



TROPICAL SAVANNAS CRC
Cooperative Research Centre for Tropical Savannas Management

Strategy Statement 2003 – 2007

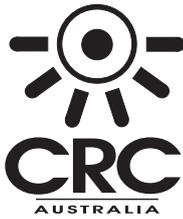
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Background and context

Cooperative Research Centres



The Cooperative Research Centres program was established to strengthen collaborative links between industry, research organisations, educational institutions and government agencies—and in so doing to make Australian research more useable by Australian industry and communities. CRCs also aim to improve Australia’s undergraduate and graduate programs by giving students better access to researchers—particularly those working with industry or government.

There are now more than 70 CRCs operating across Australia. The Tropical Savannas Management CRC (or Tropical Savannas CRC) is one that works in the area of natural resource management (NRM), linking NRM researchers in northern Australia with the users of this research.

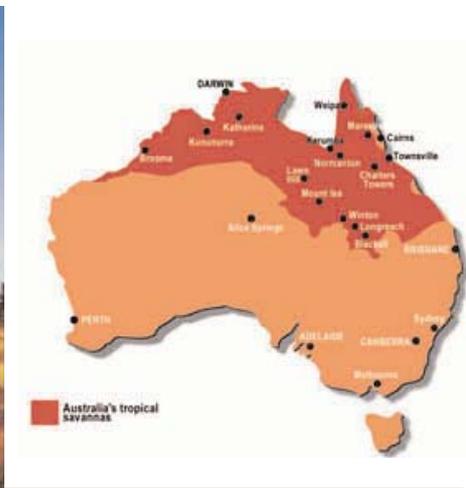
What are the tropical savannas ?

The tropical savannas are the grasslands and grassy woodlands that cover most of the northern third of the Australian continent. The people who live here use the land in a great variety of ways and live in a range of situations from cities to small towns to remote stations and communities. This country has largely uncleared vegetation supporting significant biological diversity.

Compared with widespread salinity, soil and water deterioration and biodiversity loss evident in southern areas of Australia, the environment and biological diversity of our tropical savannas are far less degraded, a situation worth protecting and improving.



Tropical savannas are the grasslands and grassy woodlands that cover most of the northern third of the Australian continent



The shaded region shows Australian tropical savannas. Research is carried out across the region

A key organisation in a time of change

Despite the savannas’ relatively intact nature, ecosystem change across these landscapes is becoming more rapid and more noticeable. In parts of the savannas, reduced grassy fuel loads and reduction in frequency and intensity of fire is evidently leading to substantial losses in pasture productivity due to woody thickening. Elsewhere, the opposite problem prevails, with intense, frequent and extensive wildfires destroying fire-sensitive habitats, reducing biological diversity and significantly increasing

greenhouse gas emissions. A mounting body of evidence is pointing to a widespread decline in biodiversity in the savannas, noticeably among bird and mammal fauna.

There are also increasing pressures to develop and intensify the use of natural resources in northern Australia. The people and landscapes of Australia's savannas are therefore experiencing important changes, and our responses to those changes will have a significant influence on the future biological and cultural diversity, economy and society of northern Australia.

The purpose of the Tropical Savannas CRC is to help provide the knowledge and strategies vital for the wise management, sustainable use and considered conservation of this region of susceptible but relatively intact country. In so doing, the Centre's work will benefit the region's people, economy, infrastructure and ecology, while avoiding the catastrophic consequences of misuse of natural resources so evident in southern Australia and in many tropical savannas throughout the world.

The CRC approach

How will Tropical Savannas CRC do this? The Centre is a joint venture of the major organisations involved in land management of the savannas of northern Australia. For more information on these partners, see page 7. By using these collaborative links, the Centre adds value to what its partners can do to address NRM issues. It does this in a number of ways:

- **Integrating and building critical mass.** Northern Australia is characterised by a small number of widely separated researchers representing most disciplines relevant to integrated NRM. The Centre, through its partners and with a whole-of-northern Australia charter of responsibility, brings these researchers together from across jurisdictions and industry sectors to develop integrated research projects. This also results in a critical mass of expertise necessary to address priority issues and needs.
- **Linking researchers with research users.** The Centre uses its networks to bring scattered researchers and research users together—often from different jurisdictions, industry sectors or cultures—to work and learn together to develop more useable research integrated with local knowledge.
- **Building capacity and improving education and learning.** The sustainability of the savannas ultimately depends on the capacity of the people who live and work there—to respond to change, make informed decisions, and interact positively and constructively while acknowledging and respecting different values and cultural perspectives. The Centre uses its links to



The Centre uses its links to bring together research findings and local knowledge to create useful Natural Resource Management resources. Pictured is Michael McDougall, of the Queensland Department of Natural Resources & Mines, with the Desert Uplands northern regional vegetation management committee

Photo: Bruce Taylor



bring together research findings and local knowledge to create useful NRM information resources and tools for these people. By linking students with researchers, and by developing educational resources, the Centre enhances the way people learn about the savannas and its cultures. The Centre also builds capacity by raising awareness of tropical savanna NRM issues in the broader community of stakeholders. See page 6 for more information on the Centre's stakeholders.

Apart from the way it uses collaborative links, the Tropical Savannas CRC has a particular way of working towards its goals, by using research themes to integrate project outcomes (see page 10).

Emerging issues for the CRC

The Tropical Savannas CRC was founded in 1995. In 2001, the CRC was funded for a second, seven-year term. Since its renewal, the Centre has focused on increasing stakeholder engagement, and on a number of emerging NRM issues for the tropical savannas. Following are some examples.

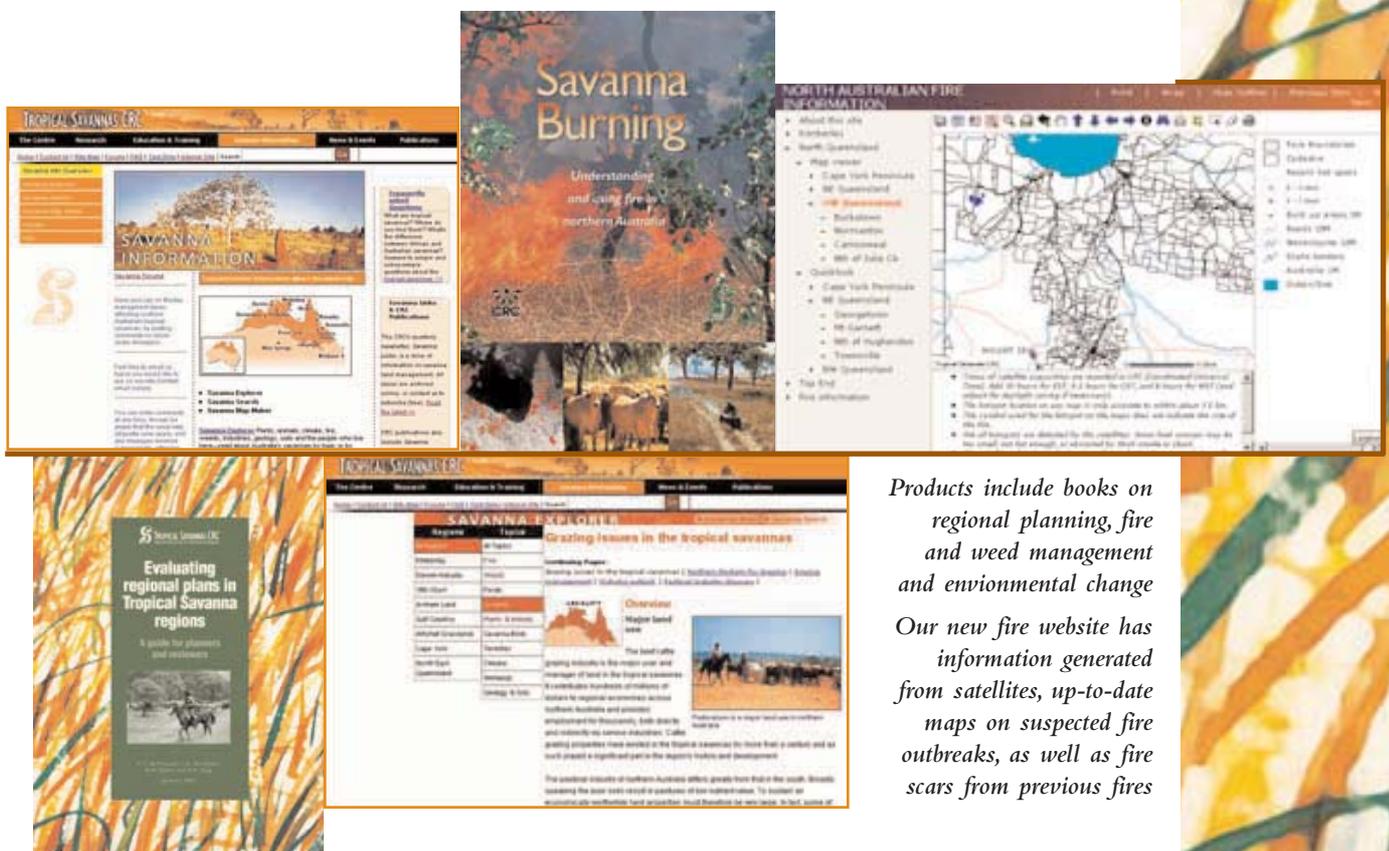
- **Better regional planning.** With the roll-out of Natural Heritage Trust Phase 2 and the National Action Plan for Salinity and Water Quality, the states and Commonwealth are requiring that regional communities take greater control of the integrated management of the natural resources in their regions. The challenges facing natural resource managers and planners in northern Australia are fundamentally different to those affecting temperate parts of the continent, where most of the NRM agenda is being set. Relative to temperate Australia, the savannas have a lower intensity of land use, lower population density and a substantially greater proportion of Indigenous people in the population, and of Indigenous-owned and managed land. The Centre is playing an increasingly important role in laying the foundations for effective planning processes in northern Australia that will assist regional bodies to link on-ground activities to regional-scale outcomes.
- **Viable regional land management.** Opportunities are emerging for novel and innovative approaches to landscape management. For example, better fire management may be funded in the future through the recognition of the value of greenhouse gas mitigation and carbon sequestration by the private sector. This opportunity illustrates the general point that management of savanna landscapes depends on having people in those landscapes, which in turn depends on viable regional economies. Approaches to building sustainable regional development are therefore a key emerging research area for the Centre.
- **Lease Renewal.** Across much of the savannas, property rights and responsibilities for holders of pastoral leases are being re-evaluated as current leases expire. Over the next decade most leases in Queensland and Western Australia will have been reviewed. As a significant provider of research, development and innovation, the Tropical Savannas CRC has a key role to play in focusing the collective expertise in integrated natural resources management in northern Australia towards the issues emerging from lease renewal. Strategies for monitoring and maintaining biodiversity and sustainability of the resource base in the pastoral estate will make an important contribution.

What the Centre produces

The Centre's outputs are a response to government, industry and community requirements.

- **Management options, along with assessments of their benefits and costs.** For example, options for managing biodiversity on pastoral lands that outline the cost to the producer and the benefits for native fauna.
- **Policy options, with analyses of their benefits and costs.** For example, analyses of regional planning strategies with economic, environmental and social factors included.
- **Information resources and tools and training in their use.** For example, books on fire management and web-based remote sensing tools that take a whole-of-savanna perspective.
- **Educational packages and access processes.** For example, courses on tropical savanna management that are available online for remote users.

These objectives are achieved by focusing on specific key result areas which are described on page 9 and which, in turn, shape the Centre's research themes (see page 10).



Products include books on regional planning, fire and weed management and environmental change. Our new fire website has information generated from satellites, up-to-date maps on suspected fire outbreaks, as well as fire scars from previous fires.

Stakeholders

Our stakeholders are the people who live and work in the savannas of Australia, as well as the members of the wider Australian and international communities who benefit directly and indirectly from the maintenance of healthy savanna landscapes. These benefits include thriving regional communities and the rich and significant biological diversity and cultural heritage that permeates these landscapes.

The people who live in the savannas are few in number, culturally diverse and widely dispersed, and interact with and value the landscape in a range of different ways. Pastoralism is the most extensive land use, and pastoralists make an important contribution to natural resources management, as well as the maintenance of vibrant regional communities. Indigenous people own and occupy a large percentage of the savannas. Country holds a particularly important place in Indigenous culture, and Indigenous people are also engaged in a variety of land uses and other resource uses for economic, social and cultural reasons. Other significant activities include management of the conservation estate, tourism, mining and defence.

We will continue to consult with and involve our stakeholders to ensure the relevance and representativeness of our activities. The Savanna Advisory Committee plays a key role in this process, and provides input directly to the Board and the key Centre researchers.



Stakeholders of the tropical savannas are culturally diverse but share a common interest in northern landscapes

Photos (Clockwise from top left): Greg Calvert, McArthur River Mining, Dennis Schulz, Alex Kutt, Stephen Tapsall

Partners

The Tropical Savannas Management CRC is an unincorporated joint venture established by an Agreement between the Commonwealth of Australia and the partners listed below. There are 16 core partner agencies, representing a mix of the key researchers and research users in the tropical savannas.

We bring together more than 100 researchers from disciplines including ecology, biology, economics, information technology and the social sciences. Our researchers are located right across the north of Australia, as well other centres such as Brisbane and Perth.

- CSIRO Divisions of Land & Water and Sustainable Ecosystems
- Department of Agriculture WA
- Department of Conservation WA
- Director of National Parks
- James Cook University
- Meat and Livestock Australia
- North Australia Beef Research Council
- North Australia Indigenous Land and Sea Management Alliance
- Northern Territory Government (including Departments of Infrastructure, Planning & Environment, and Business, Industry and Resource Development)
- Charles Darwin University (formerly Northern Territory University)
- Queensland Government (including Departments of Primary Industries, Natural Resources and Mines, the Environment Protection Agency)
- University of Queensland



The Centre brings together researchers from all of the key land management agencies and research bodies for Australia's tropical savannas

Photos (from left): Jason Beringer, Kate O'Donnell

Goals and operational principles

Our goal is to ensure that the savannas are healthy and managed to provide long-term benefits (economic, aesthetic, social and cultural) to those who use them, and to sustain the biodiversity and habitats endemic to them.

We aim to achieve this vision through excellence in collaborative research, communication and education. We will ensure that optimum use is made of the collective knowledge of the Centre's partners. Where critical gaps exist in that knowledge, we will endeavour to fill them. The process by which we ensure knowledge is applied, or new knowledge created, will be adaptive and iterative.

Our activities will respond to important new and emerging integrated natural resource management issues in the savannas.

We will act as an honest broker between the different sectors in the savannas, respecting and valuing the diverse perspectives and systems of knowledge: traditional, experiential and scientific. The Centre will be a vehicle for constructive dialogue and investigation, and will act to foster decisions and outcomes based on knowledge and shared understanding.



One CRC project is assisting Indigenous people across northern Australia record and document traditional knowledge. Here researchers record food preparation at Saxby waterhole with Kuku-thaypan Elder Tommy George Snr who is assisted by Olkolo Elder Danny Banjo (seated). Standing from left, Willie Brim, Victor Steffensen (research officer) and Lawrence Morgan (Balkanu Corporation)

Photo: Nick Smith

Key result areas

The Centre is working to achieve its objectives by focusing on specific key result areas that define project outputs and activities.

To achieve these outputs we use a structured, theme-based approach, which also provides the focus of project integration. Projects are discrete, generally multi-agency activities and contribute to the Centre's research themes, and address specific issues and research questions. Priority issues and research questions are identified in conjunction with our stakeholders.

Key result areas are:

■ Healthy landscapes – ecological, economic, and social

- indicators and attributes of landscape health
- predictive models of landscape function and the impact of management.

■ Sustainable management systems

- landscape monitoring systems and associated management tools and packages
- management strategies and decision support tools for fire, grazing, tree clearing, and restoration
- best-practice environmental management systems and codes of practice.

■ Viable and socially desirable regions

- policy and management options and associated guidelines and tools for regional planning and development
- regional strategies for multiple land use, re-structuring and re-invigoration.

■ Productive and capable people

- communication strategies and processes
- learning packages and education strategies
- knowledgeable and employable postgraduate researchers
- more skilled and knowledgeable staff in partner agencies who are able to work in multidisciplinary teams using participative processes.



Improved fire management is one of the ways the Centre can assist with better land management in the savannas. In some areas reduced grassy fuel loads and frequency and intensity of fire may be affecting pasture productivity. Elsewhere, frequent wildfires are destroying fire-sensitive habitats

Photo: Kathryn Thorburn

Research themes

The key result areas are achieved by the Centre's research themes, which are tools for integration, rather than isolated programs. They constitute major areas of research and stakeholder interest for managing tropical savannas, and are the basis for generating outputs and products and ensuring the relevance of our mission.

The themes are:

Landscape Ecology and Health

Through this theme, we aim to understand the ecological principles behind savanna landscape health and the patterns and processes that maintain it.

Industry and Community Natural Resource Management

Through this theme we will develop, with industry and community participation, principles and methods for using and monitoring our natural resources sustainably.

Regional Planning and Management

Through this theme, we will develop regionally focused planning, administration and management models for communities that are ecologically sustainable, economically viable and socially desirable.

Human Capability Development

Through this theme, we will provide information and learning products—as well as ways of using them—for people living and working in northern Australia



The Centre's research themes are tools for integration: linking research, helping people and communities, and developing a better understanding of savanna landscapes



Photos (from left): Greg Calvert, Dennis Schulz, Leonie Norrington, Sam Setterfield

Project and issue management

Research within a theme is carried out by several research projects. Projects may contribute to more than one theme and are the Centre's core business units, in which most research occurs and on which most discretionary expenditure occurs. However, the CRC's activities are more than the sum of the projects within the Centre.

The mix of projects that contribute to a theme may need to change to accommodate emerging issues. Management of these issues that are not being addressed by individual projects are a core responsibility for the CEO and theme leaders. Identification and prioritisation of these issues is the role of the Board, with advice from the Savanna Advisory Committee.

Project management

The following principles are applied in relation to project management:

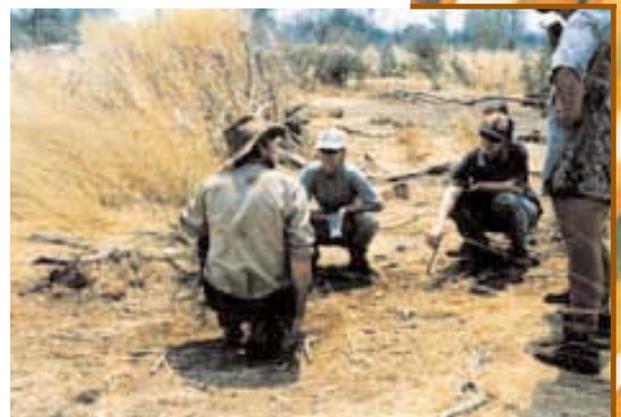
- As per established operating practice, accountability for project management and delivery is directly between the CEO and project leader. The Management Group provides advice to the CEO on operational matters relating to projects and other Centre activities.
- Theme leaders play a key role in integrating project activities into the broader suite of research, and in identifying areas where new projects or activities should be developed.
- Theme leaders also play a key role in facilitating the development of these new projects that relate to the key result areas associated with their theme.
- Projects will often address outcomes in more than one theme. Project leaders therefore need to interact with all the theme leaders relevant to their activities.
- The full suite of projects are managed as an integrated set by a team consisting of the CEO and theme leaders. This will involve regular discussion across the team to review progress across all projects and agree on resulting actions.
- However, it is necessary that a theme leader be identified as having a primary responsibility for interaction with each project. This responsibility can be agreed within the team and might change over time.

Issues management

The Centre will strive for efficient issues management to focus the investment of time and resources so CRC innovation and impact is sustained. This process occurs in consultation with the Board of Management, Savanna Advisory Committee and Management Group, with the core responsibility for action and outcomes vested in the Chief Executive Officer and theme leaders.

Key issues for the Centre to invest in and work through will be regularly identified, prioritised and actioned by agreement between theme leaders and the CEO.

A living document summarising issues and their status will be reviewed, extended and prioritised at regular meetings and actioned between meetings.



Many projects are multi-agency, with research contributing to more than one theme and key result area

Photo: Bob Karfs

Measuring performance

The Centre will monitor and evaluate its performance, making regular use of external review processes, including scheduled reviews by the Commonwealth, and by its own independent group of 'critical friends', the Scientific Program Advisory Group. The following areas will be evaluated:

Quality and relevance of the research program

Quality research will be published and delivered in internationally and nationally recognised media and forums. Beyond that, we will carefully monitor the utilisation and adoption of the Centre's research outcomes, at enterprise and property scales (uptake of management strategies and tools), regional scales (adoption of planning processes and frameworks) and more widely (incorporation of CRC research outcomes and processes into policy). We will pay particular attention to integrated research outcomes that are a product of the synergies across research disciplines and across sectors. Projects and activities that demonstrate integrated outcomes will receive higher priority for support, and this will be actively communicated to all partners and participants.

Utilisation and commercialisation of research outputs

The Centre will establish an incorporated entity to manage intellectual property. We will commission external bodies to objectively evaluate the direct and indirect economic impact of our activities. Our Savanna Advisory Committee will be well informed, and in turn will continue to monitor the relevance and representativeness of outcomes from a stakeholder perspective. We will establish specific issues forums, and monitor the support and impact of these. We will continue to monitor and improve the access to our research findings. We will actively support associate partnerships with bodies of research users, such as regional resource management bodies.

Education and Training

One of the most important contributions we can make to the savannas in Australia, and internationally, is the enhancement of human capacity to respond to the challenges and opportunities of managing savanna landscapes. Our success in this area



The Centre has developed the Graduate Certificate, Diploma and Master of Tropical Environmental Management courses. Staff from the Centre's partner agencies involved in environmental management across northern Australia, teach coursework and supervise projects in these programs

Photo: Sam Setterfield

will be evaluated on a number of indicators, including the number and quality of graduates from Centre supported programs. Quality will be judged by monitoring post-graduation employment, and by seeking feedback from both employers and graduates on the quality of programs and the learning experience. The adoption of CRC sponsored educational products by learning institutions is another important indicator. Monitoring of improvement of skills and understanding at an informal level, both among partners and stakeholders, will be factored into as many of our human capability development activities as possible.

Collaborative arrangements

We will continue to encourage multi-agency projects, and give priority support to those activities that genuinely incorporate both research providers and research users into project activities. Collaboration with partners, and the formation of new partnerships, will be monitored through the project management process.