Program be expanded to address irrigation and urban salinity issues. The Program's coordination and communication strategies should evolve to meet the requirements of the new NRM environment and the *National Action Plan for Salinity and Water Quality* (NAP) more specifically.

### **Chapter six: The adequacy of the science base, research needs and funding**

- 1.19 The chapter addresses the adequacy of the Australian Government's investments in salinity science, and the need for further research. The chapter then canvasses the array of research needs and makes proposals for funding research to address critical knowledge gaps.
- 1.20 The Committee welcomes the Australian Government's investments in mapping technologies, but recommends that there be greater emphasis through its science investments on the development of profitable land and water use systems that can be widely adopted by landholders. The Committee further recommends that the Australian and state governments make provision within the NAP for the establishment of a salinity research and development fund, to finance research that is beyond the scope of individual CMOs, or of statewide/national significance.

### **Chapter seven: Data management and mapping technologies**

- 1.21 The chapter reviews the evidence relating to the data collection, management and retrieval arrangements, canvasses options for improving coordination to address submitters' concerns and describes the Australian Government's initiatives to reduce problems associated with data management. The chapter then continues the discussion, from chapter six, of the place of mapping technologies in the NAP, and outlines the views of submitters' in relation to the appropriate use of these technologies.

- 1.22 The Committee is concerned that, despite the Australian Government's substantial efforts to improve access to spatial and temporal datasets and standardise measurement and lodgement procedures, problems persist. The Committee recommends the Australian and state governments accelerate the development of data collection, management and retrieval systems that are standardised, integrated and accessible. Greater support should also be provided to assist CMOs implement best practice data management policies.

### **Chapter eight: Support for implementers: extending the science**

- 1.23 The final chapter of the report addresses the adequacy of technical and scientific support for land managers and CMOs in applying salinity management options. The issues addressed include the role of extension services and other methods of delivering information to users, and the effectiveness of current arrangements for the transfer of information.
- 1.24 The Committee concludes that the adequacy of technical and scientific support for salinity management is variable across the nation. The withdrawal and deskilling of state/territory extension services continues to be a matter of concern. However, the Committee notes that this issue is being addressed by some states in their salinity strategies, and via involvement in national programs (for example the NAP facilitators). In addition, the Committee notes the increased involvement of researchers, industry groups, private consultants, and the Federal and local governments, in the provision of extension services. The future task will be to ensure that the capacity of CMOs is sufficient to undertake their responsibilities with regard to the provision of extension services. The Committee views the increasing involvement by agribusiness and non-government extension providers as offering a promising avenue to consolidate efforts in this regard.

### **Appreciation**

- 1.25 The Committee wishes to thank those who contributed to the inquiry, particularly the officers from state agencies, CMOs and landholders who facilitated its inspections in New South Wales, Victoria and Western Australia.

