

# 1. INTRODUCTION

## 1.1 BACKGROUND

The Rapid Creek system is a small, relatively intact natural drainage system, fully contained within the urban area of Darwin's Northern Suburbs. The system contains a number of important remnant vegetation communities, which represent a diverse range of ecosystems including mangroves, savannah woodland, riverine monsoon forest, grasslands and paperbark swamps.

The Creek is approximately 9.8 km long, rising in a swampy area to the east of Amy Johnson Avenue and emptying into the sea, at the southern end of Casuarina Coastal Reserve. The total area of the catchment, as defined by the topography, is approximately 28 km<sup>2</sup>. (Refer Figure 1.1).

Rapid Creek, like urban creeks and rivers throughout Australia, is under various pressures due to its location within a developing urban area. Rapid Creek, however, is special in that the entire length of the creek channel is virtually undeveloped. Degradations of the natural systems has not yet reached a critical stage and the original natural landscape is still evident.

However, the various urban pressures on the system have resulted in deterioration of the environmental, scenic and recreation values of this resource. The principal evidence of these impacts may be seen in:

*Habitat Loss:* A number of communities are contracting, and others have undergone substantial structural changes (eg paperbark swamp).

*Tree Canopy Changes:* Loss of native species in the canopy and lack of canopy continuity has resulted in establishment of weed species, particularly through the mangrove community, on the fringe of the monsoon forest and wetlands.

*Erosion:* Bottom scouring of the creek, general bank erosion, channelling and sedimentation is occurring in many areas.

*Recreation:* Uncontrolled access has resulted in soil and vegetation degradation. Recreational opportunities in other areas are limited due to restricted access and lack of facilities.

*Water Quality:* While water quality in the Creek is relatively good, there is the continuing threat of high pollutant and nutrient loads from stormwater and accidental pollution as the result of the airport operations.

*Weeds:* A number of invasive grass species and exotic garden escapes are establishing in the catchment, successfully competing with native species.

*Dumping:* Depositing of garden and other wastes is unsightly, aids spread of weeds and alters soil nutrient balances.

Underlying the many threats that face Rapid Creek are the three key impacts of urbanisation that are common to many of the natural areas within our build landscape - habitat loss, decreased water quality and public/community alienation. Strategies that appropriately address *water management, vegetation management and community involvement* in the care and control of Rapid Creek will ensure the protection and enhancement of this natural resource and thereby become a source of pride and enjoyment both for the local community and the agencies responsible for its management.





The remnant vegetation communities of Rapid Creek a valuable resource within the Darwin area, however they are threatened by the impacts of urbanisation.



## **1.2 THE NEED FOR A MANAGEMENT PLAN**

Darwin City Council, government agencies, various interest groups and the local community have been aware for some time of the deteriorating conditions of Rapid Creek and its environs. Specific initiatives have been adopted from time to time in an attempt to stop the degradation.

It was this concern for the Creek that prompted Greening Australia, in conjunction with Darwin City Council, to seek Federal funding under the 'Save the Bush' programme, to undertake a management study of Rapid Creek. It was recognized that a coordinated approach was required to address the inter-related and often complex nature of the threats to the health of the creek.

A Management Plan is the appropriate mechanism for such an approach, bringing together the substantial body of information that exists on the creek's natural systems and water quality/management, assessing the inter-relationships of contributing impacts and recreation opportunities, cultural heritage, evaluating community attitudes and perceptions, and setting out clear cut strategies with priorities for action and their implicit costs.

The completed Management Plan then provides a practical working tool for future planning and management within the catchment, guidelines for community involvement and the approaches to be adopted in developing detailed designs and maintenance programmes for recommended projects within the catchment.

In undertaking this study and preparing the Plan, the specific objectives set by the client have been of prime importance. The three objectives summarised in the brief require that an integrated plan of management for Rapid Creek and its environs is developed which will:

- stimulate greater awareness of the presence and importance of the area;
- promote increased protection and appropriate management of the whole system;
- encourage government agencies and the community to co-operate in the development of protection and rehabilitation measures for the creek system.

## **1.3 THE PLANNING CONTEXT**

The open space components of the study area falls under the ownership, care and control of a number of Government agencies including Conservation Commission, Darwin City Council, Federal Airports Commission, Royal Australian Air Force and other public/private bodies, including Northern Territory University, Marrara Sports Complex and Northlakes Golf Course.

The existing planning legislation in the Northern Territory does not clearly identify the level of Government responsibility for adoption and implementation of a catchment management plan within an urban area.

Given this situation, and the minimal planning powers at local Government level, it would appear that the establishment of a Rapid Creek Catchment Management Trust or an effective alternative management body that includes both public and private representation would be the preferred management approach. A fuller discussion of this proposal is contained in Section 4.

## **1.4 METHODOLOGY AND FORMAT OF THE PLAN**

The following brief summary sets out the approach and methodology adopted to achieve the objectives of the Plan and sets out the chosen format. This involved four key stages as follows.

### **1.4.1 DATA COLLECTION AND SURVEY**

This involved the consultant team in site specific document research on flora and fauna, catchment management practises, hydrology and water quality, and other physical features of the area. The information was supported by field checks where appropriate (including vegetation survey; visual character appraisal; recreational use and access), discussions with Council and Government agencies.

### **1.4.2 COMMUNITY LIAISON, ISSUES ANALYSIS AND REVIEW**

Formal workshops were held with representatives of the various Government Departments and agencies, and with the general public. The concerns and issues raised in these meetings, along with detailed evaluation and analysis of surveyed data led to the development of preliminary concepts and draft strategies. These were reviewed by the Steering Committee, comprising Greening Australia and Darwin City Council and Government agencies prior to being placed on public exhibition.

### **1.4.3 STRATEGY DEVELOPMENT**

Following analysis of numerous issues, evaluation of the agencies' objectives and giving regard to community concerns, the team considered a number of options before identifying a broad coordinated concept for the entire creek catchment.

Following on from the preferred option the team has then defined a series of detailed strategies that address the key issues, providing clear guidelines for the future design, implementation and management of specific projects and actions. The strategies are presented in both a written and graphic form.

### **1.4.4 PRIORITIES, RESPONSIBILITIES AND COSTS**

In tandem with the assessment of various options and the subsequent development of preferred options and detailed strategies, the team has assessed the cost benefit of all practical alternatives.

In arriving at final strategies the Plan sets out not only the anticipated costs but identifies priorities for staging the works. Appended to the priorities is an assessment of 'achievability' of given projects, by which the client may assess the relative ease with which a strategy may be implemented (eg without need to acquire land etc) to a clear cost benefit. For each strategy, the authority or group responsible for implementing the works is identified

Finally, the Plan provides details of suitable funding sources for various projects from State and Federal agencies.