# PART XII

# CONCLUSIONS AND RECOMMENDATIONS

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## CONCLUSIONS

The Drysdale River National Park (DRNP) provides a representative section of the north Kimberley.

Scenically it is diverse, gorges and cliffs contrasting with broad rivers and plains. Spectacular waterfalls are found on Palmoondoora Creek (Morgan Falls), on the Drysdale River (Solea Falls) and on Johnson Creek (Cracticus Falls) as well as on many of the smaller tributaries.

The Park encompasses a cross section of the main geological formations of the north Kimberley—only the laterites are poorly represented. This is in marked contrast to the Prince Regent River Nature Reserve (PRRNR) in which one rock type, the King Leopold Sandstone, predominates (Miles and Burbidge 1975).

Biologically the Park is intermediate between the subhumid north-west Kimberley (of which the PRRNR is representative) and the semi-arid east Kimberley. The vegetation is predominantly low open-forest, low woodland and low open-woodland but there are small areas of vine thickets and, just outside the Park at present, a unique area of tall closed-forest. Fringing communities occur along creeks and rivers and around swamps.

The mammal collection, apart from the bats, was disappointing, only 28 native species being recorded. To some extent this may be due to the area being less rugged when compared to the Prince Regent but it also must be due to the lower rainfall. Three species of *Pseudomys* (Australian native mice) were common, reflecting the widespread occurrence of grassland and savannah woodland habitats. Some species of the more humid north-west Kimberley which occur in the Prince Regent appear to be absent from the Drysdale, e.g. the Little Rock Wallaby (*Peradorcas cincinna*) and Woodward's Rock-Rat (*Zyzomys woodwardii*). In contrast a *Planigale* and the Sugar Glider (*Petaurus breviceps*) which occur in the DRNP are not known from the PRRNR. The comparatively large number of 15 species of bats were recorded, including three species new to Western Australia.

The bird and reptile faunas of the Drysdale River area are intermediate between those of the north-west and east Kimberley although the rich tree frog list is identical with that of the PRRNR. Some north-west species reach their easternmost known limit at the Drysdale, e.g. the Green-winged Pigeon (*Chalcophaps indica*), Silver-backed Butcherbird (*Cracticus torquatus*) and a gecko (*Diplodactylus* sp.). However, 14 species of north-west Kimberley birds do not extend to the Drysdale. Most of these are primarily inhabitants of closed-forests and many of them are wholly or mainly fruit eaters. Non-forest species which do not extend to the DRNP include the Black Grass-Wren (*Amytornis housei*). There is a similar picture in some reptile groups e.g. the dragon lizards *Diporiphora a. albilabris*, *D. superba* and *Amphibolurus micropelidotus* are not found in the Drysdale River National Park.

The freshwater fish fauna of the Drysdale River National Park is the richest known in the Kimberley, 26 species being recorded. However, this number falls short of the known freshwater fish fauna of parts of the Northern Territory. Among those collected were three species known only from the Park.

The mollusc collection provides some interesting contrasts between the Drysdale River National Park and the Prince Regent River Nature Reserve. More aboreal snails and freshwater molluscs were found in the DRNP while the PRRNR has many more terrestrial snails inhabiting open-woodlands and grassed sandstone ridges.

The insect collection contains some 2 415 species. The lack of collections from much of the Kimberley makes interpretation difficult but this has been done for some of the better known groups. One interesting point is the abundance of one of the African dung beetles introduced into Australia to control flies. The nearest point of release of this species was Kalumburu, 50 km to the north, in February, 1970.

The list of plants so far contains 594 taxa, including 25 ferns and 537 flowering plants. Only 39 per cent of these were recorded in the PRRNR, indicating the difference between the two reserves. Several genera and species are not known elsewhere in the Kimberley, e.g. *Homalocalyx*, *Rapanea* and *Christella dentata*. The aquatic flora is quite rich with 30 species.

With the completion of biological surveys of the only two large conservation reserves in the Kimberley, a better appreciation is available of the degree of protection by reservation of Kimberley ecosystems. In considering the north and north-west Kimberley the degree of protection is high but improvements are still possible. Two obvious problems are the inadequate representation of the better quality vine-thickets (or "monsoon forest") and the complete lack of protection of the palm communities growing on laterite at Mitchell Plateau and elsewhere. Both could be overcome by providing a reserve at, or near, Mitchell Plateau—a matter now under consideration by the Conservation Through Reserves Committee of the Environmental Protection Authority. When considering the Kimberley as a whole it is clear that adequate conservation reserves are needed in other areas. Thus, among the mammals, the Northern Nail-tailed Wallaby (*Onychogalea unguifera*) and Dalgyte (*Macrotis lagotis*) are not protected by reservation because they do not inhabit the types of country in the two large northern reserves. These species appear to be most plentiful in the pindan country of the West Kimberley, a vegetation formation inadequately included in conservation reserves at present.

The biological survey reported in this publication shows that the Drysdale River National Park is an outstanding conservation area, rich in flora and fauna and with areas of spectacular scenery. The Park is inadequately served by roads and at present its development for tourist use would be difficult. However, it is already possible to enter parts of it via the adjacent cattle stations to the west and it is only a matter of time before the area begins

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to receive a significant visitor impact. Certainly the Park is much more accessible than the Prince Regent River Nature Reserve. Apart from the control of tourists an obvious management problem is the presence of wild cattle.

## RECOMMENDATIONS

The survey showed that the existing reserve was largely adequate. However, in two areas the Park can be greatly improved.

In the first place, the western portion of the National Park is cut off from the main part by a stock route. Unfortunately, the stock route contains much of the Carson Escarpment, one of the most striking physiographic features of the region. It is doubtful if the stock route has ever been used for its gazetted purpose. Cattle are now transported by road train, the days of droving being over. There would seem no impediment, therefore, to those parts of the stock route adjoining and dividing the National Park being included in it.

Secondly, there is a unique area of tall closed-forest in Dysphania Gorge at our site C5 and, just to the west, there is a permanent swamp of biological interest (Galaxy Swamp). In this region the Park boundary follows the Drysdale River, the west side of the river being part of Carson River Station. Not only does this mean that Dysphania Gorge and Galaxy Swamp are outside the Park but also that half of the spectacular Solea Falls lies outside. This somewhat incongruous situation could be remedied by excising a small area from Carson River Station and adding it to the National Park (see Fig. 1 in Kabay, this publication). The area concerned consists of rugged Warton sandstones and has no pastoral value.

One other point on which no firm recommendation can be made concerns the representation of King Leopold Sandstones in the Park. The survey of the Prince Regent River Reserve (Miles and Burbidge 1975) showed that this rock type is extremely rich in fauna. In comparison the area within the Park did not produce anything like the diversity expected. This is probably due to the relatively even terrain which does not provide suitable shelter. During the survey it was noted that there was an area of rugged King Leopold Sandstone to the north of the Park within Theda Station. This country was not examined during the survey and there are no data available on which to base any firm recommendation.

Finally, there seems to be no reason why this outstanding National Park should not receive Class A status under the Land Act. Such classification has no effect under the existing or proposed Mining Act but would provide proper recognition of its importance in the conservation of Australian ecosystems.

It is therefore recommended that:

1. **those parts of the stock route adjoining and dividing the Drysdale River National Park, be included in it;**
2. **an area of Carson River Station, as shown in Fig. 1 in Kabay (this publication), be purchased by negotiation and added to the Park; specifically the north-west boundary of this addition would be the line going north-west from the top westerly most corner of the Park to a point grid ref. Sheet 4268, series R611, 730:830, thence eastward to the left bank of the Drysdale River;**
3. **reserve B32853 be proclaimed Class A.**

## REFERENCES


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