

## The Lake Eyre Basin and Its Importance

The Lake Eyre Basin covers about 1.2 million square kilometres, almost one-sixth of Australia, and is the world's largest internally draining system. Lake Eyre itself is the fifth largest terminal lake in the world.

The Basin includes large parts of South Australia, the Northern Territory, Queensland and some of western New South Wales. It is sparsely populated, with about 57,000 people overall, approximately 25,000 of those in Alice Springs. This vast region has a range of natural, social and economic values which makes it not only vital to the livelihoods of local communities but also of great national importance.

The Basin is characterised by inadequate communication infrastructure (mail delivery weekly in many places, poor telephone and internet access), limited and poor road networks and long distances between towns. The arid and hot climate interspersed with widespread seasonal flooding severely restricts road travel for months at a time.

### *Drainage*

The Basin is divided into five major drainage catchments, each defined by the biophysical limits to the natural direction of surface water flow. The major rivers of the Basin are the Georgina, Diamantina and Cooper. They are characterised by high variability and unpredictability in their flow with high transmission losses downstream and very low gradients. All creeks and rivers of the Basin are ephemeral with short periods of flow following rain and long periods with no flow. The major features of the five catchments are summarised in Table 1.

**Table 1: Characteristics of the catchments of the Lake Eyre Basin**

|                       | <b>Cooper's Creek</b>                                                                                                                     | <b>Georgina/<br/>Diamantina</b>                                                                                            | <b>Desert Rivers</b>                              | <b>Western Rivers</b>                                                   | <b>Lake Frome<br/>region</b>                                  |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>Landscape</b>      | Desert Uplands, Mitchell Grass Downs, Channel Country, Acacia scrubland, spinifex, stony tablelands, gibber plains and Strzelecki Desert. | Mitchell Grass Downs, dissected residuals, Channel Country, Acacia scrubland, spinifex, gibber plains, and Simpson Desert. | Sandplains, dunes, spinifex, acacia shrublands.   | Sandplains, acacia shrub, dissected residuals, gibber and stony plains. | Stony Plains, sand dunes, mallee woodlands, mulga shrublands. |
| <b>Major rivers</b>   | Thomson, Barcoo, Strzelecki Creek Cooper's Creek.                                                                                         | Georgina River, Diamantina River, Eyre Creek, Warburton Creek.                                                             | Hay River, Plenty River, Todd River, Finke River. | Macumba River, Peake Creek, Neales.                                     | Lake Frome, Lake Callabonna, Lake Blanche, Frome River.       |
| <b>Selected towns</b> | Longreach, Barcaldine, Blackall, Aramac, Windorah, Innamincka, Muttaburra.                                                                | Winton, Alpurrurulam, Boulia, Bedourie, Camooweal, Birdsville.                                                             | Alice Springs, Hermannsburg.                      | Oodnadatta, Coober Pedy, William Creek.                                 | Marree, Leigh Creek, Orroroo, Lyndhurst.                      |

|                                | Cooper's Creek                                                                                                    | Georgina/<br>Diamantina                                                                                                                        | Desert Rivers                                                                               | Western Rivers                                                                               | Lake Frome<br>region                                                                                                  |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Major land uses and industries | Sheep/cattle in the north, cattle elsewhere. Extensive petroleum deposits in the south. Tourism. Protected areas. | Sheep/cattle in far north -east, cattle elsewhere. Extensive base metals and opals in north, petroleum in the South. Tourism. Protected areas. | Cattle, some horticulture around Alice Springs. Tourism. Protected areas. Aboriginal lands. | Cattle Opals, uranium, copper, gold, and silver. Tourism. Protected areas. Aboriginal lands. | Cattle in the north, cattle/sheep in the south. Cropping in the south. Coal at Leigh Creek. Tourism. Protected areas. |

In the catchments of the Basin competition between land uses is generally concentrated on the riparian, floodplain and wetland areas which are important for production, support high ecological diversity and have cultural, recreational and aesthetic significance for many.

### ***Aboriginal***

The Basin has supported a long history of Aboriginal settlement and use, reflected today in the diversity of Aboriginal culture along with the many areas of high cultural significance.

In South Australia there are approximately 7240 km<sup>2</sup> of Aboriginal land. This includes the Finnis Springs, Nantawarrina and eastern part of Pitjantjatjara lands. These areas are traditional homelands with occupants carrying out a range of commercial and traditional activities. The balance of the Lake Eyre Basin within SA is subject to native title claims. In the Northern Territory there are over 8504 km<sup>2</sup> held by Aboriginal land trusts with further areas held under freehold title. These areas include the Arruwurra Aboriginal Corporation, Ltentye Apurte (Santa Teresa), Angarapa, Ltalaltuma and Roulmaulpma Aboriginal land trusts. The total area within the Northern Territory section of the Basin could well exceed 10000-12000 km<sup>2</sup>. In Queensland there are smaller Aboriginal settlements, mostly in the far western Queensland towns. A number of large areas are the subject of native title claims over much of the south west of Queensland.

### ***Pastoralism***

Grazing of sheep and cattle began in the Lake Eyre Basin in the early 1860s. Pastoralism remains the dominant land use in the Basin today, and is concentrated on leasehold lands. In the South Australian portion of the Basin gross annual value of pastoral production ranges from \$47 million to \$97 million and represents 22.5 percent of the State's beef and 4.5 percent of sheep and wool production. In the Queensland portion of the Basin, the 1994-95 gross value of primary production was \$273.4 million, being 10 percent of Queensland's beef and 39 percent of sheep and wool production. Production from the Northern Territory portion of the Basin is almost exclusively cattle and from the New South Wales is almost exclusively sheep production, primarily for wool.

### ***Mining and Petroleum***

Mining and petroleum industries make up the largest economic sector, and include:

- a number of base and precious metals around Mt Isa and Broken Hill
- natural gas, oil, and petroleum in the Cooper/Eromanga Basin in south west Queensland and north east South Australia
- opals at Winton, Opalton, Andamooka and Coober Pedy
- coal at Leigh Creek
- phosphate at Dajarra
- gypsum near Winton
- uranium at Olympic Dam.
- Other minerals and metals include iron ore, diamonds, manganese and cobalt.

The largest deposits of coal are found in the southern portion of the Basin around Leigh Creek, and the estimated value of coal production from Leigh Creek in 1995 was over \$92 million. Opals are also mined extensively within the Basin. Over 90% of the world's precious opal is currently produced in Australia for use in the jewellery industry and was estimated at \$A85 million in 1991.

The Lake Eyre Basin contains the most significant onshore petroleum basins in Australia. Petroleum is found in commercial quantities in the Cooper/Eromanga Basin which in 1994 represented about five per cent of the total Australian oil and gas resources. The projected estimate for production from the South Australian portion of the Cooper/Eromanga Basin for 1995-2010 is around \$8.8 billion in 1995 dollars.

### ***Tourism***

Tourism in the Basin is rapidly growing in importance, especially eco-tourism to remote outback areas and cultural tourism to both indigenous and non-indigenous places of interest. Popular attractions include the Coongie Lakes, Outback towns, Australian Stockman's Hall of Fame, Australian Workers Heritage Centre, mound springs, Burke and Wills sites, significant Aboriginal cultural sites, Waltzing Matilda Centre and numerous other locations of scenic beauty along with a diversity of flora and fauna. For Lake Eyre and surrounding lands, tourism in 1990-91 attracted 19 000 visitors and brought \$8 million into the local economy. In the Queensland portion of the Basin approximately 209 000 tourists visit the channel country and central west each year. This accounts for about \$82 million. It is estimated that 40 000-50 000 tourists pass through Birdsville each year.

### ***Biodiversity***

The Lake Eyre Basin is considered one of the world's last unregulated wild river systems. The vegetation of the Basin reflects the patterns of arid and semi-arid regions that rely on variable water flows. As a consequence the Basin is an area of high conservation significance that supports wetlands such as the Ramsar listed Coongie lakes, grasslands (Astrebla Downs National Park) and deserts (such as the Simpson Desert National Park). Along with these areas there are many rare and endangered species of plants and animals such as the greater bilby, the kowari and waddi waddi trees (*Acacia peuce*). Mound springs, wetland areas of natural water seepage from the Great Artesian Basin, also support many rare and highly restricted endemic species.

Currently, there are 37 parks and reserves within the Lake Eyre Basin covering about 10.6% of the Basin by area. Some of these reserves are jointly managed as multi-use reserves, for example the Innamincka Regional Reserve. The major parks and reserves are listed at Table 2. There are also conservation initiatives that have been undertaken by communities.

**Table 2: National parks and major reserves within the Lake Eyre Basin**

| Queensland         | New South Wales | South Australia             | Northern Territory |
|--------------------|-----------------|-----------------------------|--------------------|
| Diamantina NP      | Sturt NP        | Witjira NP                  | West MacDonnell    |
| NP                 |                 | Lake Eyre NP                | Finke Gorge NP     |
| Astrebla Downs NP  |                 | Gammon Ranges NP            |                    |
| Simpson Desert NP  |                 | Flinders Ranges NP          |                    |
| Welford NP         |                 | Innamincka Regional Reserve |                    |
| Bladensburg NP     |                 | Strzelecki Regional Reserve |                    |
| White Mountains NP |                 | Elliot Price                |                    |
| Watarrka NP        |                 | Conservation Park           |                    |
| Camooweal Caves NP |                 | Simpson Desert              |                    |
| Forest Den NP      |                 | Regional Reserve            |                    |
| Goneaway NP        |                 | Simpson Desert              |                    |
| Hell Hole Gorge NP |                 | Conservation Park           |                    |
| Lochern NP         |                 |                             |                    |
| Idalia NP          |                 |                             |                    |
| Moorrinyah NP      |                 |                             |                    |

## **The Lake Eyre Basin Regional Initiative**

### ***Setting up the Basin-wide process***

Residents of the Lake Eyre Basin, government representatives and other interest groups began working together in the mid-90s to consider whether a catchment management approach would be appropriate for the Basin.

The first step was to find out what the major natural resource management issues in the Basin were, and whether people believed there was a need to establish a framework to better manage these issues. Due to the logistical challenges of the Lake Eyre Basin, namely size, low population density and multiple State and administrative borders, it was inappropriate to simply apply a catchment management model from elsewhere. The second step, therefore, was to ask people what an appropriate regional planning framework would look like noting that any framework or process needs to adapt to meet changing needs and must be able to respond to feedback.

The Lake Eyre Basin Steering Group was initiated in 1995 at a public meeting in Birdsville. Concerned by conflict between different groups and the potential for World Heritage listing, community members wanted to do something constructive and bring together the different interests to work towards sustainable use and management of the natural resources in the Basin. The meeting was convened by the National Parks Far North Consultative Committee (South Australia) and attended by all stakeholders, including government and non-government, with an interest in the area. Participants decided to establish the Lake Eyre Basin Steering Group.

The Steering Group consulted widely around the Basin and coordinated the publication of a *Catchment Management Issues Paper* (September 1997), and a *Catchment Management Options Paper* (October 1997). In November 1997 a large public meeting was held in Birdsville where a decision was taken to adopt a catchment management approach for the Basin.

An organisational framework was designed and accepted with the consensus of the meeting. This is a two-tiered model comprising a Lake Eyre Basin Coordinating Group supported by an independent Chairperson and up to five catchment management groups (see the diagram on page 9). More public meetings followed and two catchment groups have so far been formed - the Cooper's Creek Catchment Committee and the Georgina/Diamantina Catchment Committee. These committees have developed strategic plans for their catchments.

Consultation and negotiations in the other regions of the Basin are continuing. It may not be appropriate to establish committees in some regions, particularly when there are existing planning processes (such as in South Australia) or where the population is sparse. In these instances regions have discussed having membership on the Lake Eyre Basin Coordinating Group. It has been agreed that this membership must be determined through a fair and accountable method. The individual/s from each region will be supported in communicating with all interest groups in their region. In this way an appropriate process for involvement of each region in the Coordinating Group will be agreed and established.

### **Box 1: Objectives\* of the Lake Eyre Basin Coordinating Group**

- Promote ecological and economic sustainability in the Basin
- Develop and communicate a shared strategic vision across the Basin
- Provide a forum for Basin-wide issues
- Provide a communication channel with governments
- Provide information to support catchment groups and individuals

\* The objectives in the Constitution of the LEBCG.

Consultations and workshops undertaken over two years together with the Catchment Management Issues Paper provided a sound basis for identifying the key issues for consideration by the Coordinating Group. These Basin-wide issues are summarised at Box 2.

### **Box 2: Key issues identified during the consultation process**

- Weeds and feral animals
- Surface water management (including water extraction)
- Sustainable grazing practices
- Education/awareness
- Lack of existing data/information
- Local knowledge
- Uncontrolled tourism
- Salinity
- Security of tenure
- Viability/economics
- Diversification
- Biodiversity conservation/endangered species
- Wildlife use/harvesting
- Management of the Great Artesian Basin (GAB)

In March 1999 the Lake Eyre Basin Coordinating Group undertook a Basin-wide futuring study, 'Flows and Futures', to systematically discover and explore several possible sustainable futures for the Basin and its people. The study identified a number of strategies that were common to all scenarios. These strategies, outlined at Box 3, provide a useful bridge linking the objectives and issues identified above and set the scene for developing a strategic plan for the Basin.

*\* The boxed quotes in this section are from the first round of public meetings when people were asked what they would like their descendants to be saying about us.*

*'They initiated  
a good structure  
for us to carry on with  
a long term process.'*

### Box 3: Key Strategies from the LEBCG Futuring Study

- Build community skills and leadership capacity
- Invest in education and knowledge
- Invest in R&D partnerships between industry, government and community
- Coordinate natural resource and management policies, focussing on achievable and effective goals
- Integrate investment into regional priorities for production, social and environmental goals
- Develop capable and responsive leadership to support community-developed goals and strategies
- Planned involvement of all groups and sectors in governance and goal achievement
- Market Lake Eyre Basin opportunities, values and aspirations
- Integrated pest animal and plant control

### ***Inter-governmental Agreement***

Alongside the community and stakeholders establishing a Basin-wide consultative and community forum, the Commonwealth, Queensland and South Australian governments have been negotiating an Inter-governmental Agreement for the Lake Eyre Basin.

In 1997, as the first step, the Commonwealth, Queensland and South Australian governments signed a Heads of Agreement for the Lake Eyre Basin. This provides for the development of a formal Inter-governmental Agreement for the management of the water and related natural resources of the Basin in accordance with the principles of integrated catchment management and ecologically sustainable development. The process for developing the Agreement included distribution of a discussion paper with public consultation and review. This has been completed and the three governments have prepared a draft formal Agreement which will establish a Ministerial Forum.

The scope of the Lake Eyre Basin Coordinating Group is greater than the proposed Agreement, both in geography and issues. The catchment management framework designed and agreed to by communities and stakeholders of the Basin in 1997, included the establishment of a Ministerial body to give the community direct access to Ministerial decision-makers. One of the government options for the Agreement is that the Lake Eyre Basin Coordinating Group be the community advisory group to the Ministerial Forum. This additional role would not detract from the broader objectives and scope of the catchment management framework.

*'Thank  
goodness they got past  
looking at  
State boundaries.'*

### ***A focus on scale – Basin-wide, catchments and local***

The consultation processes so far established for the Lake Eyre Basin have demonstrated a strong and clear view that integrated planning and implementation should be focussed at the catchment scale. However, the Lake Eyre Basin also functions at different spatial scales, each with their own characteristics, issues and spheres of influence. Table 3 indicates how the Basin-wide catchment and local scales might function in an integrated way to produce outcomes that meet different goals.

**Table 3: Example of the scale of strategic planning and action - weed control**

| <b>Level</b>                                                                                                          | <b>Action</b>                                                                                                                                                                                                                               | <b>Outcome</b>                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Basin-wide</b><br>( <i>LEBCG</i> )                                                                                 | Lobby all governments on issues<br>Raise national profile of weed impacts<br>Bring in resources from a wide range of sources<br>Implement Basin-wide initiatives<br>Coordinate across States<br>Provide information<br>Develop key linkages | Increased resources for weed control<br>Improved weed control policy and management<br>More efficient implementation of weed control programs<br>Better sharing and understanding of information and issues<br>Basin-wide implementation |
| <b>Catchment or region</b><br>( <i>Catchment Committees</i> )                                                         | Catchment planning<br>Coordinate with different players (local and State government agencies, Landcare groups, Aboriginal groups, industry and research bodies)<br>Provide information<br>Implement catchment-wide projects                 | Minimise duplication among complementary programs<br>More efficient resource use through better targeting of specific areas<br>Share information on weed control                                                                         |
| <b>Local</b><br>( <i>Shires, Catchment Committees, Landcare groups, Aboriginal groups, Soil Conservation Boards</i> ) | On-ground activities<br>Build local awareness and interest in the issue<br>Provide information<br>Harness resources                                                                                                                         | Reduced infestation and spread of weeds<br>Increased community awareness of weed problems<br>Increased community willingness to help<br>Increased community linkages                                                                     |

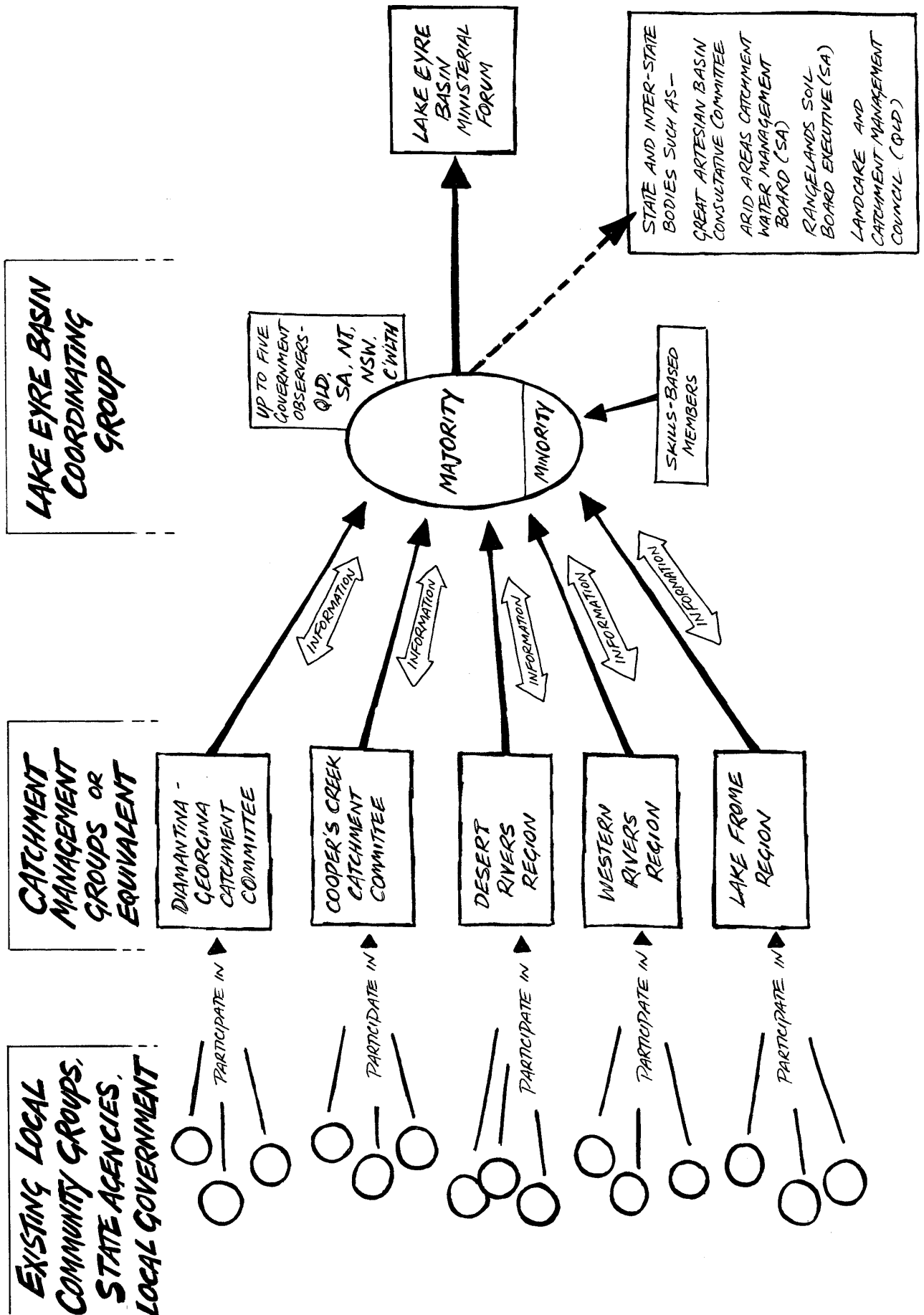
### ***Organisational links***

The Coordinating Group cooperates with other organisations that overlap with it either geographically or on planning and management issues. Organisational links have been specifically addressed in the Lake Eyre Basin Strategic Plan within the priority action area – Planning, coordination and advocacy. For more information about relevant organisations, processes and strategies see Appendix B.

### ***Other Regions***

Consultation and negotiations in these regions of the Basin are continuing. It may not be appropriate to establish committees in some regions, particularly when there are existing planning processes (such as in South Australia) or where the population is sparse. In these instances regions have discussed having membership on the Lake Eyre Basin Coordinating Group. It has been agreed that this membership must be determined through a fair and accountable method. The individual/s from each region will be supported in communicating with all interest groups in their region. In this way an appropriate process for involvement of each region in the Coordinating Group will be agreed and established.

Organisational Structure



## Implementing the Strategic Plans:

*Moving from planning to action*

These strategic plans serve two functions – they draw together the past and step into the future. In the strategic plans we describe a vision for the entire Basin and for two of its catchments, identify guiding principles and values to support an integrated approach, and propose specific actions to address key issues.

The three strategies are a first effort by the community-based groups to focus strategically on the range of issues that have so far emerged. Together these documents aim to integrate a framework for action by linking a Basin-wide vision, objectives and broad actions, with a set of more focussed and specific actions at the regional and catchment level. The strategies will remain 'live' or working documents.

The intention of strategic plans is not to continually redefine the vision but to establish one that is relevant for ten to twenty years. The mission should be appropriate for five to ten years and the actions will have a life span of one to five years. In this way the plan will be continually revisited and adapted as actions are completed and new ones determined.



## Steps to implementation

It is now time to move from planning to implementation. We will need to manage this transition to achieve worthwhile outcomes and results.

### 1. Sorting

The strategic plans contain a broad range of strategies, some that the committees can take direct action on, some that the committees can have influence on and important strategies that have been identified but the committee can take no direct action on or have influence upon. To move forward it is important to sort these strategies, focusing on those that we can achieve or have influence upon.

The following categories have been used in the strategic plans.

#### *Direct Action*

Strategies that the committee or community can directly act upon. Within the control of the committee.

#### *Influencing*

Strategies that the committee or community can not take direct action on but can exert influence on.

#### *No direct action or influence*

Strategies that the committee or community can not take direct action or have any influence upon at this time. These may still be important strategies to have identified for future action or simply awareness.

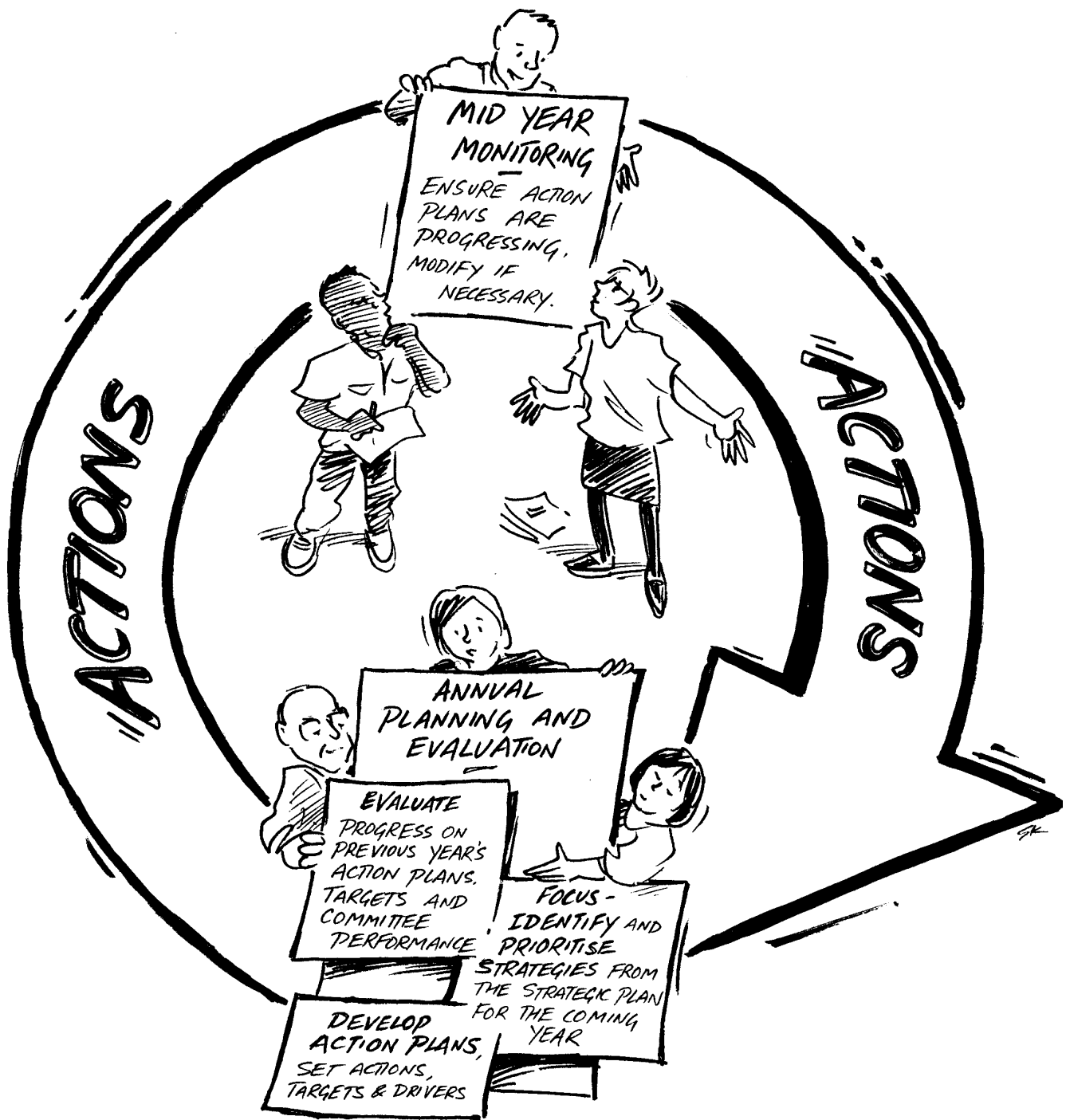
### 2. Focus - Identify and Prioritise Strategies

Each year the committees will identify the priority strategies from the strategic plan to focus on for the coming year. The chosen strategies should be ones that the committee can have direct impact or influence upon as identified earlier in the sorting process. It is also important to limit the number of strategies targeted to an achievable number.

### 3. Develop Action Plans

The identified and prioritised strategies would then be unpacked into a series of workable actions that the committee would move forward on for the year. Targets would be set and drivers identified to progress the actions. These actions and targets would be incorporated into an action plan. Progress on these action plans would be monitored at a six monthly review and evaluated at twelve months.

*'The Cooper is still  
flowing, thank you.'*



*'There is no more uncertainty and people are working together.'*