



Australian Government

Australia's National Programme of
Action for the Protection of the Marine
Environment from Land-Based Activities

October 2006



case study 23: darwin harbour regional plan of management

executive summary

The Northern Territory (NT) Government has funded the preparation and early implementation of the *Darwin Harbour Regional Plan of Management* and the concept of an integrated approach to sustainably managing the Region's resources. This Plan has been developed by the Darwin Harbour Advisory Committee (DHAC), whose membership includes representatives of the Darwin Port Corporation and local government, but with a majority of community and industry representatives.

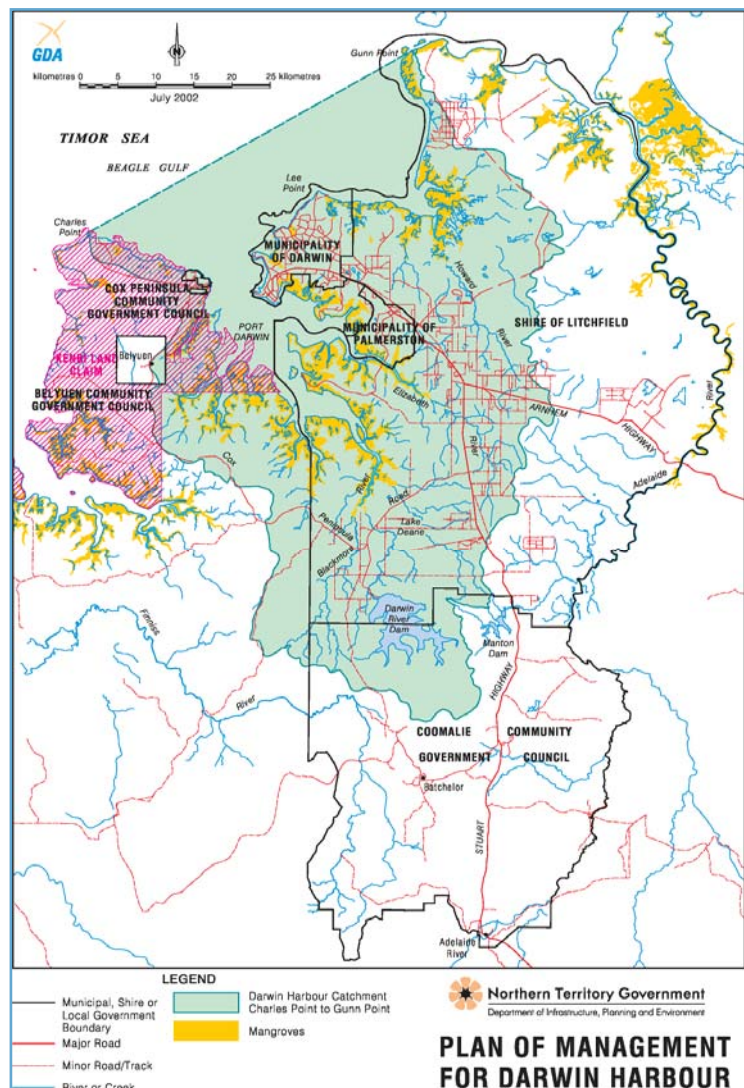
The Committee has thoroughly documented the first year of implementation (2004-2005) of the Plan by government, industry and the community, including efforts to safeguard and improve water quality. The committee noted that while progress is being made toward implementing the Plan, the legislative basis to underpin and strengthen both the Plan and DHAC has not yet been addressed. The committee also recommended that a formal government process be adopted to ensure that development applications impacting on the Region are forwarded to DHAC so that it can provide timely advice to the Minister.

introduction

In August 2002, the Darwin Harbour Advisory Committee (DHAC) was established by the Northern Territory Minister for Lands. DHAC's task was to oversee the development and implementation of the Darwin Harbour Regional Plan of Management. This was undertaken during 2003 and included a public participation program. The Northern Territory Cabinet endorsed the Darwin Harbour Regional Plan of Management on 20 February 2004.

The Darwin Harbour Regional Plan of Management area covers Port Darwin, Shoal Bay and their catchments. This area (referred to as the Darwin Harbour Region) covers 3227 square kilometres and extends from Charles Point to Gunn Point including the estuarine areas and tributaries of Woods Inlet, West Arm, Middle Arm, East Arm, the Howard River and all of the land that drains into these waterways (see [Figure 1](#)).

An important characteristic of the waterways of the Darwin Harbour region is the small catchment. The catchment area within the Darwin Harbour region only is 2417 square kilometres. This is about three times the size of the estuarine area, while the catchment to estuary area ratio for other Australian estuaries typically is much greater (e.g. 14:1 for Moreton Bay and 10:1 for Port Jackson).

Figure 1: Darwin Harbour

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Six local governments are contained within the Darwin Harbour region. These are the Darwin City Council, Palmerston City Council, Litchfield Shire Council, Cox Peninsula Community Government Council, Belyuen Community Government Council and the Coomalie Community Government Council.

high natural values

Much of the natural vegetation of the Darwin Harbour Region remains intact. In November 2003, only 18 per cent had been cleared. The Darwin Harbour region possesses a rich flora with 26 species listed as threatened or endangered.

Freshwater lagoons subject to permanent or seasonal inundation occupy 14,798 hectares (6.1 per cent) of the Darwin Harbour Region. The characteristics and vegetation of these wetlands varies considerably. They are a prominent feature of the landscape in the Berrimah, Palmerston, and Howard Springs area. The endangered palm species *Ptychosperma bleeseri* is known to occur at three wetland locations near Howard Springs.

The mangrove forests of the Darwin Harbour Region are floristically diverse, containing 36 species. Covering 26,298 hectares, this is one of the largest tracts of mangroves in the Northern Territory. The Darwin Harbour Region mangroves are protected for conservation under the Northern Territory Planning Scheme.

The marine invertebrate fauna of the Darwin Harbour Region is poorly known and is still being described. It is estimated that in excess of 3000 marine invertebrate species occur there. There also is a rich fish fauna with 415 known marine species and 24 freshwater species. Of the fishes recorded from the Darwin Harbour Region, 15 species are classified as threatened under the IUCN Red List classifications. However, only 3 species recorded in the Region are listed as protected or partially protected under Northern Territory legislation.

The Darwin Harbour Region supports rich communities of marine mammals and marine reptiles, particularly sea turtles, and sea and estuarine snakes. Of the six species of sea turtle that are found in Darwin Harbour, Flatback and Olive Ridley Turtles nest on Casuarina Beach.

pollution issues

The key water quality and quantity issues that are highlighted in the Darwin Harbour Regional Plan of Management are:

- Secondary treated sewage is discharged into Darwin Harbour;
- There are untreated sewage overflows into Darwin Harbour during heavy rainfall;
- Sediments and associated contaminants are dispersed during dredging and disposal of dredge spoil;
- Development disturbance to acid sulphate soils in mangroves and other coastal habitats leads to contamination of waterways;
- Excessive soil erosion and sedimentation from human activities in the Harbour catchment can have detrimental effects on the marine and estuarine environment;
- Runoff from agriculture and horticulture can include pesticide residues, as well as nutrients and sediments;

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- Industrial trade wastes are discharged through the sewage treatment system;
- Leachate from waste disposal sites, landfills and reclamation sites can be high in contaminants;
- Release of contaminants, nutrients and sediments can occur through accidental spillage during port handling and transport; and
- Altered freshwater flow regimes into wetlands and waterways and changed water tables can impact adversely not just on freshwater ecosystems, but also mangroves, tidal marshes and marine ecosystems and the biodiversity they support.

the plan of management

The Plan of Management, prepared in consultation with the community, cites a vision for the Darwin Harbour Region as: *"A biologically rich and diverse marine and terrestrial environment for use and enjoyment today and for our children tomorrow... The Plan of Management for the Darwin Harbour will ensure development is in line with the protection of ecosystems, and the maintenance of the harbour's value as a recreational, cultural, commercial and scenic resource."*

Five goals have been identified in order to achieve sound management of the many uses of the region. These goals are:

- To maintain a healthy environment;
- To support the sustainable recreational use and enjoyment of the environment;
- To encourage ecologically sustainable development;
- To protect cultural and heritage values; and
- To foster community ownership and participation in management.

Desired outcomes are listed for each goal, followed by strategies and actions. Over 200 actions are listed in the Plan under the 38 strategies. Many of the actions involved gathering basic information crucial for management planning. They included monitoring significant ecosystems and species and incorporating this into an Integrated Monitoring Program; assessment of the sources and impacts of pollution (including sediments, nutrients and contaminants) on biodiversity and ecosystems of significance, and evaluating the impacts of modified catchment hydrology and Harbour hydrodynamics on ecosystems and biodiversity.

implementation of the plan

Implementation of the Darwin Harbour Regional Plan of Management is the responsibility of DHAC and a small secretariat. DHAC has nine members drawn mostly from community and industry. The Darwin Port Corporation and local authorities also are represented.

The Northern Territory (NT) Government made a special budget allocation of \$265,000 in 2004-2005 to implement priority actions from the Plan and \$300,000 in 2005-2006. A 50-page Status Report on Implementation was released by DHAC in December 2005. Five government agencies contributed to the review.

The Status Report covers 108 actions, including those due for completion in June 2005 and those that are ongoing, and tracks their performance against Key Performance Indicators and the timeframes listed in the Plan of Management.

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Information on the status of each action has been provided by the responsible agency. Where it has not been possible to complete an action, the agency has provided a revised timeframe for implementation.

Three working groups have been established and are providing advice on ecosystem monitoring, ecosystem research, and indigenous issues. These working groups have overseen a number of priority projects.

The identification and mapping of the significant habitats of the Harbour and its catchment are being finalised.

The Ecosystem Monitoring Group has begun exploring options for an Integrated Monitoring Program with the focus on developing an integrated approach to monitoring the marine waters of Darwin Harbour during 2006. DHAC is currently undertaking water quality assessments in the Darwin and Bynoe Harbours, and parts of Litchfield Shire as part of the National Action Plan for Salinity and Water Quality.

A stormwater strategy and implementation plan has been drafted in conjunction with a steering committee and has completed a public consultation process. Exercises to test the effectiveness of the Darwin Harbour Oil Spill Contingency Plan were conducted in 2004 and 2005, and the Darwin Port Corporation conducted a review/audit of their waste reception facilities. In addition, an increased number of businesses are complying with the requirements of the Trade Waste Management System and installing pre-treatment devices before discharge of trade wastes to sewers.

The NT Government funded a survey of public awareness and attitudes towards the Plan of Management. This indicated positive support for the management approach. Findings were used to produce a Communications Plan, which received a special budget allocation for 2005-2006 and is being implemented. Many other actions have been implemented by the relevant stakeholders.

In general, DHAC's review of the 15 recommendations of the Plan concluded that progress is being made toward implementation. Most of the actions due for completion in 2004-5 have either been either completed or are in progress. However, the legislative basis to underpin and/or strengthen the Plan and the role of DHAC has not yet been addressed by the NT Government. They recommend that the Plan should be recognized under the appropriate legislation and DHAC renamed and appointed as a statutory advisory committee.

Processes of information exchange between some areas of government and DHAC also required improvement. DHAC recommended that a formal government process needed to be established to ensure that development applications impacting on the Region are forwarded to DHAC so that it can provide timely advice to the Minister.

The DHAC Chairman noted in the Foreword to the *Status Report*: "*The Darwin Harbour Advisory Committee has struggled at times to clearly define its role and mode of operation with this uncertainty reflected in our working relationships with government departments and agencies. It is this role clarification that is crucial to the future success of the committee and the implementation of the Plan of Management.*"