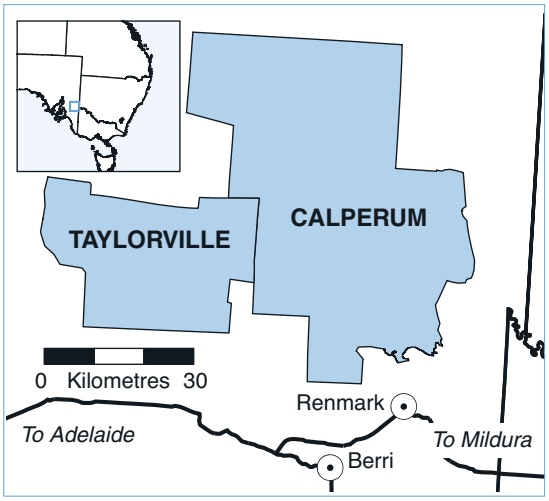
Calperum and Taylorville Stations

http://www.environment.gov.au/parks/biosphere/riverland



Special features

Calperum and Taylorville Stations are adjoining pastoral leases in the Riverland area of South Australia.

Calperum and Taylorville are important locally, nationally and internationally because of their wetlands and related species, their mallee vegetation, and the presence of several threatened bird species. The properties form critical habitat for the endangered black-eared miner (*Manorina melanotis*) and are also important for the conservation of the nationally vulnerable malleefowl (*Leipoa ocellata*) and the regionally vulnerable bush stone-curlew (*Burhinus grallarius*).

The properties are key components of the Riverland (formerly Bookmark) Biosphere Reserve. While biodiversity conservation guides the management of both properties, and both actively rely on community participation in management activities, there are differences in the management objectives of the two properties. Taylorville is managed as an IUCN Category IV reserve, for habitat and species conservation. Calperum is managed for a broader, additional set of objectives, including environmentally sustainable development such as tourism.

Location	Latitude 33°49′ South, Longitude 140°34′ East (Calperum) Latitude 33°56′ South, Longitude 140°11′ East (Taylorville)
Area	331,238 hectares combined area: Calperum 238,638 hectares, Taylorville 92,600 hectares
Status	Pastoral leases in South Australia, held by the Australian Government through the Director of National Parks (Calperum acquired in 1993, Taylorville acquired in 2000)
IUCN category	Calperum: not assigned Taylorville: Category IV
Biogeographic context	Interim Biogeographic Regionalisation for Australia region: Murray–Darling Depression
Management plan	Non-statutory management plan covering both properties finalised in February 2005 (expires with current management contract in 2008)
Other significant management documents	Management contract with Austland Services Pty Ltd; Biosphere Reserves Seville Strategy and statutory framework

Financial	Operating*	$0.507 million
	Capital	$0.080 million
	Revenue	$0.022 million
Visitors	150 day visitors and 1,350 bed-nights in camping grounds, dormitories and other accommodation	

* This funding is provided by the Director of National Parks. Austland Services provides at least matching resources

International conventions and agreements	
Wetlands (Ramsar) Convention	Part of Calperum included in Riverland Ramsar site
Migratory Species (Bonn) Convention	8 of 98 listed Australian species
China–Australia Migratory Birds Agreement	10 of 81 listed species
Japan–Australia Migratory Birds Agreement	10 of 76 listed species
Other international agreements	Major component of the Riverland Biosphere Reserve under the UNESCO Man and the Biosphere Programme

Environment Protection and Biodiversity Conservation Act 1999		
Listed fauna	Species	1 endangered 6 vulnerable 12 migratory 45 marine (birds)
	Recovery plans	2 being implemented: malleefowl (*Leipoa ocellata*); black-eared miner (*Manorina melanotis*)
Listed flora	Species	None
Heritage	On Commonwealth Heritage List	
Other	Taylorville and majority of Calperum listed as critical habitat for the black-eared miner	

Numbers of native species recorded					
Mammals	Birds	Reptiles	Amphibians	Fish	Plants
25	188	68	10	12	>300

Management arrangements

Calperum and Taylorville Stations are managed by Austland Services Pty Ltd (a company established by the Australian Landscape Trust) under contract to the Director of National Parks. The current management contract runs from 1 May 2003 to 30 June 2008. The contract is funded through the Natural Heritage Trust. Austland Services provides additional support for management activities and community-based programmes.

Monitoring

Significant monitoring programmes track the physical and biological attributes of both stations. Annual biological surveys in 2006–07 included pitfall trapping of small vertebrates, vegetation photopoints, malleefowl mound activity monitoring, black-eared miners, stone-curlews, waterbirds, fish, possums, frogs, nestboxes and aquatic vegetation assessments. Feral animal monitoring focused on foxes, goats, pigs and rabbits.

Monthly rainfall data are collected from 25 rain gauges across the two stations, and a network of groundwater test wells has been developed to monitor groundwater hydrology and water salinity beneath the floodplain and wetlands of Calperum Station. Water quality in creeks and wetlands is also monitored.

Future challenges

Major challenges are:

- identifying and implementing environmentally sustainable industries on Calperum Station
- developing an appropriate management regime for Calperum Station's wetlands that can respond to changing conditions
- protecting the critical threatened species habitat provided by mature mallee on Taylorville and Calperum from fire and other potentially threatening impacts such as bird poaching
- developing cross-tenure approaches to managing the broader landscape for shared goals.

Report on performance by key result areas

KRA1: Natural heritage management

Major issues

- Rehabilitation and conservation of native vegetation and endemic fauna
- Feral animal and weed control
- Fauna conservation and management
- Floodplain management
- Fire management

Actions

- Rationalise watering points
- Maintain captive colonies of the Murray River snail (*Notopala sublineata hanleyi*)
- Investigate and monitor saline groundwater
- Review fire management strategies and infrastructure
- Restore and revegetate wetlands

- Implement feral animal control programmes
- Monitor native animal populations
- Contribute to recovery programmes for threatened birds

Performance results 2006–07

- Worked closely with the regional Country Fire Service. Supported and participated in Country Fire Service training and familiarisation exercises on Calperum and supported staff to join local units
- Reviewed fire management strategies including water storage needs and supply infrastructure on Calperum which led to decommissioning several non-essential water tanks. Selected water storage infrastructure was upgraded
- Reviewed the fire-track network on Calperum and maintained and upgraded tracks as required. Added a section to the network in the west of Calperum. Identified and initiated priority actions for the Taylorville fire-track network
- A series of fires started by lightning strikes amalgamated and burnt through a large proportion of Taylorville and a small section of Calperum in December 2006. Staff helped fight the fires and contributed to briefings held for the benefit of local people and media
- Reviewed management strategies immediately following the fire. Identified and addressed priority issues. Staff and volunteers also participated in post-fire reviews by agencies including the Country Fire Service
- Participated in additional post-fire monitoring and other actions in collaboration with the SA Department for Environment and Heritage and neighbouring Gluepot Station
- Monitored the impact of environmental watering of drought stressed riparian vegetation at Double Thookle Thookle Lagoon. Planned additional environmental watering activities were scaled down due to the extreme water supply situation
- Completed a wetting and drying cycle of Lake Merreti. The planned wetting and drying of Lake Woolpolool was deferred following consultation with SA Government officers
- Continued to install test wells and monitor groundwater in wetlands and floodplains. Monitored surface water quality (salinity, temperature, pH, dissolved oxygen and turbidity)
- Continued volunteer involvement in mapping and controlling significant weeds, including post-fire weed emergence in disturbed areas and an intensive assessment of earlier revegetation activities in one section of Calperum
- Conducted photopoint monitoring and floristic surveys of partially drip-irrigated and non-irrigated sections of revegetation exclosures
- Provided tube-stock and technical advice to local groups and individuals for revegetation activities
- Facilitated collection of seed for use in a regional revegetation project
- Identified and began development of out-station infrastructure on Taylorville to support fire-fighting and research and monitoring programmes

- Survey confirmed the vigour and growth of earlier trial plantings of *Eucalyptus* and *Melaleuca* species in salinised floodplain habitat
- Planted additional shrubs and trees in highly impacted floodplain areas
- Supported a formal (Ph D) study of the effects of salinity on floodplain invertebrate communities
- Initiated an investigation of the efficacy of various artificial habitats for housing Murray River snails for recolonising waterways
- Continued and expanded native species monitoring programmes, including monitoring invertebrates, small arboreal mammals, bats, frogs, waterbirds, stone-curlews and mallee bird species. Monitored the impacts of total grazing pressure, with particular attention to floodplain areas
- Supported the black-eared miner recovery programme. A planned translocation was curtailed due to unfavourable seasonal conditions
- Participated in developing recovery plans for other mallee species of conservation concern
- Continued and enhanced feral animal control programmes for pigs, goats, foxes, cats and rabbits
- Initiated discussions on developing a regionally coordinated fox baiting programme, including a demonstration trial of alternative bait delivery systems
- Participated with government, academic and other bodies in developing a bid under the Australian Ecological Observation Network project for installing research infrastructure in the Renmark–Mildura section of the lower Murray

KRA2: Cultural heritage management

Major issues

- Protection and conservation of Indigenous and non-Indigenous heritage

Actions

- Protect, conserve and encourage recognition of heritage

Performance results 2006–07

- Continued to monitor, protect and revegetate identified Indigenous heritage sites
- Participated in running a trial Indigenous ecotourism training programme for local Indigenous youth
- Continued to protect and maintain iconic structures recalling the previous pastoral industry, including the Yubalia ruins, the Cooper's Camp fisherman's hut and various items of pastoral-era infrastructure

KRA4: Visitor management and reserve use

Major issues

- Provision of quality visitor services that are compatible with conservation objectives, visitor safety and management requirements

- Communicating the values of Calperum and Taylorville
- Conducting relevant research to support management objectives
- Conducting commercial activities that achieve ecologically sustainable use of natural resources and provide financial benefits for use in the protection and/or rehabilitation of natural and cultural assets of the properties, and as models for the region

Actions

- Manage, provide information for, monitor and review day-to-day recreational use
- Develop, maintain and promote education programmes for a range of audiences, using the resources at Calperum and Taylorville and the McCormick Centre for the Environment in Renmark (the construction of which was partly funded through the Natural Heritage Trust)
- Continue current research programmes, develop further research programmes as needed and manage research data
- Review use of the irrigated horticultural site and plant nursery
- Pursue the assessment and development of suitable ecologically sustainable industries and activities
- Review how efficiently available water resources are used

Performance results 2006–07

- Upgraded the Calperum carpark and developed the (educational) Calperum Mallee Garden, including demonstration of solar lighting and high-efficiency water-use technology
- Re-sited camping areas, installed new dry composting toilets and began to revegetate impacted areas
- Developed new and additional signage incorporating interpretive materials
- Managed visitors satisfactorily, including through developing a formal working relationship with the Riverland Ecotourism Association, facilitating ecotourism in and around Calperum, and hosting meetings and activities at the McCormick Centre and at Calperum designed to improve regional tourism
- Conducted educational programmes for pre-primary, primary, secondary and tertiary students, including a school holiday programme at the McCormick Centre. Focus areas included wetland health and water quality, sustainable design and environmentally friendly architecture
- Hosted field trips and camps for TAFE SA (technical and further education), university and non-government study tour groups studying biology, ecology and environmental management. Sessions were held on floodplain management; communities' capacity to understand and respond to environmental issues involving the river; conduct of biological surveys; collecting and classifying native plants; and the aims and methods of management of Calperum

- In conjunction with TAFE SA, ran numerous courses for volunteers and the community in aspects of natural resource management, including plant and animal identification, biological survey techniques, native seed collection and plant propagation. In partnership with TAFE SA, the Riverland Development Corporation and local schools conducted a pilot course for Indigenous youth on developing Indigenous ecotourism. A water quality testing workshop for interested community members was delivered on Calperum by the SA Murray–Darling Basin Natural Resource Management Board as part of a broader initiative under the Australian Government's Community Stream Sampling project

KRA5: Stakeholders and partnerships

Major issues

- Promotion of the UNESCO Man and the Biosphere Programme
- Involvement of the community in land management
- Support and recognition of volunteers
- Fostering long-term capacity for sustainable development in the community

Actions

- Promote and disseminate information that assists in achieving the goals of the Man and the Biosphere Programme
- Promote, support and oversee extensive volunteer involvement
- Develop a system for consistently recording volunteer hours
- Participate in the Riverland Biosphere Community Committee

Performance results 2006-07

- Continued to promote Calperum and the McCormick Centre as places available for research and monitoring, education, skill-sharing and public recreation. Encouraged volunteers to recognise these objectives at all suitable opportunities
- Continued providing various forms of support and encouragement to existing and potential volunteers. Maintained appropriate insurance for volunteers, and made sure that they were aware of and observed occupational health and safety procedures
- The McCormick Centre developed as a focal point for meetings and information dissemination on issues relevant to the Man and the Biosphere Programme. Events held at the centre included the Wetlands and Waders Festival and a weekend of activities to mark the fiftieth anniversary of the 1956 flood
- Attended the 2006 Riverland Biosphere Community Committee annual general meeting, at which a staff member joined the committee. Parks Australia representatives participated in two committee meetings
- Over 180 registered individual active volunteers, and numerous volunteer

groups and organisations, donated in excess of 8,500 hours of labour during the year. Approximately 58 per cent of volunteer effort was devoted to core land management activities such as feral animal control, weed control and infrastructure maintenance. Research and monitoring absorbed 38 per cent of volunteer effort; the remainder was devoted to purely educational and skill-sharing activities (noting that many activities have an educational component)

- Maintained a database to record and analyse volunteer contributions to management of the properties
- Hosted a weekend of activities for volunteers in recognition of their efforts. This included a cruise on the River Murray, a dinner in the Calperum Woolshed and demonstrations and training in a range of biological survey techniques
- Explained to a community meeting how fire preparations helped contain the 2006 wildfires
- Began a range of activities within a broad education and skill-sharing project funded by the Australian Landscape Trust. The project includes employing natural resource management trainees, promoting and subsidising accredited training for volunteers, and developing collaborative environmental education programmes with regional schools, using Calperum and the McCormick Centre as activity sites
- Participated in a review of issues affecting the use of community monitoring data in institutional planning and decision-making being undertaken by the SA Murray–Darling Basin Natural Resource Management Board
- As part of the Paddock Adoption Scheme, sought and found new 'paddock managers' for the Merreti and Calperum Lakes project areas
- Obtained funding to support purchase of a stereo microscope and accessories which allow microscope images to be displayed on audio-visual equipment. The microscope is now being used to support education on aquatic macroinvertebrates and other fauna at the McCormick Centre. Other equipment purchases were facilitated by donations from SA Rotary clubs
- Supported local Green Corps projects, including training in nursery practices and a range of land management activities
- A community-based study of the life histories of two poorly known native cockroach species began under the auspices of the University of Sydney
- Assisted three research students to conduct biological research on Calperum
- Explored potential economic uses of the horticulture site. While no robust business opportunity for its further development was identified, the potential to use infrastructure to supply material for regional revegetation projects on a non-commercial basis remains. Support for small-scale trials in developing marketable native plant products by local horticulturalists is also potentially possible. Active development of initiatives was hindered by the poor outlook and uncertainty surrounding irrigation water allocations

- Contributed to publication of case studies on the management of Calperum and the McCormick Centre as an exemplar of community empowerment and volunteer engagement

KRA6: Business management

Major issues

- Property maintenance
- Business management
- Environmentally sustainable management

Actions

- Maintain infrastructure
- Manage professionally and accountably

Performance results 2006–07

- Continued producing quantities of seed for revegetation and occasional commercial sale
- Maintained the productive capacity of floriculture plantings but international market conditions remained unfavourable
- Maintained existing buildings, fencing, tracks and other infrastructure. A significant enhancement of the Oak Bore outstation has made it entirely self-sufficient for water
- Completed infrastructure enhancements including improvements to visitor infrastructure
- Produced policy statements on operations and workplace practices, and reviewed/updated employee and volunteer induction processes
- Investigated strengths and weaknesses of Calperum's horticulture site and options for its future use. This study reinforced (as a preferred option) the site's use in identification and early development of local species suitable for revegetation applications
- Investigated the development of woody perennial crops, especially the mallee sandalwood species *Santalum spicatum*, as species with potential for use in Calperum's floriculture site (as a future business opportunity)
- Followed up on safety, insurance and financial matters following the December 2006 wildfires (including assessing boundary fence damage, checking roads and tracks and clearing fallen timber). Gates and locks were replaced as required
- Complied with applicable legislation
- Maintained a recycling programme