



LEGISLATIVE ASSEMBLY

2002

SELECT COMMITTEE ON SALINITY

**Report on Visit of Inspection to Western Australia
28 October to 1 November 2001**

November 2002

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MEMBERSHIP & STAFF

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TERMS OF REFERENCE

A select committee has been appointed to inquire and report with the following terms of reference:

To examine:

- (a) Business opportunities created by salinity that contribute to the improved management of groundwater recharge and discharge areas.
- (b) The options for salinity management that are available to local councils, including but not limited to, planning instruments, building codes, urban water management plans, differential rating, development of local council expertise and resource-sharing between councils.
- (c) Any barriers to adoption of salinity management strategies by local councils, and means to overcome the barriers.
- (d) The adequacy of the Commonwealth's response and contribution to addressing salinity.

1 SALINITY IN WESTERN AUSTRALIA — BACKGROUND

1.1 Some facts and figures

The National Land and Water Resources Audit (2000) estimated that the area of all land in WA 'at risk' from rising groundwater and salinity is currently 44 million hectares and will double by 2050. Within the next 50-100 years, the proportion of agricultural land in WA that is salt-affected may rise to more than 30 per cent.

Of all the States and Territories of Australia, Western Australia has by far the greatest area at risk, with 80 per cent of the current national total.

In addition to the significant threat which rising groundwater levels poses to natural vegetation and biodiversity, regional infrastructure and transport systems in more than 30 towns is being damaged. The committee visited a number of these towns in the WA wheatbelt and witnessed some of this damage, as well as the steps taken to deal with it.

One assessment puts the annual cost of dryland salinity in Western Australia at \$664 million. That figure does not include any assessment of the costs and benefits of strategies designed to combat salinity impacts and biodiversity.

The south-west agricultural region, which was the focus of the committee's visit, produces agricultural goods worth more than \$4 billion per year for local and export markets. Of the 18 million hectares of land cleared for agricultural use, some 1.8 million hectares are already affected by salinity to varying degrees.

Experts believe that without very significant intervention, about 3 million hectares will be affected by 2010-2015. That figure will double again by the time a new groundwater equilibrium is reached. Production losses would be massive.

Using predicted groundwater trends and 'best guess' future land use, the *Australian Dryland Salinity Assessment 2000* identified key assets at risk from dryland salinity in Western Australia:

Assets	2000	2050
Agricultural land (ha)	3,600,000	6,500,000
Perennial vegetation (ha)	600,000	1,800,000
Important wetlands (ha)	72,000	80,000
Highways (km)	720	1,500
Primary roads (km)	680	1,200
Secondary roads (km)	1,200	2,300
Minor roads (km)	12,000	23,000
Rail (km)	1,400	2,200

Stream length (km)	1,500	2,800
Towns (number)	20	29
Important wetlands (number)	21	21

Source: National Land & Water Resources Audit: *National Dryland Salinity Assessment 2000*, Canberra, 2001.

1.2 Western Australian Salinity Action Plan

The Salinity Action Plan was launched in 1996, and has effectively been in operation since March 2000. Recently, the State Salinity Council reviewed the plan and developed a strategy which places greater emphasis on community-based programs. Goals of the strategy are:

- To reduce the rate of degradation of agricultural and public land, and where practical, recover, rehabilitate and manage salt-affected land.
- To protect and restore key water resources to ensure salinity is kept to levels that permit safe potable water supplies in perpetuity.
- To protect and restore high value wetlands, natural vegetation, and maintain natural (biological and physical) diversity within the region.
- To provide communities with the capacity to address salinity issues and to manage the changes brought about by salinity.
- To protect infrastructure affected by salinity.

The WA Government currently contributes about \$40 million a year to salinity management. During the visit of inspection, the delegation was briefed on three key aspects of Western Australia's approach to dealing with salinity:

- the Rural Towns Program;
- commercial farm forestry; and
- State Salinity Council.

2 DAY 1: BRIEFING AND INSPECTION OF RURAL TOWNS PROGRAM

2.1 Rural Towns Program (RTP)

The committee met in Perth with the Hon. Kim Chance, MLC, Minister for Agriculture; Mr Mark Pridham, Manager, Rural Towns Program, WA Department of Agriculture; and Mr Rex Edmonson, Chairman of the Rural Towns Program, for a briefing on salinity in Western Australia.

The WA Government established the RTP under the 1996 Salinity Action Plan. The aim of the program is to help local government authorities develop strategies that will guide the community to address rising watertables in the catchment, establish water use plans for the towns and put education programs in place to promote "water wise" programs to protect assets. The program provides funding on a shared basis for detailed investigations, development of a salinity management strategy, planning and implementation of salinity and water control measures.

The RTP includes:

- A structured program in which local councils can operate.
- Coordinated delivery of strategy outcomes which are integrated with other recognised natural resource management projects.
- Salinity management services provided by technical specialists.
- Up to 50% funding subsidies for works approved as part of a Salinity Management Strategy prepared for the town.
- A network of boreholes is drilled to study groundwater characteristics under each town. The information gathered from boreholes is used to build a groundwater model for each town, which helps predict groundwater movement. Armed with this information, communities can use a range of options to best manage their salinity problems. These options include improvements to existing drainage systems, tree planting, protection of natural vegetation or engineering options such as groundwater pumping.
- Economic impact studies to assess the costs of salinity and rising groundwater have been completed for a number of the participating towns.
- Recommendations on the eligibility of towns for the program are made by a management committee made up of six members from local government and the rural sector and six government representatives. The management committee advises on best practice for water management, audits compliance levels with stated actions and maintains records of results. It includes a technical assessment panel to provide quality assurance in planning approaches, funding applications and implementation.
- One important aim of the RTP is to help educate and involve local communities in salinity management. For example, there is one borehole in the centre of each town which residents can access so that they can monitor groundwater levels. Newsletters regularly inform residents and business people of the progress of test pumping. There is a wide range of education material available to local councils and schools to help the

local community understand the importance of sustainable and responsible use of natural resources.

- While there are more than 30 towns in the RTP, that figure might well be higher but for the perception that a town's reputation is somewhat stained by the mere fact that it is part of the program; it can be seen as an admission to having a problem.

2.2 Briefing and site inspection: Rural Towns Program, Corrigin

The committee, accompanied by Mr Pridham and Mr Edmonson, proceeded to Corrigin and met with members and staff of Corrigin Shire Council for briefings on the Shire's approach to dealing with salinity in cooperation with the Department of Agriculture's Rural Towns Program. The Shire was represented by Mr Harry Gayfer (President), Mr Brian Parsons, Mr Peter Doyle, Mr Bruce Mead and Mr David Abe.

The committee then inspected Corrigin with particular emphasis on the damage done by salinity and the measures in place to deal with the problem in and around the town.

Corrigin, a town of 1,300 residents, once boasted an extensive system of windmills and wells to access water lying deep below ground. With the arrival in 1961 of the Comprehensive Water Supply Scheme in 1961, people naturally stopped drawing on the plentiful below-ground water, resulting in groundwater rising approximately 18 metres in subsequent years.

With the assistance of the Department of Agriculture's Rural Towns Program, Corrigin Shire has installed 20 piezometers and series of bores in and around the town since the 1990s. In 2000, piezometer readings showed that groundwater was only 1.8 metres below the surface. On the day the committee visited Corrigin, one reading indicated that the groundwater level had dropped to 5.3 metres below the surface, a very significant improvement, and testimony to the Shire's great efforts to deal with salinity.

Shire officials advised the committee that the system of pumps, bores and drainage has taken about 3.3 metres off the groundwater level. Areas of land which were unproductive for 20 years or more, have been cropped every year since a 2-metre deep drainage system was installed.

Initially, the pumps were used 24 hours a day, but are now used more sparingly. Water is pumped across the railway line to a 39,000 gallon tank. The water is available, free of charge, to residents to use for stock water and crop spraying and is used by the council itself to water council parks and ovals and school playing fields.

The committee inspected some of the small businesses in Corrigin to see what effect salinity had on buildings, and the methods used to deal with the problem.

In the butcher shop, a well where ice was once made is being used to pump water to a storage tank via the bowling club. Groundwater here was less than 2 metres below the surface, but has now been lowered to about 9 metres below the surface. The installation of the pump, which cuts in automatically for greater efficiency, was paid for by the Shire, while the proprietor pays for electricity.

At the hotel, pumping was once necessary on a weekly basis. That became unnecessary when a bore located some 40 metres was recommissioned. Unfortunately the casing collapsed and a new bore is being connected as a priority, but even so the presence of other bores has meant that pumping has been limited to once every six weeks.

Shire officials told the committee that community awareness of the problem was mixed; salinity is obvious in the paddock, but not in the street, and not all the town people are farmers.

The committee was very impressed with the level of commitment shown by council and the community to dealing effectively with the salinity problem in Corrigin.

2.3 Briefing and site inspection: Commercial Farm Forestry — Oil Mallee, Narrogin

The committee, accompanied by Mr Pridham and Mr Edmonson, proceeded to Narrogin and met with Mr Ken Wallace, Regional Manager, Department of Conservation and Land Management (CALM) and Mr David McFall, Regional Manager, Oil Mallee Project, for a briefing on the oil mallee project.

Oil mallee is under development as a tree crop for WA's low rainfall areas. A joint project between the Department of Conservation and Land Management and Agriculture Western Australia is examining the selection and development of multiple purpose species for large-scale revegetation. The Oil Mallee Association and the Oil Mallee Company are actively working to develop a eucalyptus oil industry with by-products of charcoal and electricity generation.

Benefits associated with planting oil mallees include decreased waterlogging, increased cropping, increased lambing rates and reduced water and wind erosion. They have the potential to generate tree crop revenue every 2-3 years once established. Planting distribution of mallee is mostly done in belts with conventional crops or pastures in the bays (or alleys - hence the name 'alley farming'). This distribution allows the trees to harvest surplus water from the land and turn it into production as well as help control salinity.

Narrogin is the site for a soon-to-be-built \$5 million demonstration Integrated Wood Processing Plant which will produce renewable electricity, activated carbon and eucalyptus oil.

Trials of other commercial plants include sandalwood, floriculture products, native foods, medicines and olives.

The committee then inspected an oil mallee plantation in Narrogin.

3 DAY 2: BRIEFING AND INSPECTION OF RURAL TOWNS PROGRAM

3.1 Briefing and site inspection: Rural Towns Program, Wagin

The committee, accompanied by Mr Mark Pridham, Manager, Rural Towns Program, Agriculture WA, and Mr Edmonson, chairman, proceeded to Wagin and met with members and staff of Wagin Shire Council for briefings on the Shire's approach to dealing with salinity in cooperation with the Rural Towns Program. The Shire was represented by Cr Peter Piesse (President), Mr Ian Bartlett and Mr Michael Parker.

The committee then proceeded to Wagin for inspection of salinity impacts and efforts to control it in and around the town.

Wagin is a town of around 2,000 residents. The location of the railway, where the land is very flat, determined where the town was built, and this in itself has contributed to salinity problems.

Groundwater levels in Wagin vary from .5 to 5 metres from the surface. Unfortunately, while pumping is possible in Wagin, water quality, in contrast to Corrigin's, is too poor for re-use.

Two kilometres of concrete drainage have been completed under the Rural Towns Program, and most of the drainage works should be finished by the end of 2002.

The delegation inspected the Town Hall, an important community facility, where \$50,000 has already been spent trying to rectify structural defects caused by salinity. Groundwater levels under the building vary from .5 to 5 metres from the surface. Some of the defects included:

- the mortar used to replace the original was the wrong type, allowing water to rise up the wall;
- the paving was ill-chosen and prone to problems;
- the concrete floor in the kitchen and toilets retained water; and
- plaster and skirting boards needed replacement.

The priority was to improve surface drainage.

The committee also inspected the sports grounds. The Shire is hoping to harness the water caught on the rooves of the many buildings within the complex.

The people of Wagin are managing groundwater levels as they happen. The committee was advised that the community needed to work on the town now, not in the 20-year timeframe commonly used in the context of total catchment management. The next phase will be to pump water and reduce groundwater levels. What the town does not have control over is the catchment; that will require broadscale changes which only higher levels of government can facilitate.

3.2 Briefing and site inspections: Rural Towns Program, Katanning

The committee, accompanied by Mr Pridham and Mr Edmonson, proceeded to Katanning and met with members and staff of Katanning Shire Council for briefings on the Shire's approach to dealing with salinity in cooperation with the Rural Towns Program. The Shire was represented

by Mr Doug Cherry (Deputy President), Mr Clinton Strugnell and Mr Norm Reed. The committee was also briefed by Ms Louise Hopegood, hydrologist, WA Department of Agriculture.

The committee then inspected Katanning with particular emphasis on the damage done by salinity and the measures in place to deal with the problem in and around the town.

Katanning, with a population of 4,000, is the largest of the towns in the Rural Towns Program, and has the most severe problems with salinity. In parts of the town, groundwater levels are an astonishing 60 centimetres from the surface.

A recent study (Dames and Moore – NRM 2001, *The Economics of Predicted Rising Groundwater and Salinity in Rural Towns*, Final Report, June 2001, for Rural Towns Steering Committee and Agriculture Western Australia) found that, should there be no engineering works undertaken in the town, salinity and rising watertables will cause \$6.9 million in damage to infrastructure over the next 30 years. The dilemma is that the cost of engineering works to prevent that damage would run to \$7.6. In fact, the study found that in no fewer than four of the six rural towns in WA under examination, preventative measures would cost more than the damage done. This does not mean, however, that the situation should just be left to deteriorate. Rather, it would appear that the most economical option would be to repair, rather than try to prevent, damage caused by rising groundwater and salinity.

Already in Katanning, roads have been rebuilt, sections of the railway have been repaired, the swimming pool has been affected, parks and gardens have been scarred by salt scalds.

The townsite sits on heavy granite, weathered over millions of years to a very fine clay, 25 centimetres deep. This makes pumping water a difficult task. Indeed, disposing of groundwater effluent by means of pumps would present the biggest single cost in remedial works. It would require 20 to 30 hectares of land, and that would simply kill the equation. Other options are being explored in a bid to find a more cost-effective solution.

Shire officials advised the committee they would be willing to pay half the costs of water management actions such as drainage, pumps and bores, but not those of building renovations.

3.3 Briefing and Inspection: Goundrey Wines, Mt Barker

The delegation met with Cate Finlay, viticulturist, for an inspection of the Goundrey Wines vineyard, Mt Barker.

The vineyard was recommended to the committee by various agencies in WA as an excellent example of the way in which businesses can conserve water and help minimise the onset or impact of salinity on their enterprise.

Goundrey Wines is situated on 175-hectare property just out of Mt Barker in the State's south-west. The committee was advised that a dependable water supply has always been the vineyard's top priority.

Salt scalds are fairly common site in the surrounding area. The rivers running through and adjacent to the property are saline. The dams on the property are also salty, and research is under way to assess the feasibility of installing a desalinisation plant.

Goundrey Wines management is very conscious of the need to minimise water usage, and has therefore initiated some key elements to capture and preserve water.

Goundrey uses a very efficient 'trickle' system to irrigate its vines. Management has constructed a 10 ha 'car park', a bitumen-covered area built with a gradient sufficient to capture rainwater. 70,000 – 80,000 cubic metres of water is captured every year. Waste water cannot be pumped back into the river, so the property has a treatment plant, which has met with limited success.

4 DAY 3: BRIEFINGS FROM AGRICULTURE WA, ALBANY

Mr Giles West, Manager, Sustainable Rural Development (SRD), Department of Agriculture, organised the following formal briefings for the committee.

◆ **Ruhi Ferdowsian, Hydrologist, Agriculture WA: Salinity impacts on agriculture and two rural towns:**

Eleven different data sets have been developed to find which one will give best prediction of salinity in WA. Could accurately map 85% of salt-affected land. 31% of the agricultural region of south-west WA potentially would become salt affected.

In the south west, 2,000 bores have been installed since the 1980s. The Department of Agriculture hopes to provide every farmer with a bore to monitor groundwater levels.

◆ **Naomi Arrowsmith, Waters & Rivers Commission: Salinity Impacts on Water Supplies**

Five major catchments in the south west were protected against land clearing in the 1970s. Compensation was paid for forgone production (a total of \$46 million). This compensation is unique, and has caused resentment in the community. Despite this and the prohibition of grazing on this land, it has continued to be 'passively' cleared. 6800 hectares of revegetation in the catchment has decreased the rate of the increase in salinity. However, revegetation is an old approach. There has been \$1.6 million in new State money to implement catchment recovery program and on-ground works. A cost/benefit analysis of Kent River found that best practice management for farmers would have only a neutral outcome. However, the Kent Catchment supply would cost \$100 million to replace.

◆ **Paula Deegan, SCRIPT: SCRIPT and community perspective**

Community natural resource management group, one of four recognised under the National Action Plan. SCRIPT "represents" 57,000 people (mostly in Albany and Esperance) over 5.5m square kilometres It has secured NHT funding, Briefly, SCRIPT:

- has a key role in developing a regional NRM strategy;
- facilitates access to funding;
- provides a regional focus, forum and advocacy;
- coordinates integrated regional view (community and government input); and
- has a communication and information strategy.

Its projects include allocating \$10,000 to landholders as productivity grants. The group has similar problems as community groups in NSW ie., there is a burnout factor in volunteers, as the same people tend to sit on all sorts of community groups.

◆ **Dr Bill Porter, Project Manager, Farming Systems Development, Department of Agriculture: Farming systems to manage salinity**

The Sustainable Rural Development (SRD) salinity sub-program has an annual budget of :\$6 million per year, and funds nine Key projects:

- Spatial Data and Information.
- Farming Systems Development.
- Farm Forestry and Revegetation.
- Engineering Water Management.
- Rapid Catchment Appraisal.
- Rapid Catchment Appraisal.
- Social Impact of Salinity.
- Rural Towns Program.
- Training and Development.

The Farming Systems Development sub-program coordinates SRD and inter-agency programs which deal with salinity from the perspective of annual and herbaceous perennials. It is responsible for integrated Productive Use and Rehabilitation of Saline Land (PURSL) activities. It has links with external organisations such as the Grains Research and Development Corporation and the Cooperative Research Centre for Plant Based Management of Salinity.

The sub-program delivers water-use standards (low recharge), economically attractive and sustainable environmental management systems and coordinates extension services. It has strong links to grower groups.

One intriguing statistic which was brought to the committee's attention was that a 50 per cent reduction in recharge: would require a half the landscape planted to perennials. This, in turn, would require the entire National Action Plan funding to be devoted to Western Australian farmers every year. One very significant issue which has been missed is the acidification of soils.

◆ **David Pannell, Associate Professor and Principal Research Fellow, Agricultural and Resources Economics, University of Western Australia: Salinity Task Force perspective**

Salinity is complex, and replete with myths and misconceptions. We can't buy our way out of this problem.

Business opportunities: the costs are so high and funds so low, the only option is to target very closely, otherwise money will be frittered away.

Options for Productive Uses of Salinity (NDSP): early stages of work on aquaculture, electricity generation, irrigation with brackish water, salts and minerals etc. There is a very long way to go.

Sixty to seventy per cent of the costs will be associated with roads. Often forgotten that towns themselves stand on cleared land and therefore contribute to the problem. It is not all due to cleared agricultural land.

Biggest barrier is economics: it is diabolically expensive. Benefit cost analysis of six towns in WA shows that cost of remediation far exceed costs of damage.

Commonwealth response: there are many deficiencies. The broad thrust of the National Action Plan will not work. The Landcare/NHT approach is good for other NRM issues but not salinity because it will not foster broadscale change. In fact, it 'won't even touch the sides'. The thinking in Canberra is primarily focused on farmland when some of the most prized and vulnerable assets are roads, reserves etc.

WA has been fighting salinity longer and more intensively than any other State, so is in a position to know what doesn't work.

◆ **Michael Power, Farm Forestry Unit, CALM**

The goal is to increase the adoption of integrated farm planning in the medium rainfall zone (450mm-650mm) and the incorporation of commercial trees.

Tree options for medium rainfall zone are:

- maritime pine sharefarming scheme.
- oil mallee program.
- sandalwood.
- eucalypt sawlogs.

Main drivers are:

- improved water quality.
- more productive and sustainable agriculture.
- new hardwood industry (eg bluegum for kitchen cabinetry, floors etc).

The pilot program, which began on 130 ha in 2001, will encompass 500 ha in 2002, 1000 ha in 2003, with the potential for 20,000 ha by 2020.

◆ **Geoff Woodall: Alternative perennial farming systems**

Revegetation for landcare benefits alone has been hard to sell, particularly in the sub-450mm rainfall zones.

The WA Government is attempting to establish sandalwood in the Pallinup Valley, where it once grew naturally. The target is 100 ha annually. There is very good farmer involvement in the program. The message is that if we want adoption we need to offer landholders a range of revegetation options.

◆ **Allan Seymour: Potential for ground water siphons to improve environment and industry**

Groundwater pumping is extremely expensive, so water siphoning is being examined as an alternative. Trials to determine the efficacy of water siphoning are under way. It is possibly 20 times cheaper and there are very low maintenance costs involved. However, what to do with the water remains a vexed issue.

5 DAY 4: BRIEFINGS ORGANISED BY STATE SALINITY COUNCIL AT PARLIAMENT HOUSE, PERTH
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The State Salinity Council organised formal briefings for the committee, some of which are highlighted here.

◆ **Alex Campbell: State Salinity Council – role, structure, strategy**

The State Salinity Council has a role in leading and supporting the community in addressing salinity. The Council provides a forum for interaction between representatives from representatives of both the community and the government. The Council is an advocate for the community in its dealings with government.

The role of the Council is to:

- provide leadership;
- provide strategic advice to the Cabinet Standing Committee on Salinity Management;
- coordinate decisions and activities between stakeholder groups; and
- monitor and evaluate the success of the Salinity Strategy.

The chair is appointed by the Government. The executive comprises:

- chair (same as chair of council);
- one person with experience in primary production;
- one person with experience in regional natural resource management;
- one person with experience in local government;
- one person with experience in conservation issues; and
- three additional members based on merit.

The chief executive officers of the Department of Agriculture, the Department of Conservation and Land Management, the Department of Environmental Protection and the Water and Rivers Commission sit on the executive in an ex officio capacity as full members.

The Council and executive can co-opt people with expertise to help with particular issues - forming working groups. The executive is empowered to manage salinity within the context of the State Salinity Strategy. A set of operating rules governs the operation of the Council, executive and other committees.

Rex Edmonson, Chairman, Rural Towns Program: Treatment options plus delivery mechanisms

◆ **Barbara Morrell (Avon Working Group): Regional Groups**

The introduction of the first Federal Government Regional Initiative for Natural Resource Management (NRM) across Australia saw the formation of the Swan-Avon Integrated Catchment Management (ICM) Coordinating Group, which coordinated the NRM activities in the Swan and Avon regions. This realised the formation of the Avon Working Group (AWG) as a key regional body to oversee regional initiatives in the Avon River Basin (ARB) which consists of the Yilgarn, Avon and Lockhart sub-catchments.

Some key features of the AWG

Membership

- Skills based members elected through LCDCs, shires, production groups.
- Open membership to any individual or group with an NRM interest. Nominations and elections by members.
- All relevant government agencies have full representation through their regional managers.

Partnerships

- Formal partnerships with the Commonwealth and State Governments.
- Formal partnerships with State Government agencies.
- Formal partnerships or MOUs with all other relevant bodies.

Objectives

- Develop a comprehensive integrated NRM Plan and to act as a coordinating body overseeing its implementation in the ARB.
- Coordinate and integrate physical, technical and financial resources in order to develop and promote best environmental and industry practice by all land managers, government agencies and authorities in or having jurisdiction over land and water resources.
- Provide leadership for and liaison with land managers, government agencies or authorities and other groups with allied interests in or having jurisdiction over land and water resources.
- Initiate and/or deliver projects for the benefit and improvement of land and for the benefit of NRM practices.

Advocacy

- Advocate new industries, which use more water across the landscape.
- Identify opportunities that ensure high productivity and encourage agronomic changes consistent with better water use.
- Contribute to decision-making concerning land use change.

- Support an education and awareness program on NRM issues and support farmers through any changes.

Facilitation and Coordination

- Encourage local government to develop NRM plans, particularly with regards to remnants.
- Coordinate funding activities to ensure projects undertaken are applicable to the needs of the community and the regional strategy.

Monitoring and Evaluation

- Negotiate on appropriate targets and outcomes for the region, consistent with those of the State and Commonwealth.
- Monitor and evaluate the agreed targets and outcomes through an agreed framework.
- Provide advice on investment to ensure high value assets at risk are dealt with.
- Assess new initiatives and innovation.

◆ **John Bartle, CALM: Commercial farm forestry**

Perennial crops can play an important part in managing salinity because they

- help control salinity
- help make agriculture sustainable
- provide economic diversification; and
- create new regional industries.

The key to creating new perennial crops is to make them profitable. We need to develop agricultural systems that integrate perennials with the conventional annual species. We need to develop industries and markets to support the new perennial crops and pastures. This will require a willingness to invest heavily in research and development.

Oil mallee is under development as a tree crop for low rainfall areas in Western Australia. A joint project between the Department of Conservation and Land Management and the Department of Agriculture is examining the selection and development of multiple purpose species for large-scale revegetation. The Oil Mallee Association and the Oil Mallee Company are actively working to develop a eucalyptus oil industry with by-products of charcoal and electricity generation.

Benefits associated with planting oil mallees include:

- decreased waterlogging;
- increased cropping;
- increased lambing rates; and

- reduced water and win erosion.

Oil mallees have the potential to generate tree crop revenue every 2-3 years once established. Planting distribution of mallee is mostly done in belts with conventional crops or pastures in the bays (or alleys - hence the name 'alley farming'). This distribution allows the trees to harvest surplus water from the land and turn it into production as well as help control salinity.

The draw on public investment has been comparatively small. The fundamentals could be more widely applied. The only constraints appears to be the scale of potential biomass production; radical new markets will have to be developed.

◆ **Fiannoula Frost, Chair, Salinity Taskforce: Social impacts of salinity; Salinity Taskforce**

The Western Australian Government established the Salinity Taskforce in May 2001 to review salinity management in that State.

The taskforce delivered its report, entitled *Salinity: A New Balance*, in September 2001. The report is well-named; its message is that the governments and communities need to accept that salinity will be part of the landscape in the future and that careful choices must be made to balance competing priorities and target government expenditure.

The report contains 94 recommendations to the WA Government in the following key areas:

- vision and leadership for salinity management;
- the existing State salinity strategy;
- prioritising salinity management through a strategic investment framework;
- monitoring effectiveness through a targeted monitoring and evaluation program;
- technology and industry development for salinity management to directly support farmers to change to more sustainable and profitable enterprises;
- community support, capacity building and other mechanisms to provide support and encourage change;
- better institutional arrangements and partnerships to promote integration of effort and action on the ground between Government, community and industry;
- managing salinity's impacts on biodiversity, public assets and communities; and
- future investment directions.

The committee was particularly interested in Recommendations 5.6.3 to 5.6.7 of the Salinity Taskforce's Report, which support the key findings of the Native Vegetation Working Group's report and recommendations adopted by the previous WA government in October 2000. The taskforce said there had been slow progress on implementation.

The Working Group was established to address the protection of native vegetation on private lands. These recommendations deal with incentives and arrangements for farmers ("land managers") to conserve native vegetation including:

- extra funding for the five NRM regions to fund incentives for land managers to protect and manage native bushland;
- funds for four conservation brokers to case manage land managers and catchment groups;
- funds for councils to provide rate relief for private bushland; and
- funds for the continuation of the Land for Wildlife Program and removal of State and Commonwealth Taxes that discourage investment in bushland conservation.

The delegation was also briefed by Neil Young on no tillage farming and warm season cropping; Tony York on saltland pastures; John Ruprecht: on water resource management; Robert Lambeck on whole of landscape planning; and Ken Pech on local government.

At the conclusion of the briefings, the committee met privately with the Hon. Dr Judy Edwards MLA, Minister for Environment and Heritage With Special Responsibility for Salinity, for an exchange of information and ideas about the salinity problem in WA and NSW.