

# **Rapid Creek Catchment Advisory Committee**



**Annual Report 1999/2000**

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## TABLE OF CONTENTS

<b>BACKGROUND.....</b>	<b>3</b>
<b>MEMBERSHIP.....</b>	<b>4</b>
<b>MANAGEMENT PLAN AND REPORTING FRAMEWORK .....</b>	<b>4</b>
<b>TERMS OF REFERENCE.....</b>	<b>5</b>
<b>MEETINGS AND ATTENDANCE .....</b>	<b>6</b>
<b>ON-GROUND WORK IMPLEMENTED .....</b>	<b>7</b>
Vegetation Management .....	7
Fire Management .....	7
Major Landowner Activities.....	8
Darwin City Council.....	8
Defence (RAAF Base Darwin) .....	8
Land Administration (Department Lands, Planning and Environment).....	9
Darwin International Airport.....	9
Waterwatch .....	10
Wet Season Results .....	10
Dry Season Results .....	10
Rapid Creek Landcare group .....	11
<b>EDUCATION AND AWARENESS.....</b>	<b>12</b>
Access and Interpretation.....	12
Website .....	12
<b>PLANNING ISSUES ADDRESSED.....</b>	<b>13</b>
Yankee Pools area .....	13
Rural Living Blocks between Trower Road and McMillans Road .....	13
Beneficial Uses.....	15
Darwin International Airport.....	16
<b>APPENDIX.....</b>	<b>17</b>
Progress on Catchment Issues at a Glance .....	17

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## **BACKGROUND**

Found in Darwin's northern suburbs Rapid Creek drains a catchment of nearly 30 square kilometres. The creek and its catchment form the only significant freshwater system in Darwin and hence it is a valuable community asset. Increasing development in the catchment has necessitated closer management to ensure the protection of remnant vegetation and in particular the creek amenity and its water quality.

In 1994 the Darwin City Council and Greening Australia NT developed the Rapid Creek Management Plan. The plan proposed a range of strategies for implementation. The most fundamental requirement was to set up a management structure to coordinate implementation of the plan. In response to the plan and requests from the Rapid Creek Landcare Group the Minister for Lands, Planning and Environment offered to set up a catchment management committee for Rapid Creek in 1996.

The Rapid Creek Catchment Advisory Committee was established through the Water Act in 1996. The Committee considers and advises on policy for management of the natural resources of the catchment.

The Rapid Creek Catchment Advisory Committee advises the Controller of Water Resources who in turn is accountable to the Minister for Lands, Planning and Environment. The Committee is required to report at least annually to the Minister and more frequently at significant milestones.

This is the third Annual Report.

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## MEMBERSHIP

- |    |  |                         |
|----|--|-------------------------|
| 1. | Officer Commanding, Defence Northern Region  | Commonwealth Government |
| 2. | The General Manager, Darwin International Airport  | Industry                |
| 3. | His Right Worshipful the Lord Mayor of Darwin  | Local Government        |
| 4. | The President, Larrakia Association  | Community               |
| 5. | The Chancellor, NT University  | Industry                |
| 6. | The Chairperson, Greening Australia NT   | Community               |
| 7. | The Chairperson, Rapid Creek Landcare Group  | Community               |
| 8. | The Assistant Secretary, Natural Resources Division, Department of Lands, Planning and Environment | NT Government           |
| 9. | Member of Legislative Assembly   | Community               |

The Committee is chaired by the Manager, Landcare, Natural Resources Division, Department of Lands, Planning and Environment.

## MANAGEMENT PLAN AND REPORTING FRAMEWORK

The *Rapid Creek Management Plan* (1994) is the Committee's Working document. This document was fully revised and circulated to all major stakeholders and libraries in April 2000. This is called the Management Plan throughout this report.

The Committee has devised a Reporting Framework based on the Catchment Strategies described in Chapter 5 of the Management Plan.

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## TERMS OF REFERENCE

Using the Rapid Creek Management Plan as a reference that will be continually revised and updated, the Committee will consider and advise on policy and procedures and promote community awareness and research in the catchment.

<b>Terms of Reference</b>	<b>Reported Under</b>	<b>Page</b>
1. Progressively review the Rapid Creek Management Plan	Planning Issues Addressed: <ul style="list-style-type: none"> <li>• Management Plan and Reporting Framework</li> </ul>	4
2. Through advice, coordination and initiatives implement the Management Plan maximising stakeholder involvement (seeking funding and implementing works)	On-Ground Work Implemented: <ul style="list-style-type: none"> <li>• Vegetation Management</li> <li>• Fire Management</li> <li>• Major Landowner Activities</li> </ul>	7 8 9
3. Advocate the catchment values to the community	Education and Awareness: <ul style="list-style-type: none"> <li>• Access and Interpretation</li> <li>• Website</li> </ul>	12 12
4. Provide advice as appropriate on land use in the catchment	On-Ground Work Implemented: <ul style="list-style-type: none"> <li>• Vegetation Management</li> <li>• Fire Management</li> <li>• Waterwatch</li> </ul> Planning Issues Addressed: <ul style="list-style-type: none"> <li>• Yankee Pools area</li> <li>• Rural Living Blocks between Trower Road and McMillans Road</li> <li>• Beneficial Uses</li> <li>• Darwin International Airport</li> </ul>	7 8 11  13 13 14 15
5. Promote research on processes which affect catchment values. Collect and review relevant research and surveys carried out or affecting the catchment	On-Ground Work Implemented: <ul style="list-style-type: none"> <li>• Major Landowner Activities</li> <li>• Waterwatch.</li> </ul>	9 11

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## MEETINGS AND ATTENDANCE

The Committee met once during the 1999/2000. The meeting date was 15/10/99. A sub committee met on 25/01/00 to discuss further NHT funding. Attendance was as follows:

ORGANISATION	MEMBER/DELEGATE	MEETING	SUB COMMITTEE
Defence	Tony Law	1	
Darwin International Airport	Peter Stoner	1	
Darwin City Council	Bob Morgan	1	
	Jim Mitchell	1	1
Larrakia Association	Donna Jackson	1	
NT University	Hugh Clelland	1	
Greening Australia	Wendy Basire	1	
	Graeme Suckling	1	1
	Mike Clark	1	
	Liza Schenkel	1	1
Rapid Creek Landcare Group	Peter O'Hagan	1	1
Natural Resources Division, LPE	Rebecca Tunks	1	1
Member of Legislative Assembly	Phil Mitchell	1	
Chairperson	Libby Benson	1	1
Minutes / Correspondence / Coordination	Lesley Alford	1	1

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## **ON-GROUND WORK IMPLEMENTED**

### **Vegetation Management**

Greening Australia continued to coordinate the on-ground work for the Rapid Creek Integrated Catchment Management Project. This was the final year of a three year project funded by the Natural Heritage Trust and administered by Defence. The project aimed to increase the extent of natural plant communities by strategically revegetating areas. It also aimed to reduce the density and extent of weed invasions in and adjacent to remnant native vegetation.

The Rapid Creek Integrated Catchment Management Project funded under the Bushcare program with a total Natural Heritage Trust contribution of \$100,425 was completed at the end of the 1999/2000 financial year. At the end of this three year project in June 2000, a total of 21 hectares of monsoon forest, transitional and coastal monsoon forest communities had been strategically revegetated with 10 hectares re established using direct seeding and natural revegetation. A total of 30,000 seedlings planted in the catchment. 18 kilometres of fencing erected within the creek system to control access to sensitive areas. A coordinated approach between all landowners resulted in 87 hectares managed to control weeds within the catchment. Tree planting's were carried out by local schools, Green Corps, Rapid Creek Landcare Group, landholders and Greening Australia volunteers. Key areas of revegetation have been at Charles Eaton Drive, Rapid Creek Road and Casuarina Coastal Reserve. All seeds used for the project have been sourced from local native species within the catchment. The final outcome was a total of 340 hectares of existing vegetation protected/enhanced by the project.

In April 2000 Greening Australia provided all landowners and managers with copies of the Rapid Creek Catchment Weed Management Plan and Rapid Creek Catchment Revegetation Strategy. The plans were supported with a number of training workshops in 2000. The long term success of the project depends on a commitment by landowners to continuing this work.

### **Fire Management**

Greening Australia NT coordinated an integrated fire management approach with the Darwin City Council, the Department of Lands, Planning and Environment, Department of Defence, Darwin International Airport, Parks and Wildlife Commission NT and the NT Fire and Rescue Service. Fire is managed using a combination of techniques such as hazard reduction slashing and control burning. Fire has been excluded from sensitive Melaleuca forests and riverine monsoon vine forests. Appropriate controlled burning regimes have been implemented for woodland and transition communities.

In March 2000 Greening Australia provided all landowners and managers with a copy of the Rapid Creek Catchment Fire Management Plan which incorporated the maps showing the fire management areas. This plan has resulted in greater coordination between all land managers and has reduced the incidences of uncontrolled burns throughout the catchment.





Mangrove communities dominate the lower reaches of Rapid Creek

## **Major Landowner Activities**

### **Darwin City Council**

Darwin City Council's involvement has been in the management of land under its direct control as well as substantial support to the Integrated Catchment Management Project undertaken by Greening Australia NT. Fire protection, weed eradication and revegetation have been a major component of the program. Mowing contractors have been engaged to reduce fuel loads and control weeds around the areas being revegetated.

Detailed land management has been confined to the Water Gardens where picnic facilities, playgrounds, toilets and amenity areas are provided for visitors to the Rapid Creek Open Space System. Council's expenditure along Rapid Creek including the Water Gardens was \$291,000 in 1999/2000.

### **Defence (RAAF Base Darwin)**

A comprehensive weed management program was initiated incorporating a 3 year integrated weed management plan developed using aerial and ground surveys of weed distribution. Giant Sensitive Plant (*Mimosa pigra*) eradication works undertaken and subsequent monitoring implemented. Control works implemented for a range of weed species including Gamba grass, Mission grass, Para Grass, Calopo, Centro and Snakeweed. Total value of weed control works \$70,400.

Fire management coordinated to supplement weeds program as recommended in Rapid Creek Fire Management Plan prepared by Greening Australia NT. Hazard reduction burning combined with firebreak maintenance to reduce areas subjected to unauthorised burning. Total value of fire management works \$7,000.



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Initial Environmental Review completed, with the following priorities for investigation/action identified:

- Hazmat storage and handling
- Fuel storage & handling
- Construction site management
- Weed management
- Mosquito breeding habitat and vector management
- Fire management.

Future works planned to address priority issues raised from Initial Environmental Review during 2000/01.

### **Land Administration (Department Lands, Planning and Environment)**

In line with the Fire Management Plan produced by Greening Australia NT this Department is now maintaining the firebreak on the western boundary of section 4494 and carrying out hazard reduction slashing on the cleared area of this Section. The maintenance is carried out every three weeks during the wet season and every six weeks during the dry season. Approximately \$7,000 was spent during the last financial year.

### **Darwin International Airport**

The following initiatives were carried out during the 1999/2000 reporting year with the aim of minimising the impacts of airport operations on Rapid Creek.

- Environmental Management Plans were prepared for the airport to provide a framework for addressing a range of environmental issues including flora and fauna, storm water and erosion.
- A one-year monthly storm water baseline monitoring study was commenced in May 2000 to look at a large range of analytes. The aim of this study is to assess what pollutants are entering Rapid Creek from the airport and use the results to pinpoint problem areas. This will allow resources to be focused on minimising pollution from these areas in the future. Ongoing monitoring will be used to assess further problems and the effectiveness of efforts to minimise pollution.
- An ongoing annual budget has been allocated to the control of erosion on the airport. This money will be used to address the highest priority areas with the aim of minimising erosion, and sedimentation to Rapid Creek.
- Floating hydrocarbon booms have been put in place in the four drains leading from developed areas on airport. These are designed for removing even low levels of floating hydrocarbons from storm water and are permanently in place.
- A new regime of monthly pump-outs of interceptors and apron flame traps has removed the potential for accumulated pollutants to be washed out into Rapid Creek during periods of heavy rain.

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- Programmed weed and fire management has been carried out across the airport in accordance with Vegetation Management Plan for the airport. This work was carried out by an experienced contractor and has resulted in a significant reduction in residual fuel loads produced by weed grass species. Funding has been set aside for an ongoing program of weed and fire control works to manage the problem.

## **Waterwatch**

### **Water Quality 1999-2000**

#### **Wet Season Results**

Results recorded during the Wet were typically variable with high readings recorded at the beginning of the season, with the first flush occurring during October. Nutrient values, turbidity and dissolved oxygen all fluctuated dramatically, influenced by the various pollutants entering the creek system. Although as the Wet set in the water quality improved with little to no evidence of contamination.

#### **Dry Season Results**

Dry season water quality was focussed on the lower sites within the catchment, as higher sites dry up. The dry season water quality rated an average to poor for ecosystem health. However no readings exceeded the ANZECC guidelines, the nutrient levels are still too high for aquatic biodiversity. Improvements in stormwater management and quality in the catchment needs to be addressed to ensure the creeks future health.



Water quality monitoring is providing important information on ecosystem health

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## Rapid Creek Landcare group

Rapid Creek Landcare group consists of approximately 50 members with a small core of active members attending monthly working bees. Group activities complement landowner management activities and are primarily focused on weed control and tree planting. Regular activities include removal of woody weeds such as *Coffee Bush* and *African Mahogany*, maintenance of revegetation sites, rubbish removal and tree planting.

The landcare group is represented on the Rapid Creek Catchment Advisory Committee and this ensures public input into planning/management issues affecting Rapid Creek



Coffee Bush is one of the main weed species targeted by the Landcare Group.



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## EDUCATION AND AWARENESS

### Access and Interpretation

The Rapid Creek Access and Signage Master Plan was formally presented to the Minister Parks & Wildlife and Darwin City Council by the Chairperson RCCAC. The Council fully endorsed the principles of the Master Plan. The RCCAC identified the following high priority components for funding under the Urban Enhancement Program:

- Path parallel to Lakeside Drive in the Creek Mouth Zone connecting the University grounds to Trower Road;
- Path parallel to Rapid Creek Road connecting McMillans Road and Trower Road on the western side of the creek in the Water Gardens Zone

### Website

The Rapid Creek Plan of Management and last years Annual Report was placed on the Department of Lands, Planning and Environment's Web site on the Internet and linked to a report on the Rapid Creek Landcare Group and the Rapid Creek Waterwatch reports. The Web site can be found at [http://lpe.nt.gov.au/dlpe/ecare/landcare/areport\\_contents.htm](http://lpe.nt.gov.au/dlpe/ecare/landcare/areport_contents.htm)



Events like Darwin Garden Fair are used to promote catchment issues to the community

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## **PLANNING ISSUES ADDRESSED**

### **Yankee Pools area**

There are currently four landowners in the area known as Yankee Pools where there are issues of weed invasion, inappropriate fire regime, altered drainage and uncontrolled vehicle access. The Committee considers that the most effective way of addressing these issues is to reduce the number of landowners within the Yankee Pools area. The Yankee Pools management proposal developed by the Committee recommends that one organisation manage the land with financial contributions being made from all landowners.

In order to formalise the process negotiations are currently in progress for a parcel of vacant crown land within the creek corridor to be transferred to the Darwin City Council. The Darwin International Airport Board has approved realigning their boundary so that a 75 metre wide buffer along the creek in this area would revert to the Department of Defence. Ultimately if these two actions take place, it will reduce the number of landowners to two – the Department of Defence and the Darwin City Council. Defence is prepared to lease its land to Darwin City Council who then becomes the management body for the Yankee Pools area.

### **Rural Living Blocks between Trower Road and McMillans Road**

Following a public consultation process and submission from the Committee, the *Rapid Creek Planning Concepts and Land Use Objectives* were declared in March 2000. The Rural Living Precinct consists of the eleven allotments zoned RL1. Eight of these lots are on the eastern side of Rapid Creek between the Darwin General Cemetery and the Water Gardens fronting onto Freshwater Road. Three lots are west of the creek and south of Solomon Street, Millner fronting onto Rapid Creek Road.

The following table summarises the Rural Living Precinct Objectives:

Land Use Objectives	Planning Concepts
To protect and enhance the natural values of the Rapid Creek corridor	<p>* At subdivision, land abutting Rapid Creek, to the width of the lot and generally 30 metres in depth, should be transferred to the Darwin City Council, at no cost to the Council, for a buffer to Rapid Creek.</p> <p>* Areas adjacent to the creek corridor should be rehabilitated in accordance with the strategies of the <i>Rapid Creek Management Plan</i>.</p> <p>* Clearing of natural vegetation should be kept to a minimum.</p>
To promote development which complements and enhances the rural living character of the area.	<p>* Any rural living lot created by subdivision should be a minimum of 1 hectare. It is recognised that in certain situations, lots close to, but less than 1 hectare, may be appropriate.</p> <p>* Subdivision should minimise the impacts on the amenity of adjoining residential areas.</p> <p>* Siting of new development should allow generous building setbacks between existing and future buildings on adjoining lots.</p>
To minimise the adverse impacts of agricultural activities on the environmental quality of Rapid Creek and the amenity of adjoining properties	<p>* Development control should be provided over new agricultural activities.</p>

(Source Rapid Creek Planning Concepts and Land Use Objectives DLPE 2000)

Amendment No. 160 of the Darwin Town Plan 1990 rezoned the creek corridor from O2 (Open Space – Organised Recreation) to O3 (Open Space – Conservation) in February 2000.

Some of the committee’s concerns were addressed in this document including:

- No filling or excavation allowed within the SU50 (Specific Use No.50) zone without the consent of the Development Consent Authority.
- Clearing of vegetation within the SU50 zone is only permitted with the consent of the Development Consent Authority.

## Beneficial Uses

In their submission to the Land Use Objectives process the Committee requested that the Beneficial Uses of “Aquatic Ecosystem Protection” and “Recreation and Aesthetics” be extended to include the freshwater reaches of the creek. These uses are defined as *Aquatic Ecosystem Protection* = sustain freshwater systems, support fish and shellfish production, protect wildlife wetlands and riparian vegetation and *Recreation & Aesthetics* = swimming, boating, visual enjoyment. Following a public consultation process in late 1999 these Beneficial Uses were declared on 31 January 2000.



*Brochure promoting beneficial uses consultation process*



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## **Darwin International Airport**

The Commonwealth Minister for Transport and Regional Services endorsed the Darwin International Airport Final Masterplan and Environment Strategy (FMPES) in October 1999. Some of the Committee's concerns were addressed in this document. Including:

- The buffer zone along Rapid Creek extended to include all land within 75 meters of the centre line of the creek.
- The proposed service station relocated away from Rapid Creek.
- One hectare of intact bushland on the corner of McMillans and Bagot Roads will be retained as a bushland park.
- Fuel interceptors are to be installed on drains leading to the creek from aircraft aprons to separate out hydrocarbons.

Following the endorsement of the FMPES by the Minister the airport has moved into the implementation phase of the strategy. In order to ensure that the commitments made under this strategy are met, the airport has employed a full time Environment Coordinator. The Commonwealth has appointed a Airport Environment Officer to the Department of Transport & Regional Services to oversee the compliance to environmental controls outlined in the Darwin International Airport Final Masterplan and Environment Strategy.

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## APPENDIX

### Progress on Catchment Issues at a Glance

1997

- 21 hectares of Monsoon ,Paperbark, Transitional and Coastal Monsoon Forest strategically revegetated.
- 30,000 seedlings planted in catchment.
- 10 hectares re-established using direct seeding and natural regeneration.
- 18 kilometres fencing erected within creek system.
- 1.5 kilometres of pedestrian track installed to control access along creek. Completed October 1999.
- 40 community members and land holders participated in Arbor Week activities.
- 87 hectares managed cooperatively by landholders, GANT, Landcare members, community volunteers and GreenCorps.
- 31 January 2000 Beneficial Uses of the freshwater reaches of Rapid Creek formally declared.
- 23 February 2000 Rapid Creek Planning Concepts and Land Use Objectives 2000 formally declared.
- Rapid Creek Catchment Fire Management Plan produced March 2000.
- Rapid Creek Catchment Revegetation Strategy Report produced.
- Rapid Creek Catchment Weed Management Plan produced April 2000.
- Rapid Creek Revised Management Plan reprinted April 2000.
- Rapid Creek Access and Signage Master Plan presented to Minister Lands Planning and Environment, representatives Parks and Wildlife Commission and endorsed by Darwin City Council.
- Rapid Creek Natural Heritage Trust funded Integrated Management Project successfully completed June 2000.

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