4. CONSERVATION STATUS

4.1 Overview

A conventional analysis of the rainforests of Cape York Peninsula, in terms of their representation within the National Park system and the rarity of the habitats and the species they contain, would not provide conclusions that would be realistic in terms of assessing their conservation status or provide useful guidelines for their future management. This is because alone of all the rainforested regions of Australia, the rainforests of this region remain almost entirely undisturbed by the direct activities of European man. There is no current threat to any of them that could alter this status, and none foreseeable in the longer-term future except for possible pressures for localised timber extraction operations at Iron Range, Bamaga, and the southern end of the McIlwraith Range.

In this case, the rarest habitats are there because of the vagaries of pre-European and climatic history and the existence of unusual conditions of topography, soil and moisture. There is little point in directing specific attention to their conservation unless there is some clearly identified process that is degrading them and threatening their long-term stability or survival.

Neither can the current official listing of Rare and Threatened species be used as a reliable guide to the status of listed species, although throughout this study it has been used as a useful starting point. At the beginning of the work the knowledge of the distribution of individual species and their habitat preferences was rudimentary in relation to the situation in other Australian rainforested areas. The official list, however, when used in conjunction with the knowledge gained during the study, allowed some useful conclusions to be drawn.

It needs to be stated that whether or not a particular piece of rainforest is contained within a National Park or other conservation reserve is a matter that has little current significance for its management as representative habitat. It does, however, provide a legal basis for action if and when threatening processes and appropriate management action have been defined. For that reason it is given weight in this section that it would not warrant if current impacts only were being considered.

Table 1 (see page 113) was drawn up with the intention of providing a simple and realistic guide to the conservation status of the 72 rainforest types described. Bearing in mind the comments in Section 3.1 it is not considered that any more detailed statement than that, or more sophisticated analysis than is provided by Section 3.3, would be useful in other than academic terms. The table lists the presence, for each rainforest type, of features under six specific criteria that are described and explained below.

Whether the type is within a National Park reservation…

Comments on the appropriateness of this have been made in Section 4.1. The location of National Park boundaries, if current management inputs remain unchanged, is irrelevant to the future of rainforest habitats except as legislative guarantee against mechanical destruction. At this stage, however, the most basic conservation requirement is that samples of all significant habitats be given legislative protection. For that reason where rainforest types are not represented within the National Park system it is important to know why and to consider what can be done to remedy the situation.

The listing for this column describes the situation as at the end of June 1995. There are a number of large park proposals or proposed park extensions that could, if gazetted, drastically change it.

Common and widespread types…

This refers to rainforest types that are commonly encountered over a wide geographic area, either as many small patches or a few large ones. No single type was found to be common throughout the Peninsula, but several were found to be common in at least one-third of the area of rainforest occurrence. Table 1 clearly indicates that the current (June 1995) National Park system has some significant inadequacies in that several types listed as common and widespread have no representation within it.

Restricted…

This refers to those types restricted to a few occurrences within a narrow geographic zone.

Single occurrence only…

This refers to those types, which, as far as can possibly be determined by the survey techniques used, are confined to one discrete patch. This judgement can be made with a high degree of confidence where the type depends on topographic, geological, or soil peculiarities that can be readily recognised on aerial photographs. The patches are almost entirely small, generally of the order of five to fifty hectares, but one type (Type 15) covers approximately one thousand hectares.

Very high biological values…

This category is an amalgamation of features relating to rarity and species diversity, disjunct occurrences, and species at their geographical limits. Because it is not possible to have full confidence in the current official listing of Rare and Threatened species, there is an element of subjectivity in this category.

Under threat…

No rainforest type was found to be under clear threat of annihilation by clearing for agricultural or pastoral pursuits. Nor are there any current known proposals for timber extraction. While the history of land development in Queensland would indicate that no vegetation type, even the most common, should be considered sure to survive even a decade or two ahead, it is considered, for a range of reasons related to both public attitudes and the practicalities of development, that the rainforest types of Cape York Peninsula are some of the least likely forest types of Queensland to face development pressures.

Undoubtedly there are evolutionary changes in the rainforest communities that are likely, on the scale of thousands of years, to change them irrevocably. Some habitats would be changing in floristic composition and even expanding or contracting in area. Some species may be heading towards extinction. It is not possible to recognise such trends through the exercise of a study such as this. What is clear, however, is that under current land use practises, aided by invasions of exotic plants, the depredation of feral animal species and changed external fire regimes, some rainforest types are not able to reproduce their canopy. Without specific and active management efforts they may be considered to be heading towards extinction. It is these cases that are noted as under threat, and it is towards them that the most urgent management efforts must be directed.

Table 1: Summary of conservation status of rainforest types in Cape York Peninsula.

Forest Type #	In National Park	Common and Widespread	Restricted	Single Occurrence Only	Very High Biological Values	Under Threat
1						
2						
3	●		●			
4						
5	●					
6	●				●	
7	●				●	
8	●		●			●
9			●			●
10			●			
11	●		●			
12	●		●			
13	●		●			
14	●		●			●
15	●			●	●	●
16	●		●			
17	●		●			
18				●		
19	●					
20	●		●			
21			●		●	
22	●		●			
23	●		●			
24	●					
25	●		●			●
26				●	●	●
27	●			●		
28	●			●		
29	●		●			
30						
31	●			●		
32			●		●	
33			●			●
34	●		●			●
35	●	●				
36	●			●		
37	●			●		

Forest Type #	In National Park	Common and Widespread	Restricted	Single Occurrence Only	Very High Biological Values	Under Threat
38	●	●				
39	●			●		
40	●			●		
41	●			●		
42		●				
43	●			●		
44	●			●		●
45			●			
46		●				
47		●				
48						
49	●					
50		●				
51	●		●			
52		●				
53	●	●				
54	●					
55		●			●	
56			●			
57	●					
58	●		●			
59	●			●	●	
60	●	●				
61			●			
62	●	●				
63			●		●	
64						
65			●			
66		●				
67	●		●			
68	●		●			
69	●		●			
70			●			
71	●					
72	●		●			

4.2 Conservation Priorities

Conservation priority is allocated below in terms of a need for action to ensure the long-term survival of a particular rainforest type. In the face of a certainty that resources will not be available to attend to all required actions at once, highest priority is given to habitats of the greatest rarity and biological importance (richness of species, rarity of taxa) and with the most immediate threats to their survival. On this basis the highest conservation priorities must be given to those types that are noted in Table 2 as under threat and which are also rare and of high biological significance. Conservation priorities are indicated in the sub-sections that follow.

4.2.1 High Conservation Priority

The highest overall conservation priority must be given to those types that are identified in Table 2 as under threat and confined to a single occurrence. There are three of these, **Types 15, 26** and **44**. Of these **Type 26** is the most critically important because it has remarkable biological and biogeographical values and is not within a National Park. **Types 15** and **44** are considered to be less critical in priority because they have a legislative basis for management action, being included within National Parks. **Type 44** is considered to be the least biologically important of the three.

Type 26 is, with a very high degree of probability, confined to an isolated small patch of forest near the head of the Howick River, within Kalpowar Pastoral Holding, but very near to the boundary of the former Starcke Pastoral Holding. It is described from a single site, Site 50 (see Appendix) and is dominated by a species of tree, only recently described, which was considered at time of description to be one of the rarest trees in Australia, known only from a coastal sand ridge on Silver Plains Station east of the McIlwraith Range. This is a remarkable extension of range for this tree, and another species that is found in the subcanopy, because it occurs in a small island of forest in a vast sea of sclerophyll woodland and in a much lower rainfall environment. The forest is also notable in surviving in a hostile environment, on flat ground, unprotected from fire by rock pavements, so unlike the situation in most patches of rainforest in similarly dry parts of the Laura Basin.

The threat to the survival of this forest type comes from extreme pressure from feral animals and the high likelihood of damage to its margins from the current inappropriate fire regime. During the wet season almost all of its deep loamy soil is turned over to considerable depth by pigs, and feral cattle use it as a dry season camp. It is difficult to see how the regeneration patterns that created its present floristic composition and structure can be maintained in the face of such pressure, and in view of the inevitable arrival of exotic weeds that will be favoured by such disturbance. Currently the groundcover is fairly free of such invaders but there are several in the general area which will arrive sooner or later.

Type 15 (refer to Site 140). The existence of this type, occupying approximately 1 000 hectares within Lakefield National Park, was unrecorded prior to this study. In its preferred soil type, floristic association, and structure, it is dramatically different from most other types recorded during this study. For that reason high biological significance has been attached to it.

The basic dynamics of this community would be a rewarding field of further study. It appears to be rapidly expanding its borders in spite of what would, on the surface, appear to be a hostile fire environment.

Type 44 (refer to Site 54) is, like **Type 26**, dominated by a species whose nearest previous known occurrence was on the eastern side of the McIlwraith Range. Unlike the latter, type however, it is part of a significantly large rainforest mass with a diversity of forest types. It is

unique in its structural type, imposed by the co-dominance of the endemic feather palm *Wodyetia bifurcata*. It is known from a single occurrence on the eastern foothills of the Melville Range, but because its canopy signature on the 1:80 000 aerial photographs was not clearly distinctive there is a slight possibility that there could be other occurrences within a few kilometres of the location of Site 54. It is considered threatened by extreme pig activity during the wet season. So great is this damage that hillsides have been destabilised with considerable downslope movement of soil and rocks. Much of the groundcover has been replaced by the exotic grass *Axonopus compressus*.

4.2.2 Under Threat

There are six other types (other than those three referred to in 4.3.1 above) which are noted in Table 2 as being under threat. These are **Types 8, 9, 14, 25, 33,** and **34**. Highest conservation priority of these must be accorded to two that are not currently protected by National Park status, **Type 9** and **Type 33**. These are very different types, the former being swamp forest in high rainfall areas, and the latter confined to colluvial footslopes on the dry western margins of the McIlwraith Range.

Type 9 is a permanent swamp type of coastal alluvial plains from Cape York to the Rocky River. Nowhere common or extensive it is subjected to heavy dry-season damage by pigs, which often leaves no groundcover of any sort, and probably severely disrupts regeneration patterns.

Type 33 is represented by Site 66, which is recorded as being on Mungkan-Kaandju National Park near Birthday Mountain. There is however some doubt about the position of the boundary in that location and its occurrence on the park, if at all, would only involve a very small area. It could not be considered to be protected in any significant way under National Park tenure, and thus on Table 1 is recorded as not on a National Park. It is described as semi-deciduous microphyll vine forest and occurs as isolated small patches on colluvium at the extreme western (and low rainfall) extension of the rainforests of the McIlwraith Range. Because of its largely rock-free loamy soils, and the sheltered moist environment it provides, it has become a wet season focus for pig foraging and a dry season haven for resting cattle. Damage from both is usually severe. In addition it is very susceptible to invasion and damage by occasional fires. The problems of its conservation are indeed severe.

The remaining types noted as under threat are all represented to some extent in a National Park, and thus there is a basis for early action for protective conservation measures. They are all, however, far from secure in their long-term prospects for survival unless that action is taken.

Type 8 is another example of permanently moist habitat of restricted area and distribution, which provides a dry season magnet for feral pigs. In that respect the problems of its conservation are similar to those of **Type 9** above. It is a riparian mesophyll vine forest that grows along small streams issuing from the base of granite ranges. It is uncommon and very restricted in area wherever it occurs, because the stream flow which supports it usually disappears during the dry season, within a short distance of the base of the range from which it emerges. Rainforests of this type are found in scattered locations from the catchment of the Claudie River south to the Rocky River, with isolated occurrences in the Cape Melville area.

Type 14 is the only type that is considered to be closely related to **Type 15** in structure and floristics and occurrence on cracking clay soils. It is, however, much more widespread, occurring in a number of localities in the catchment of the Archer and Wenlock Rivers. A small part of its total area of distribution occurs within the Mungkan-Kaandju National Park. It is one of the few rainforest types that are potentially the target of clearing operations. It

occupies fertile soils that could provide opportunity for pasture improvement and would be easily cleared. In addition, because it provides a potential shelter for cattle during mustering operations, yet provides no forage, it would, by most graziers, be considered a liability.

Type 25 covers most of the rainforests of the Laura Basin proper (the only notable exception being the forest of **Type 26**), which grow on flat or gently sloping non-rocky areas. These are all forests developed on small alluvial fans at the base of the sandstone Bathurst Range. It also includes a small alluvial/colluvial deposit at the base of a granite hill in the Cape Melville National Park. All forests of this type provide daytime shelter for cattle and the majority are suffering moderate to severe degradation as a result. Site 39, within the Cape Melville National Park, is also suffering from a heavy infestation of exotic weeds as a result of such activity.

Type 34 (exemplified by Site 6), is entirely confined to steep gully heads within the Altanmoui Range section of the Cape Melville National Park. It is tall, floristically simple forest, surrounding permanent springs, and is being severely impacted by cattle and pig activity, largely concentrated in the dry season.

4.2.3 Unrepresented within Conservation Reserve System

There are a number of types which, as indicated by Table 2, are common and widespread, yet remain unrepresented within the National Park system. That would appear to be a serious omission and should give those types a high priority under an avowed Government objective to include within the National Park system representative samples of all major ecosystems. Mindful, however, of current action to expand the National Park system on Cape York Peninsula, it would appear that most of the deficiencies identified here will be addressed in the near future.

There are seven rainforest types identified under the above category and unrepresented in the National Park system. Five of them, **Types 42, 46, 47, 50**, and **52** are forests of granite hills and plateaux in the higher rainfall parts of the McIlwraith Range. All of these are strongly represented in current proposals affecting the McIlwraith Range and the former Silver Plains aggregation.

Type 55 has a more uncertain future. This is the common type on the ferruginized sandstones of the Bamaga-Lockerbie area. It is the only rainforest type to have been subjected to significant logging activity. In spite of several proposals over more than twenty years to give protection to all or part of the 'Lockerbie Scrub' there is no current firm action to achieve this.

Type 66, which is a forest of remnant lateritic land surfaces, poses a much more difficult conservation problem than other types mentioned in this section. It occurs in scores of small patches across a wide area north of the Wenlock River and from the Wenlock south to the Mission River. It also occurs across a range of tenures (Aboriginal Land, Pastoral Holding, and Mining Lease) but is not significantly included in any Conservation Reserve. It would be difficult to design such a reserve to include a significant sample of this type in terms of area, without including large areas of land to which no special conservation priority could be attached. Some other strategy to adequately address the issues arising from the high conservation priority of this type will have to be devised. There are currently no National Park proposals that would include any of it.

4.2.4 Rainforest Types Confined to a Single Occurrence Only

The most important finding of the study is the endemic nature of much of the rainforest of the Melville and Altanmoui Range area. This is most strikingly illustrated by consideration of the

distribution of those distinct rainforest types that appear to be confined to a single occurrence only. These are outlined in Table 3.

The table indicates two areas where unique habitats are concentrated, the Melville and Altanmoui Ranges and the Mt. Cook area near Cooktown. It is believed, however, that the forests of Mt. Cook represent an outlier of the Wet Tropics biogeographic region and should not be given significance in relation to an analysis of the distribution and conservation status of the rainforest of Cape York Peninsula. If the Mt Cook forests are removed from Table 3 it is seen that 6 unique forests have been identified from the Melville and Altanmoui Ranges and 5 from the rest of Cape York Peninsula. Of those 5, 3 are from the Laura Basin.

It is tempting to conclude from the above, and other evidence amassed during the study, that, in relation to rainforests, the Laura Basin and adjacent areas is not an outlier of the main rainforest masses to the north and south, but a distinct botanical province in its own right. The area involved would be the Laura Basin proper (as defined in geological terms), and coastal areas to the east of it from Cape Melville south to about the Starcke River.

Table 2: Distribution of distinct rainforest types confined to single occurrences in Cape York Peninsula.

Location	Rainforest Types with Single Occurrence Only	Total Number of Types
Melville-Altanmoui Ranges	27, 28, 39, 43, 44, 59	6
Lakefield National Park	15	1
Evans Bay (Cape York area)	18	1
Iron Range	31	1
Mt. Cook	36, 40, 41	3
Kalpowar P.H. (Howick R.)	26	1
Starcke P.H. (Brown Peak) (now National Park)	37	1

Such a conclusion would also be supported by an examination of the distribution of those types listed in Table 1 as being of restricted distribution (but of more than one occurrence). There are 28 such types for the whole of the Peninsula and fifteen of these are confined to the Laura Basin and adjacent areas. These figures are given great significance when it is noted that these forests would represent in total area less than five percent of the area of rainforest in the study area. They attest to the likely long isolation from each other of the numerous small units of forest involved.

Clearly, the high conservation priority of the rainforests of the Laura Basin and adjacent areas identified in this study warrants much more attention than they have received in the past, in biological research and management effort.