

Biodiversity

Principles:

The Tiwi Islands are valued for their endemic, rare and threatened species and environments. These areas and the ecological processes essential for their continued existence should be maintained.

Including Tiwi people and industry representatives in the allocation of biodiversity values is fundamental for the protection of areas of high value.

The region's biodiversity values have been determined through contemporary scientific survey and subsequent analysis. Value has been assigned based on the intact nature of the region, and the relative rarity of species and environments in both regional and broader contexts. In general, the biodiversity of the Tiwi Islands is considered to be in good condition. Detailed survey results, analysis of data and assessments of value are covered in Woinarski *et al.* 2000 & 2003.

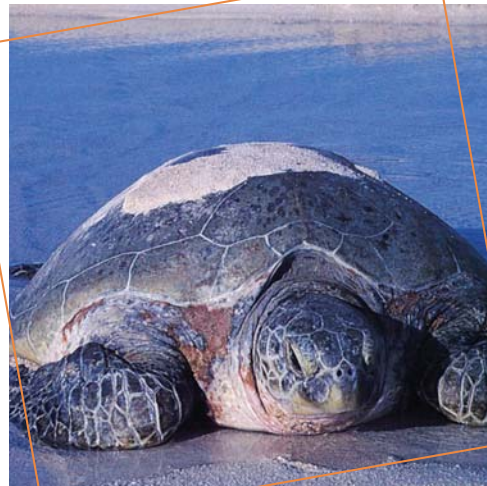
There are areas where the Tiwi determination of value does not correspond with the contemporary view, and these differences need to be addressed in the decision-making process for natural resource allocation and subsequent management.

The north coast of Melville Island has some of the highest numbers of Olive Ridley turtle nesting in Australia, and is also one of the key areas for dugongs in the Northern Territory (Chatto 2001). Seagull Island is also the largest reported crested tern rookery in Australia (Watanabe 1999). Turtle, dugong and tern eggs are sought after food for Tiwi residents, and Tiwi leaders have expressed concern from time to time about the sustainability of local harvests. An assessment in 2001 by the Parks and Wildlife Commission of the Northern Territory found that the current harvest of tern eggs is sustainable, and that the larger threat to Olive Ridley turtle nesting was predation by wild dogs. There is no current information on the status of the dugong population in the region.

Given the importance of the north coast of Melville Island to both Tiwi and non-Tiwi values, protection of the area's marine biodiversity should be a high priority.

Marine Harvest is currently undertaking sea cage aquaculture in Port Hurd off the western coast of Bathurst Island. Preliminary biodiversity surveys have been carried out, and an Environmental Management Plan is currently in draft form. Anticipated impacts, risk assessments and recommended actions have been determined for a wide range of issues for both the estuarine and land based aspects of the facility. A monitoring programme has also been recommended, and includes monitoring the mangrove area, extent and composition; benthic infauna; epiphytic algal growth and plankton counts.

Biodiversity management and monitoring protocols have also been developed as a component of the current plantation forestry project, which is to date the largest scale land development on the Islands. Monitoring requirements under the *Environment Protection and Biodiversity Conservation Act* focus on the threatened bird species red goshawk (*Erythrotriorchis radiatus*), masked owl (*Tyto novaehollandiae melwillensis*) and partridge pigeon (*Geophaps smithii smithii*). Additional management protocols have been determined for the threatened mammal butler's dunnart (*Sminthopsis butleri*), and other elements that may impact on biodiversity.



The Tiwi Land Council's Plantation Forestry Strategic Plan includes a commitment for monitoring additional species such as hooded robin (*Melanodryas cucullata melvillensis*), brush-tailed rabbit-rat (*Conilurus penicillatus*), black-footed tree-rat (*Mesembriomys gouldii*), *Typhonium jonesii*, *Typhonium mirabile* and *Desmodium tiwiense*.

Also in the Forestry Strategic Plan are management and monitoring commitments for wet rainforests, and elements that may impact on biodiversity values (surface and groundwater quantity and quality, weeds, quarantine, soil erosion and fire). These commitments were based on preliminary biodiversity information available at 2000, and incorporated the known biodiversity values for the region as a whole. More detailed studies carried out during 2001 and 2002 are currently being analysed by the Parks and Wildlife Service of the Northern Territory, who will provide further recommendations.

It is important that the current and ongoing development of biodiversity management and monitoring recommendations is an inclusive process involving all key stakeholders - landowners, industry and government.

Outcome:

Natural resource management that supports the health and functioning of areas of significant nature conservation value.

Objective:

4. Develop and implement processes that preserve and protect areas and resources of high scientific and contemporary conservation value.

Recommended Actions:

- 4.1 Promote early and full inclusion of Tiwi stakeholders in the determination of biodiversity values. Include stakeholder views in recommendations for management.
- 4.2 Develop and implement consultative mechanisms for the preparation of species recovery plans for threatened species in the region.
- 4.3 Progress sea-closures and other protective measures for the north coast of Melville Island as a high priority (see also Coastal Management).

- 4.4 Initiate and manage ongoing research on turtle and dugong population and habitat status, including recommendations for management.
- 4.5 Progress biodiversity management and monitoring protocols for aquaculture and forestry through an inclusive negotiation process involving landowners, industry and government. Revise and update prior commitments where relevant.
- 4.6 Implement existing commitments for biodiversity management and monitoring under the *Environment Protection and Biodiversity Conservation Act*.
- 4.7 Record on the Tiwi GIS as protected from significant changes in land use:
 - Seagull Island.
 - The mouths and landward waters of Shark Bay, Snake Bay, Goose Creek, Lethbridge Bay, Brenton Bay and adjacent areas significant for turtle breeding, seagrass and seaweed.
 - Known locations of listed threatened species, and associated buffers.
 - Environments listed as threatened.
 - Rainforest areas.
 - Riparian zones.
 - Wetlands.
 - Other significant habitats for animals listed under international treaties.
- 4.8 Flag on the Tiwi GIS as requiring further investigation when considering changes in land use:
 - The northern coastline of Melville Island.
 - Treeless plains.
 - Data deficient species, with the priority on endemic species.
- 4.9 Continue discussions for areas set aside as reserves, with a focus on the provision of adequate resources for their ongoing management.

