

CONFIDENTIAL

CABINET DECISION

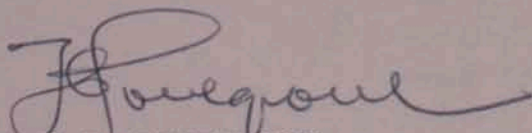
NO. 1981

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Submission No.: 1670  
Title: KINGS CANYON NATIONAL PARK

Cabinet decided :-

- a) that steps should be initiated by the Minister for Lands and Housing to acquire the King's Canyon National Park area as outlined in the Latz-Johnson Report;
- b) that acquisition proceedings may be discontinued in the event of :
  - i) the proprietors of Tempe Downs being prepared to voluntarily surrender the national park;
  - ii) their undertaking to the Northern Territory Government that they will not dispose of the balance of Tempe Downs Station without first offering it to the Northern Territory Government at a fair market price; and
- c) that further consultation between Conway and Lander, Tempe Downs proprietors, Department of Lands and the Conservation Commission proceed with a view to providing access to land from the old grazing licence area to augment the pastoral remnant of Tempe Downs.



T.C. LOVEGROVE,

(XXXXXXXXXXXXXX),

Actg. Secretary to Cabinet.

29 October, 1981.

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FOR CABINET

SUBMISSION No: ..... 1670 .....

Title:	KINGS CANYON NATIONAL PARK
Minister	CHIEF MINISTER
Purpose:	To create a major National Park over the Kings Canyon area.
Relation to existing policy:	It is in keeping with the policy of the Government to set aside representative areas and places of high park/tourist value in the Northern Territory to be managed in perpetuity to achieve these objectives.
Timing/ legislative priority:	Recommended high priority for consideration by Cabinet. Requirement for legislative drafting - nil.
Announcement of decision, tabling, etc:	Publicity at time of decision. Consultation with Northern Territory Cattle Council.
Acting required before announcement:	Nil.
Staffing implications, numbers and costs, etc:	One ranger initially, with a further four by the end of the development period. Access, staff housing and public recreation facilities will be required.
Total cost:	\$100,000 approximately in the 1981-82 financial year, followed by \$180,000 in provisional estimates for 1982-83. Further planning will be required following acquisition of the park.



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Department/Authority ..... LAW

COMMENT ON CABINET SUBMISSION No.

TITLE: ..... KINGS CANYON NATIONAL PARK

COMMENTS:

Paragraph 20 of the submission states that compulsory acquisition "... will be required under the provisions of the Crown Lands Act". It is correct that Part V of that Act would permit the Administrator, by proclamation, to resume part or all of a pastoral lease "... for national or public parks ..." (section 103(1)(a)(x)). It is also true that section 89 of the Lands Acquisition Act provides that nothing in that Act affects "... the acquisition of land by the Territory under any other law of the Territory" (paragraph (c)).

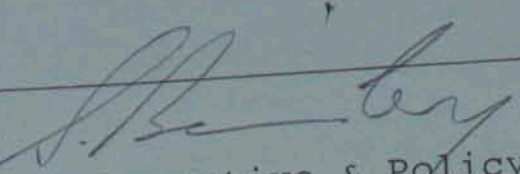
However, despite the availability of the quicker and simpler method of acquisition under the Crown Lands Act, it is suggested that it would be more appropriate to implement the proposal under the Lands Acquisition Act. The latter Act, on introduction, was described as the most modern and fair acquisition legislation in Australia and resort to the antiquated and seldom, if ever, used provisions of the Crown Lands Act would inevitably lead to strong public criticism.

With respect to the area of land to be acquired, recommendation 23(b) states -

"... as the Company maintains this will render the lease non-viable, it may be necessary to acquire the whole lease".

It is difficult to see the justification for the Company's position if it is correct that "... the previous manager of Temple Downs has advised that the area within the proposed park boundaries has certainly not been grazed for the past 20 years and that it is probable that the area was not grazed since Liddle was there in the 1920s'." (paragraph 8 of the submission).

....2/

SIGNED: S.R. Bailey   
DESIGNATION: Director, Executive & Policy Unit for Solicitor-General  
DATE: 16 October, 1981.

CONFIDENTIAL



Department/Authority...LAW.....

COMMENT ON CABINET SUBMISSION No.

TITLE: KINGS CANYON NATIONAL PARK.....

COMMENTS:

Obviously, compensation for compulsory acquisition of the whole of the pastoral lease area, if necessary or desirable, would be greater than for the 'park' area. However, it is also noteworthy that if it were intended to acquire the whole of the pastoral lease under the Lands Acquisition Act this would need to be justified on the basis of a "public purpose" i.e. "a purpose in relation to the Territory and includes a purpose related to the carrying out of a function by a statutory corporation". Therefore some valid justification would be required to support acquisition of the whole of the pastoral lease. A similar principle would apply to acquisition under the Crown Land Act.

Finally with respect to part acquisition of the lease, the Rules for the Assessment of Compensation (Schedule 2, Lands Acquisition Act) provide that in assessing the amount of compensation payable, the following may be taken into account:

"... the amount of any reduction in the value of other land of the claimant caused by its severance from the acquired land by the acquisition..." (Rule 2(b))

Again a similar principle is specifically provided for under the Crown Lands Act acquisition procedure.

SIGNED: S.R. Bailey

DESIGNATION: Director, Executive & Policy Unit for Solicitor-General

DATE: 16 October, 1981.

CONFIDENTIAL



*CONFIDENTIAL*

Department/Authority ..... PUBLIC SERVICE COMMISSIONER .....

COMMENT ON CABINET SUBMISSION No.

TITLE: ..... KINGS CANYON NATIONAL PARK .....

COMMENTS:

If the Submission is approved, then the envisaged need for an additional Ranger this financial year, is supported.

The need for a further four Rangers as park development proceeds, would need to be examined in more detail at a future date and additional supportive information supplied.

.....  
SIGNED:  P.J. BARTHOLOMEW

DESIGNATION: for PUBLIC SERVICE COMMISSIONER

DATE: 12 OCTOBER 1981 *CONFIDENTIAL*



*CONFIDENTIAL*

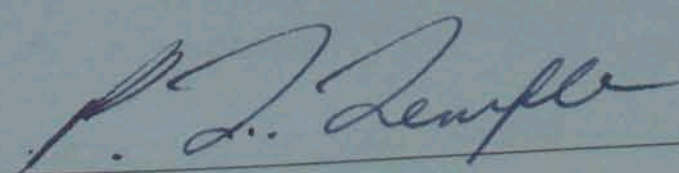
Department/Authority ..... DEPARTMENT OF THE TREASURY .....

COMMENT ON CABINET SUBMISSION No.

TITLE: ..... KINGS CANYON NATIONAL PARK .....

COMMENTS:

Whilst the concept is supported it should be noted that the Cabinet Submission is deficient in not providing Cabinet with the full financial implications of the development of a new National Park. The submission deals almost exclusively with the acquisition of the necessary land and except for references to comparatively minor expenditures in 1981/82 and 1982/83, does not indicate the capital and recurrent costs in future years of fully developing the Park to satisfactory standards.



SIGNED: P.F. TEMPLE  
DESIGNATION: Deputy Under Treasurer  
DATE: 14/10/81

*CONFIDENTIAL*



## THE PROPOSAL

1. To create a major National Park over the Kings Canyon area and George Gill Range in Central Australia.

## BACKGROUND

2. The proposal to create a National Park over the Kings Canyon area originated with the Northern Territory Reserves Board in August 1965. Negotiations to acquire a suitable area of adequate size continued without success.
3. The Chief Minister directed on the 18th September 1980, that Kings Canyon be acquired for National Park purposes, compulsorily or otherwise. The proposal for a Kings Canyon National Park has widespread public support.
4. Kings Canyon is on the western portion of the Tempe Downs pastoral lease. Tempe Downs Pastoral Company objected to the acquisition of an area larger than 50 sq.kms for National Park purposes. An offer to negotiate area and price was made by the Conservation Commission in correspondence dated 25th June 1981, however the Pastoral Company failed to respond to this. Subsequent information suggested they were considering sale of the property to a third party. Resumé of the final stages of negotiation with the Pastoral Company is at Attachment A.

## CONSIDERATION OF THE ISSUES

5. Area Proposed  
The area proposed for the National Park covers



approx. 1,000 sq.kms of the 4,815 sq.kms Tempe Downs Pastoral Lease and is indicated on the map in the accompanying report. Prior to the recently completed survey, the boundaries proposed for discussion purposes covered an area of approx. 783 sq.kms. The boundaries now proposed are practical for management purposes and optimise potential for tourist development and maintenance of conservation values. They use natural features to give control of water-shed, feral animals and fire, and minimise requirements for fencing.

6. Tourism Significance - local and regional

The tourist potential of the south-west corner of the N.T. is relatively untapped. A significant Kings Canyon National Park would allow for the development of motel and camping facilities and would rank with Uluru in terms of visitor attraction. It would form an important link in the undeveloped tourist route between Alice Springs and Uluru, taking in the West MacDonnells and Lake Amadeus. It would open up developments in the Mereenie and Palm Valley areas to tourism and would provide a boost to local operators at Angas Downs/Wallara Ranch and Conway/Lander camel safaris.

Currently, only Kings Canyon gorge and Reedy Rockhole are known and accessible to visitors to the area. The tourist potential of the northern side of the George Gill Range and the Boundary Range is undeveloped.



7. Conservation Values

The area is botanically the most important in Central Australia and contains a richer assemblage of plants than either Uluru or Finke Gorge. It contains a large number of rare and relict plant species.

The fauna represents an overlap between the fauna of the southern sandy deserts and the central ranges and is of considerable scientific interest.

Habitat suitable for the reintroduction of rare and endangered species is present and would complement the current breeding programmes for Bilbies and Western Hare Wallabies.

The area contains plant communities of interest to the pastoral industry and as these are ungrazed, would provide valuable scientific reference areas.

The area as a whole, and particularly that north of Ochre Hill and in the Hope Valley, contains a considerable number of relics of Aboriginal occupation.

N.B. Both tourism and conservation values are covered in the accompanying report by Johnson and Latz.

8. Pastoral Values

With present waters, the carrying capacity as estimated by the Condon system is 440 head. It should be noted that this system over-estimates for spinifex areas and this figure should be substantially reduced.



N.B. Grazing capacity is further discussed in the accompanying report on the subject.

The previous manager of Tempe Downs has advised that the area within the proposed park boundaries has certainly not been grazed for the past 20 years and that it is probable that the area was not grazed since Liddle was there in the 1920s. The yards and water supplies at Reedy Rockhole, Bagot and Kathleen Springs were built in about 1963 in order to comply with covenant requirements to enable the then owners to sell the lease. They have not been used.

#### OPTIONS

9. The options to be considered include -
- (a) Do not proceed with the acquisition of an area for a National Park.
  - (b) Seek a substantially smaller area than that proposed.
  - (c) Acquire the area of approximately 1,000 sq.kms as proposed for a major National Park.

The recommended option is (c). It seeks to conserve what has been described by both the Chief Minister and the Minister for Lands, as a priceless Territory asset. It has rational boundaries that allow for its conservation management in perpetuity. It allows for the development of a major tourist attraction that has the potential to rank with Ayers Rock in terms of its significance. Option (b) would only



provide a lesser tourist resort with no conservation value.

#### PUBLIC IMPACT

10. The pastoral lessee will oppose the acquisition. Tempe Downs Pastoral Company have given notice that they will attempt to mobilise opinion within the pastoral industry to similarly oppose the acquisition. It is considered that full and frank consultation with the Executive of the Northern Territory Cattle Council could neutralise this to a certain extent.
11. The third party that was apparently involved in negotiations to purchase the property was the Aboriginal Development Commission. It is probable that certain interests, operating through the Central Land Council, will similarly oppose the acquisition. Again, this opposition could be minimised by involving Aboriginals with traditional association with the area in consultation on the management planning for the park.
12. The proposal, if accompanied by effective publicity, should attract public support particularly from conservation interests and the tourist industry.

#### FINANCIAL CONSIDERATIONS

13. The Valuer-General valued an area of approximately 783 kms that was originally proposed at \$22,000. It is unlikely that his valuation for the revised proposal would exceed \$70,000 including improvements.



It should be noted that the value of the area for tourism and conservation is far in excess of this.

14. The creation of a Kings Canyon National Park has been approved as a new and expanded initiative for the 1981-82 financial year. Provision of \$30,000 has been made within the Commission's allocation for the salary of one ranger plus vehicle and ancillary equipment.
15. It is proposed that the development of the park would be staged over a period and would require Government funding for the upgrading of access, including an airstrip, staff housing and ancillary services, camping areas and other park facilities. A sum of \$180,000 has been provisionally estimated for 1982-83. Following acquisition of the park, firm planning can proceed and the maximum involvement of private enterprise will be sought in developing and operating motel and camping facilities.

#### EMPLOYMENT CONSIDERATIONS

16. It is proposed that one additional ranger be employed in the 1981-82 financial year. A further four rangers will be required by the end of the development period.
17. The creation of the National Park will have a spin-off in employment within the private sector, particularly in the tourist industry.



COMMONWEALTH AND LOCAL GOVERNMENT RELATIONS

18. Nil.

CO-ORDINATION AND CONSERVATION

19. The following Departments and Authorities were consulted and their advice is as follows -

Transport and Works - no objections.

Tourist Commission - support in principle.

Mines and Energy - no objections provided mineral exploration is allowed for under conditions to be set in the plan of management.

Primary Production - no objections as their initial assessment was that it would not affect the viability of the lease. The Department has undertaken to carry out a more detailed assessment if required.

Lands - could not support the acquisition of an area larger than 36 sq.kms over the immediate Kings Canyon Gorge. Their initial assessment was that a larger area would affect the viability of the lease.

LEGISLATION

20. Compulsory acquisition will be required under the provisions of the Crown Lands Act. It is recommended that the park area be alienated by issue of Special Purpose Lease to the Conservation Land Corporation. Following this, delcaration under Section 12 of the Territory Parks and Wildlife Conservation Act will be required.



PUBLICITY

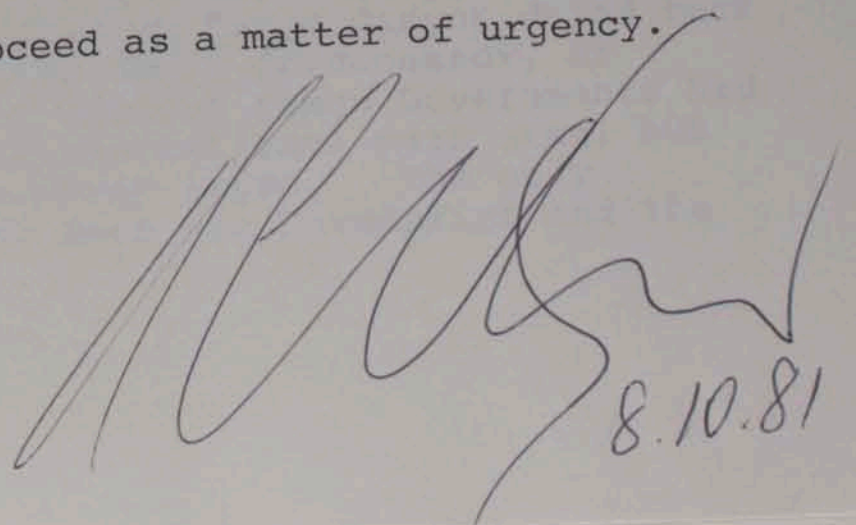
21. A press release is incorporated with the memorandum at Attachment A.

TIMING

22. In view of recent developments in negotiations with Tempe Downs Pastoral Company, it is recommended that the matter be considered as a matter of urgency.

RECOMMENDATIONS

23. It is recommended that -
- (a) The creation of a major National Park over the Kings Canyon area of approximately 1,000 sq.kms be approved.
  - (b) The compulsory acquisition of the area as proposed be undertaken; as the Company maintains this will render the lease non-viable, it may be necessary to acquire the whole lease.
  - (c) A Special Purpose Lease be issued over the area to the Conservation Land Corporation, followed by declaration under Section 12 of the Territory Parks and Wildlife Conservation Act.
  - (d) The issue proceed as a matter of urgency.



8.10.81



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OUR REF:

YOUR REF:

**CONFIDENTIAL**

1 October 1981

MEMORANDUM

TO: CHIEF MINISTER

FROM: DIRECTOR - CONSERVATION COMMISSION

SUBJECT: TEMPE DOWNS - KINGS CANYON NEGOTIATIONS

The Minister for Lands the Hon. Jim Robertson, the Solicitor General Brian Martin and I, met with representatives of Tempe Downs yesterday from 4-6 p.m. in Adelaide. Present were -

Mr Richard Duncan - son of Ray Duncan, the company principal  
Michael Gilman - Ray Duncan's son-in-law  
Keith McFarlane - a friend and former employee of Tempe  
Archie Cameron - South Australian M.P. and friend of the family

Mr Ray Duncan was not present.

Mr Robertson stated that the Government had made a decision to acquire the lease to satisfy its determination to establish a major national park in the area, and in the light of the company's previous assertion that if a substantial area of the George Gill Range was excised it would not longer be a viable pastoral entity.

The representatives were shown a revised map of the proposed park boundaries based on a recent survey report (a copy of which is on its way to you via Brian Martin).

The Tempe people contended that the move had taken them by surprise. In reply I pointed out that efforts to establish a national park based on Kings Canyon dated back to 1965 and were well known to their predecessor, Dr Schneider, and to them. At various times Governments had spoken not only of acquiring the national park area, but also of possibly taking the whole lease. The only unresolved issues had really been the boundaries and the valuation.





Some discussion took place on whether Conway and Lander might release some land to add to the area not within the actual park. Mr Robertson pointed out that he had a firm contract with Conway and Lander, and while he understood they might be prepared to consider such a suggestion, he could give no undertakings.

Brian Martin then discussed methods of arriving at a valuation and strategies which might suit the company's financial arrangements best, including possibility of a short-term lease-back of the balance to allow disposal of cattle to their best advantage. The Tempe representatives said they would like to raise the question of Government assistance for replacement watering points if they could come up with a proposal to continue on the balance area. They also asked about opportunities for private investment in tourist development in the park, and were advised that such opportunities would be consistent with Government policy.

They indicated that they could give no immediate reaction to the information they had received, and they proposed to have a family discussion that evening and to meet again with us this morning.

In the event, Michael Gilman rang Brian Martin at 8.00 a.m. today and advised that they were not willing to negotiate the sale and there would be no point in the further meeting. Jim Robertson will be contacting you as soon as possible about action which will now be necessary following the break-down of the negotiations.

Because the Tempe people will be contacting many outside individuals to report on yesterday's meeting, the matter may become public information at any time. I have therefore prepared the following notes for a press briefing should it become necessary for you to use them.

#### DRAFT PRESS RELEASE

The Chief Minister, Paul Everingham, announced on that the Northern Territory Government had decided to acquire Tempe Downs lease for the principal purpose of establishing a major national park in Central Australia. Moves to achieve this goal had first started under the Commonwealth administration in 1965, but after 16 years of negotiation it had not been possible to reach agreement with successive pastoral companies on the sale of the required country.

With the impending development of Yulara Village, Kings Canyon Park had now acquired greater significance as a key area in the regional context of tourism and conservation, and this had brought about the present Government decision which had been communicated to the company.





Recent surveys by the Conservation Commission had shown that it would be desirable to include up to 1,000 sq.km. in the park to make sure that it encompassed an area which would be unique in its richness of arid zone flora and fauna and visitor interest. Whilst this was the part of the run least suited to pastoral pursuits, the lessees believed that the creation of the park would have an adverse effect on the economic viability of the balance area, so in the Government's view the best arrangement was total acquisition with the opportunity for it to give further consideration of the future apportionment of the better pastoral areas in the best interests of N.T. development.

A meeting of Government representatives and the lessees had taken place in Adelaide on October 1st, but unfortunately it had not been possible to reach agreement. The Government would therefore pursue its goal through the acquisition machinery available to it which would provide for fair and just compensation for land acquired.

It is expected that sufficient copies of the recent survey report on the park values and proposed boundaries will be forwarded tomorrow for the information of all Cabinet Members.

G. A. Letts  
DIRECTOR



30 September 1981

## GRAZING CAPACITY - PROPOSED NATIONAL PARK IN KINGS CANYON AREA

Six land systems are represented in the area under consideration. These are:-

Simpson - 401 sq. k. \*(1.77 beasts/k<sup>2</sup>)

Spinifex covered sand dunes with some mulga stands in the swales. Desert oak stands are common.

Gillen - 288 sq. k. (1.35 beasts/k<sup>2</sup>)

Sandstone ranges, foothills and valleys. Mostly mulga and witchetty bush shrub with some areas of grassland.

Krichauff - 206 sq. k. (inaccessible)

Bold sandstone plateaux often dissected by valleys and gorges. Mostly covered with open acacia scrub and spinifex. Generally inaccessible to stock.

Singleton - 61 sq. k. (1.23 beasts/k<sup>2</sup>)

Spinifex sandplain with some sandy rises and small areas of open mulga scrub or grasslands.

Amulda - 55 sq. k. (1.66 beasts/k<sup>2</sup>)

Predominately spinifex-covered sandy plains adjacent to ranges.

Sonder - 19 sq. k. (0.5 beasts/k<sup>2</sup>)

Bold sandstone ranges trending east-west with sparse shrubs and low trees, usually over spinifex.

## GRAZING CAPACITY OF THE AREA

In 1966 Condon estimated a maximum stocking rate of 4,822 head for Tempe Downs Station; assuming that the area was fully watered. Given the waters present at that time he estimated a stocking rate of only 1,575 head. (This was a gross under estimation, due mainly to his lack of knowledge of natural waters occurring on the block).

The total area of the block is 4,815 sq. k. of which 1,030 sq. k., or 21%, is included in the proposed National Park.

Using Condons system of estimating carrying capacity this proposed park area could, if fully watered, carry a maximum of 1,280 head (27% of the total carrying capacity). Given the present waters the carrying capacity is estimated to be 440 head.

\* Condons maximum grazing capacity.



Condon's stocking rate of 1.77 and 1.23 beasts/sq. k. for spinifex dune and sandplain systems are much too high; 0.4 - 0.5 beasts/sq. k. is the currently accepted estimate. As 56% of the usable area is made up of these systems both of the figures given above are far too high and are reduced to 690 head, on a fully watered basis and substantially less on the present watered basis.

Other factors affecting the accuracy of these figures include:-

- (i) the land system classifications are too broad
- (ii) the watered areas need to be defined more accurately
- (iii) other factors such as rabbit populations and erosion hazards must be considered

There is little evidence that the area has been grazed to any extent in the last 50 years. This is not surprising as the problems involved with cattle management in the area include:-

- a) need for extensive fencing to prevent stock straying into the surrounding desert regions
- b) the considerable stands of poisonous plants
- c) presence of rabbits and feral stock
- d) presence of feral scrub bulls
- e) problems in mustering stock due to the rough nature of the country
- f) presence of at least six natural waters in close vicinity to each other; making mustering by the use of trap yards very expensive
- g) lack of large tracts of suitable grazing country
- h) the need to establish at least three man-made waters

To ascertain whether the excision of the 1,000 k<sup>2</sup> area from the block is economically critical it is first necessary to initiate a detailed survey to obtain an accurate assessment of the carrying capacity of the area. Given the constraints listed above one must then assess whether the returns from this number of stock will justify the constraints and costs involved.

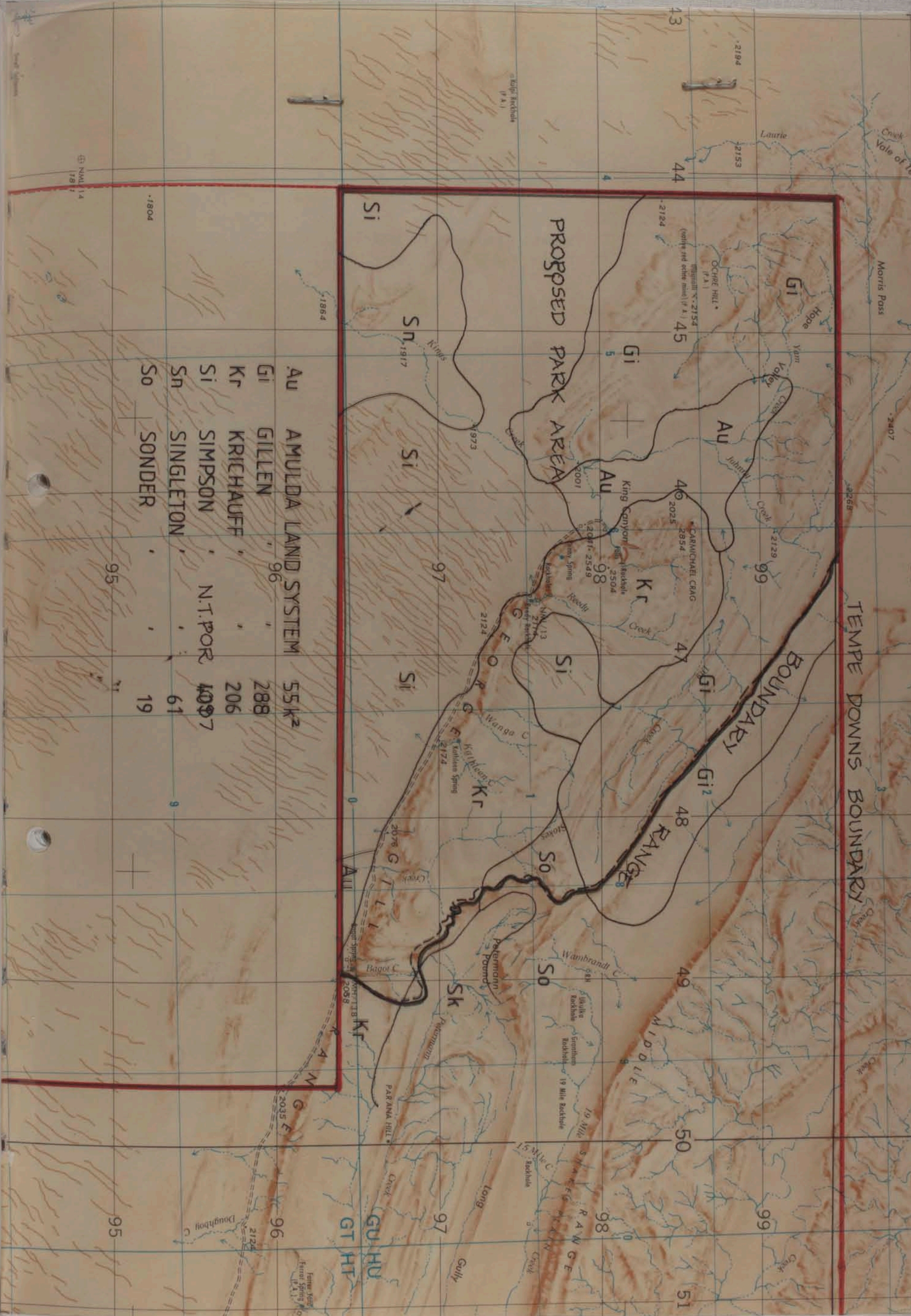
R. Condon et. al. (1968) Soil Erosion and Pasture Deterioration in Central Australia and Necessary Remedial Measures. Report by the Soil Conservation Service of N.S.W. to the Minister for Territories



TABLE SUMMARIZING CONDON'S MAXIMUM STOCKING RATES

	Fully Watered	Present Waters	Area
Tempe Downs Station	4,822	1,575	4,815
Proposed Park Area	1,280	440	1,030





Parcel	Owner	Area (55k <sup>2</sup> )
AU	AMULDA LAND SYSTEM	55k <sup>2</sup>
GI	GILLEN	288
KR	KRICHAUFF	206
SI	SIMPSON	4007
SN	SINGLETON	61
SO	SONDER	19
	N.T. POR	9

N.M. 14  
181

1804

95

71

95



A Biological Survey of  
THE KINGS CANYON AREA  
of The George Gill Range



Internal Report.

By : P.K. Latz, K.A. Johnson and M.W. Gillam

Wildlife Research Section  
Conservation Commission of the  
Northern Territory,

September 1981



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Appendix 1	Map of the survey area
Appendix 2	Check-list of plants
Appendix 3	Check-list of mammals
Appendix 4	Check-list of birds
Appendix 5	Check-list of reptiles and frogs

Cover Photograph. Sunset on Carmichael Crag at the western end of the George Gill Range. The Crag was named by Ernest Giles in 1872 in honour of Samuel Carmichael, a member of his expedition.



ACKNOWLEDGEMENTS

The assistance of the Botany Section, Department of Primary Production, in the recording and identification of the flora is gratefully acknowledged.

Mr. A. Kalotas collected and identified the fungi and his contribution is acknowledged with appreciation.

Members of the survey team were as follows:-

Dr. K. A. Johnson	C.C.N.T.
Mr. P. K. Latz	C.C.N.T.
Mr. B. G. Thomson	D.P.P. and 2
Mr. W. M. Gillam	C.C.N.T.
Mr. D. F. Gibson	C.C.N.T.
Ms. B. A. Piercey	C.C.N.T.
Mr. T. P. Hall	C.C.N.T.
Mr. R. S. Dalgleish	C.C.N.T.

The report was typed by Ms. P. Wickman.



SUMMARY

1. The George Gill Range and surrounding country is botanically the most important area in Central Australia. A total of 572 plant species were recorded representing one third of the Central Australian flora. This includes 45 species which are rare or have unusual disjunct distributions, and 17 which are relicts from the flora of the geological past. Five new species were found in the area of which two almost certainly represent new genera.
2. The area contains a unique diversity of plant communities (30 recognised types) some of which are restricted to the region or poorly represented elsewhere.
3. A total of 19 mammals, 80 birds, 36 reptiles and 2 frogs were recorded. The reptile community represents a scientifically important overlap between the faunas of the southern sandy deserts and the central rocky ranges.
4. The George Gill Range and surrounding area contains spectacular scenery, including Kings Canyon, which is of national and international significance. There are many other little known but important scenic features in the region which are not well represented in other Parks of Central Australia.
5. A Kings Canyon National Park would form an important link in a regional tourist route joining Alice Springs, the West Macdonnell Ranges, the George Gill Range and Uluru National Park.
6. The proposed boundaries for a National Park use natural features which will give control of the water shed, maximise control over feral animals, and minimise requirements for fencing. The boundaries also enable adequate control of fire and erosion.
7. Some of the largest and finest stands of desert trees occur in the area.
8. Introduced weed species are absent from most of the area.
9. The plant communities are vulnerable to damage from fire, feral animals, erosion and uncontrolled visitor use. Some of the fragile fern communities, especially those at Reedy Rockhole, have already suffered damage.



10. Habitat suitable for the re-introduction of many rare and endangered mammals occurs in the area.
11. Cattle are virtually absent and feral horses and camels are currently in low numbers. Rabbits have been abundant but are now restricted in distribution and numbers.
12. Plant communities of importance to the pastoral industry are well represented in certain pockets and these are generally in excellent condition due to the prolonged absence of cattle from the area.
13. The benefits of developing this 1000 km.<sup>2</sup> area for cattle grazing must be weighed against the substantial economic returns offered by its alternative development for the tourist industry, and the considerable social benefits of conserving this important natural area.
14. The establishment of a significant National Park at the western end of George Gill Range will permit the proper protection and management of one of the richest natural areas in Central Australia while providing also for continued expansion and planned development of the Territory's tourist industry.



INTRODUCTION

The George Gill Range (Fig. 1) rises magnificently from the surrounding dune fields and loamy flats at the western end of the Tempe Downs Pastoral Lease. The steep rocky slopes are dissected by numerous watercourses that are mostly accompanied by permanent springs and deep rockholes (Fig. 1).

The spectacular and rich nature of the Range was first commented on by Ernest Giles who named it and several prominent features in 1872. Giles remarked that-

"The country round its foot is by far the best I have seen in this region; and could it be transported to any civilised land, its springs, glens, gorges, ferns, Zamias, and flowers, would charm the eyes and hearts of toil-worn men who are condemned to live and die in crowded towns."

The first scientific expedition to Central Australia came 22 years later, in 1894, and its members were also impressed by the area. The leader of the Horn Expedition, Sir Baldwin Spencer, later wrote -

"Had we then known what the main McDonnell Range was like there is no doubt but that we should have lingered longer amongst the valleys and by the creeks on the south side of the George Gill Range. ...A lengthy stay in this part.... would probably yield valuable results."

In response to a request from the Conservation Commission the Wildlife Research Section conducted a fauna and flora survey of the western end of the Range and the surrounding plains. A survey lasting 10 days was carried out by the full team from 14 to 23 July. Because some botanically important areas remained to be surveyed, the plant ecologist made a later visit of 5 days.

Members of the survey team anticipated that the area would prove to be of considerable biological significance. However, this preliminary investigation soon proved that the richness of the George Gill Range and surrounding country surpassed all expectations, especially with regard to the botany.





Fig. 1. Evening view of the sandstone domes above Kings Canyon.



Fig. 2. Permanent waterhole on Stokes Creek.

Stokes Creek



## Survey Area

The survey team examined the western 800 square kilometres of the Tempe Downs Pastoral Lease (Appendix 1). The first camp, lasting five nights, was located along the creek running from Reedy Rockhole. Most of this period was spent examining the rocky slopes and plateau of the Range, although mammal trapping extended to the foothills and dune fields.

The second camp, lasting 4 nights, was located to the west of Carmichael Crag. Most of the time spent here was used in study of the country to the north, west and south of the Range.

Botany of the area between Stokes Creek and Bagot Creek was studied during the follow-up 5 day visit.

## FLORA

### Plant Species

Including 12 fungi and records from earlier collections, 572 species have been recorded from the area indicated on Appendix 1. (The plant check-list is included in Appendix 2). This is an exceptionally high number representing one third of the total number of species recorded from the Northern Territory portion of Central Australia or more than one quarter of the total number found in the arid region of Australia which forms 33% of the continent. Few of the winter growing annuals are represented in this list and there is little doubt that further investigations after winter rains will increase this number.

Over 10%, or 62 of these plants are rare or have relict or otherwise unusual distribution. Of the 37 rare species 5 are known from nowhere else but the Kings Canyon area, and of the 17 relict plants 8 are found nowhere else in Central Australia. At least 8 plants have unusual distribution:- that is, their presence in the area is disjunct from the normal population.



Table 1. Comparison of the flora of the Kings Canyon area with that of existing National Parks in Central Australia.

Area	Size Km <sup>2</sup>	Rare or unusual distr.	% of total	Relict plants	% of total	Introduced plants	% of total	Total Plant Species
Kings Canyon	800	45	8.0	17	3.0	13	2.3	572
Finke Gorge	458	27	5.5	10	2.0	15	3.1	490
Ayers Rock	1261	10	2.5	0	0	16	4.0	400
Simpsons Gap	307	11	2.5	3	0.7	24	5.5	433

Table 1 compares the plant species of the Kings Canyon area with those of the three major National Parks of Central Australia. It can be seen that the Kings Canyon area has, by far, the highest total number of species and a considerably greater number of rare and relict species. The number of introduced plants is less than in the other three areas, and populations are localized to the areas of intense visitor use so that most of the problem weeds could be eradicated comparatively easily.

Although most of the relict species are restricted to the George Gill Range itself, several of the important rare species are found in the sandhill country south of the Range.

This report does not present a full discussion on the many and varied rare and relict plants found in the area but some of the most important are listed below :-

Plants known only from the Kings Canyon area

None have been formally described and two are most probably new genera.

Hydrocotyle larapinta ms - a delicate herb - found in damp areas amongst rocks in most of the gorges.

(?) Ampeara sp. (Latz 8719) - a small almost leafless shrub - at base of sandhills near the range.

Goodenia sp. (Latz 8777) - herb - known only from the valley behind Bagot Spring.

Ixiolaena sp. (Latz 277) - strong smelling perennial daisy - found in sheltered areas at the base of cliff faces.





? Ricinocarpos sp. (Thomson 51) (Fig. 3) - small attractive shrub - growing on vertical cliff faces in the Stokes Creek gorge and near Kathleen Spring.  
Significant relict plants from the Kings Canyon area

Psilotum nudum (skeleton fork fern) (Fig. 4) - a 'living fossil' abundant in the fossil record over 300 million years ago - this delicate fern-like plant is known from a few individuals at Reedy Rockhole and a small population at Stokes Creek Gorge; in other parts of Australia it is only known from a few select coastal areas.

Cyclosorus interruptus - a large attractive fern - in central Australia known only from small populations at Reedy Rockhole and Kathleen Spring; Occurring in the tropical areas of Australia.

Polystichum proliferum (mother shield fern) (Fig. 5) - a large attractive fern forming dense stands in Stokes Creek gorge - elsewhere in Australia known only from high rainfall areas in the south eastern states.

Ottelia ovalifolia (Swamp Lily) - an attractive water plant found in three gorges in the Kings Canyon area; otherwise restricted to non-arid areas of Australia.

Polygonum salicifolium - attractive water plant - in central Australia only known from the Kings Canyon area but also found in the Southern areas of Australia.

Schoenus falcatus - a perennial sedge - only known from Kathleen Spring in central Australia; the closest population of this tropical plant is in the Hammersley Ranges in Western Australia.

Vallisneria spiralis (eel grass) - a water plant only represented in arid Australia in Kings Creek.

Lindsaea ensifolia - large fern at Reedy Rockhole; the only other occurrence in arid Australia is at Tallipata Gorge near Haasts Bluff.

Mirbelia ramulosa - a tangled leafless shrub with attractive flowers, previously only known from the Kalgoorlie area.





Fig. 3. The rare and previously unknown plant (? Ricinocarpus) on the cliffs of Stokes Creek Gorge.



Fig. 4. The "living fossil" Skeleton Fork-fern, Psilotum nudum, at Stokes Creek Gorge.



Asplenium bulbiferum (mother spleenwort) - a large attractive fern restricted to select areas of temperate south eastern Australia and New Zealand. This fern is reported to have been collected above Reedy Rockhole by New England University students but no trace of it has been seen before or after this time by other collectors.

There are at least four factors which contribute to the high number of plant species in the Kings Canyon area -

1. The presence of at least six sheltered gorges which contain permanent or near-permanent springs and seepage areas. These are the areas where most of the relict and many of the rare species are found.
2. The high diversity of plant communities (discussed below).
3. Unique topographical features of the area which have allowed fire sensitive species to flourish.
4. Representation of plant species from three main regions of Central Australia. The Kings Canyon area contains not only many of the plants found in the western deserts but also has a high proportion of plants found in the Macdonnell Ranges. In addition many of the plants characteristic of the Simpson Desert are present. This overlap of regional floras is a unique attribute.

### The Plant Communities

This preliminary survey has shown that much more research is required to fully delineate the many different plant communities found in the area. Nevertheless it is obvious that the area encompasses a wide variety of plant communities, some of which are unique in central Australia, and most of which are in an almost pristine state.

Four major areas are delineated and the major plant communities within them are listed briefly.

#### 1. Sandstone Hills

- 1a Sandstone dome area.





Fig. 5. Mother Shield fern, Polystichum proliferum; a relict species from Stokes Creek.



Fig. 6. Euphorbia sarcostemoides community on the upper slopes of the George Gill Range.



- 1a1 Horizontally bedded sandstone with little soil development and correspondingly sparse vegetation, mainly Eriachne mucronata, Goodenia grandiflora, Baekea and Pomax. Stunted and twisted forms of Eucalyptus papuana (ghost gum) and other trees and shrubs are infrequent but aesthetically pleasing.
- 1a2 Areas with some soil development support stands of Acacia macdonnellensis and Plectrachne melvillei (spinifex) with the addition of some shrubs and trees such as Ficus and Prostanthera baxterii in sheltered areas. Of particular scientific interest are the occasional small areas with favourable moisture regimes that allow the survival of dense stands of herbs including such rare plants as Stylidium (Trigger plant), Drosera (sundew) and Centrolepis.
- 1b Upper hill slopes and crests with areas of bare rock.
- 1b1 Slopes-spinifex shrubland. - Acacia macdonnellensis with Plectrachne melvillei and Euphorbia sarcostemoides. (Fig. 6)
- 1b2 Crests - as above but the Euphorbia is replaced by trees and shrubs such as E. papuana and Callitris (native pine).
- 1c Deep gorges and gullies
- 1c1 Wet gorges (Fig. 2) - mostly E. camaldulensis (river red gum) over perennial grasses and sedges with Callitris (native pine), Pandorea (spear bush) and Ficus (native fig) on the slopes. The associated plant species vary considerably; of particular interest are the areas of dense Macrozamia (cycad palm) in the Kings Canyon area (Fig. 7) and the presence of large fern stands and the previously unknown (?) Ricinocarpus in Stokes creek gorge. Water plants are more common in these gorges than in similar areas of Central Australia.



- 1c2 Dry gullies and gorges - usually E. camaldulensis and Acacia macdonnellensis over Plectrachne melvillei and perennial grass and shrubs such as Prostranthera (mint bush) - higher up Callitris and Dodonea viscosa are more common.
- 1d Perched low hills - almost equally divided into two units -
- 1d1 Shrubland - mostly Acacia aneura (mulga) with Plectrachne and some Ac. macdonnellensis and Eucalyptus spp.. The spinifex is replaced with grasses such as Eragrostis eriopoda (woolybutt) in less rocky areas.
- 1d2 Shrubland - mostly Acacia kempeana (witchetty bush) with Triodia clelandii and some Eucalyptus spp (mallees) and Cassia spp.
- 1e Scree slopes and foothills
- 1e1 Scree slopes - spinifex shrubland - Triodia clelandii with Acacia ligulata and Eremophila freelingii over Eriachne mucronata and Ptilotus obovatus. Occasional but distinctive Acacia pruinocarpa (black gidgee) trees are also present.
- 1e2 Foothills - similar but the Eremophila and Ptilotus are usually replaced by herbs and shrubs such as Hybanthus.
- 1f Perched sandunes (Fig. 8)  
Casuarina decaisneana (desert oak) over Plectrachne schinzii (feathertop spinifex) with a wealth of other trees, shrubs and herbs. The lower dune slopes are often dominated by dense Thryptomene maisonneuvii (desert myrtle) and some swales have dense stands of mulga. Except for areas of sand overlapping the rocky areas the vegetation is similar to that on the dunes away from the hills.



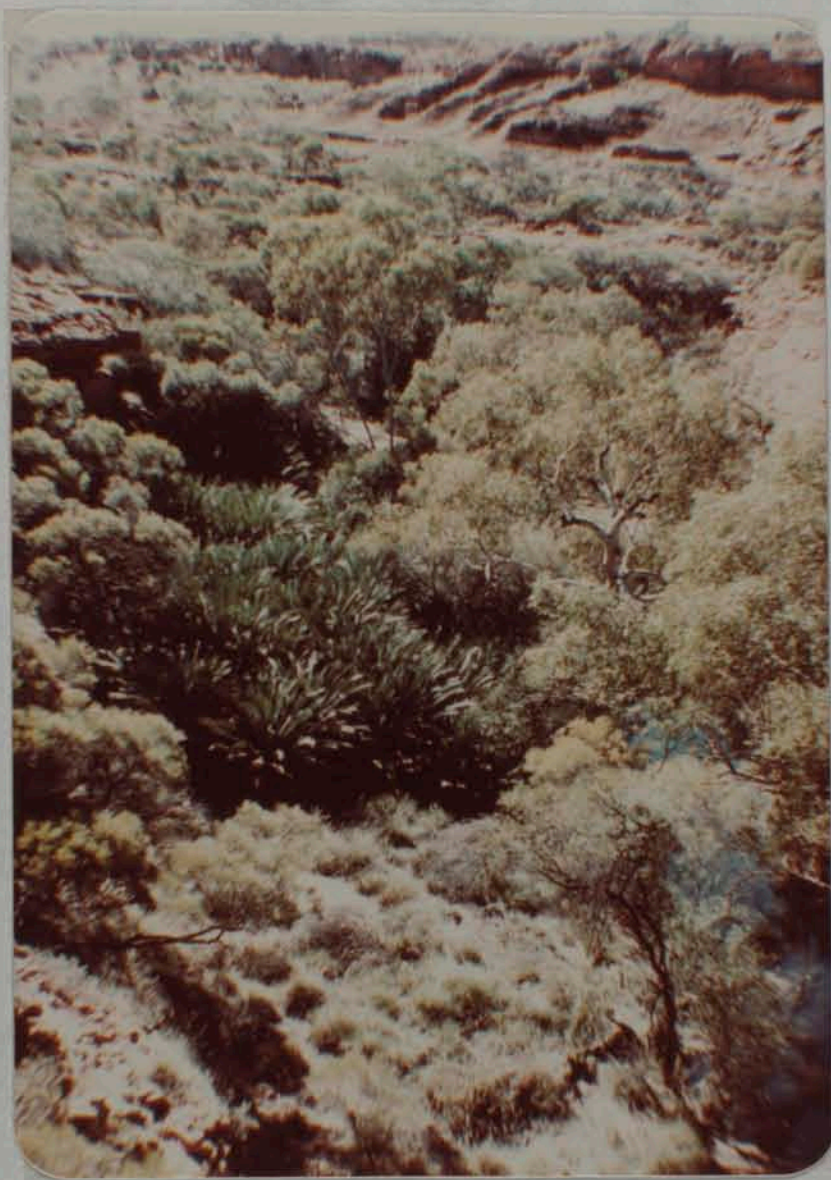


Fig. 7. Garden of Eden at the head of Kings Canyon showing a long rockhole fringed by River Red Gums, and a patch of Cycads in the middle-ground.



Fig. 8. Perched sand dunes on the range above Reedy Rockhole. These were burned in late 1980.





2 Low Hills and Valleys (stairway sandstone)

## 2a Low Hills - shrubland

2a1 Acacia aneura over Enneapogon polyphyllus and various forbs shrubs such as Eremophila latrobei.

2a2 Acacia kempeana over Enneapogon spp. and shrubs such as Acacia liquilata and Cassia spp.

2b Tussock grassland - low hills  
Astrebla pectinata (Mitchell grass) with Enneapogon spp. and some Sporobolus actinocladius and Aristida latifolia on the fringes.

2c Mixed grassland - valleys  
Enneapogon spp with Digitaria coenicola and other perennial grasses on run-on areas - occasional shrubs such as Cassia spp.

## 2d Shrub steppe - slopes

2d1 Mariana astrotricha (southern bluebush) over annual and perennial grasses such as Enneapogon spp and Digitaria coenicola and occasional forbs such as Bassia spp. and Atriplex holocarpa.

2d2 Atriplex vesicaria (bladder saltbush) over various annual and perennial grasses and occasional herbs and forbs.

3 Plains and Riverine Systems

3a Mulga scrub  
Acacia aneura with some Acacia kempeana and smaller shrubs such as Cassia and Eremophila over Eragrostis eriopoda and other grasses and forbs.

## 3b Woodland

3b1 Mulga woodland - scattered Acacia aneura over Enneapogon spp. and Aristida contorta and scattered stands of perennial grasses such as Digitaria coenicola.



- 3b2 Mixed woodland - Acacia estrophiolata (ironwood), Atalaya hemiglauca (whitewood) and other trees and shrubs over various grasses and forbs.
- 3c Floodout areas
- 3c1 Shrub steppe - Mariana aphylla (cotton bush) over various grasses and forbs including Eragrostis setifolia (never-fail) and Psoralea patens (verbine).
- 3c2 Tussock grassland (Fig. 9) - perennial grasses such as Eulalia fulva, Bothriochloa and Themeda with occasional trees and shrubs such as Acacia farnesiana.
- 3d Rivers and Watercourses
- 3d1 Rivers - Eucalyptus camaldulensis over Eulalia fulva and various other perennial grasses and forbs. The absence of Melaleuca (here and throughout the whole area) is unusual.
- 3d2 Watercourses - variable depending on area, but often Acacia aneura or Acacia farnesiana over perennial grasses such as Eulalia and Themeda australis.
- 3e Swamps and claypans
- 3e1 Seasonal swamps - variable vegetation depending on site but often Chenopodium nitrariaceum over Diplachne fusca and Marsilea sp. (nardoo).
- 3e2 Claypans (Fig. 10)- generally bare but usually surrounded with Eremophila duttonii over Enteropogon (windmill grass).
- 3f Mallee stands
- 3f1 Eucalyptus socialis with Triodia pungens or T. clelandii.
- 3f2 E. gamophylla with Plectrachne schinzii and Cassia spp.





Fig. 9. Dense growth of perennial and annual grasses on a floodout north-west of Carmichael's Crag.



Fig. 10. Dry claypan south east of Ochre Hill.



4 Sandhills

- 4a Continuous dunes - hammock grassland (Fig. 11)  
Casuarina decaisneana (desert oak) over Plectrachne schinzii  
(feathertop spinifex) with areas of dense Thryptomene maisonneuvii  
in the swales. A complex community with various lesser plants  
present in different areas.
- 4b Dunes with broad swales
- 4 b 1 Vegetation similar to above but often with stands of dense  
Acacia aneura over Eragrostis eriopoda or Enneapogon spp  
in the swales.
- 4 b 2 Dunes/low hills - vegetation variable depending on site  
but always with Triodia clelandii on the gravelly areas.  
Some of the low hills are often partly covered by dunes.  
The numerous small caves found in these hills are of  
particular importance as shelter for animals.

The plant communities 1a1, 1a2, 1b1 and 1c1 are either unique to the Kings Canyon area or are only poorly represented elsewhere. Of particular interest is unit 1b1, the Euphorbia sarcostemoides community (Fig. 6). E. sarcostemoides is one of the few cactus-like Australian plants and is quite rare elsewhere in Australia. It emits copious white latex when bruised and the use of this substance to produce petroleum or rubber substitutes is presently being researched by the South Australian Department of Mines and Energy. E. sarcostemoides is not at all fire tolerant and this community occurs only in areas where there are sufficient bare rock slabs to prevent the spread of fire.

Plant communities such as 2b, 2c, 2d and 3 c are generally badly degraded in southern areas of central Australia. However in the area surveyed most of these plant communities appear to have only been lightly grazed by horses and rabbits in the past and are in excellent condition (Fig 12). The complete lack of introduced weeds and the sparcity of weedy native species is striking. The Kings Canyon area therefore has major scientific value as a reference point for Australian rangeland studies.





Fig. 11. Desert Oaks with Desert Myrtle on sand dunes southwest of Kings Canyon.



Fig. 12. Carmichael Crag with dense annual grassland in the foreground.



### Vigour of Woody Species

The Kings Canyon area shelters some of the largest and finest tree species in Central Australia. Of the 13 Eucalypts found in the area at least 7 are represented by the biggest and best stands known and most of the others are rarely equalled elsewhere (Fig.13). Exceptionally fine stands of the desert oak and desert myrtle are common (Fig.11). Many other tree and shrub species e.g. Acacia macdonnellensis and Hakea gramatophylla, are also exceptional. Of particular aesthetic interest are the many and varied forms of the ghost gum on the sandstone dome areas. In this habitat many of the tree and shrub species grow into peculiar contorted or dwarf forms.

The finest examples are not restricted to one particular area and why the Kings Canyon area is so favourable for many of the woody plants is not fully understood. No doubt the shallow rock pavement, with its water holding ability in many of the sandy areas, and the not infrequent fire shadow areas both contribute.

### Introduced Plants

Thirteen introduced plants are recorded from the Kings Canyon area, including several which are widespread throughout Central Australia. The highest concentration of weedy species is restricted to the two areas most frequented by visitors, Kings Canyon and Reedy Rockhole. Particularly noxious species such as Queensland burr grass (Cenchrus echinatus) and three corner jack (Emex australis) appear to have been only recently introduced and could easily be controlled at this stage.

Away from the areas of high visitation, introduced and native weedy plants are sparse or entirely absent.





Fig. 13. Specimen of Shiny Leafed Desert Mallee, Eucalyptus mannensis, south of Reedy Rockhole. This specimen is about twice the size of a normally large tree.



Fig. 14. Extensive sheet and gully erosion near Dry Creek north of the George Gill Range.



### Soil Erosion

Many of the plant communities found in the area to the west and north of Kings Canyon occur on texture contrast soils which are particularly susceptible to erosion. On these areas the passage of a vehicle or development of a horse pad may be all that is required to initiate erosion.

There is some severe erosion west of the Canyon, apparently extending in some areas (Fig. 14). This is particularly disturbing as it is invading some of the areas important as reference points for rangeland studies. If this area is to be protected, soil conservation measures will need to be undertaken. Fortunately the vegetation immediately surrounding the erosion areas is vigorous and dense and more than sufficient seed would be available to enable natural recolonization of rehabilitated areas.

### Fire

The almost uninterrupted sequence of good seasons in the area since 1972 has resulted in large fuel buildups and a severe fire burnt out a considerable area of the George Gill Range late in 1980. Although the largest area burnt included most of the perched sandhill community, fire did intrude into other less fire-adapted communities causing significant damage.

Fortunately only small areas of the sensitive Euphorbia sarcostemoides community was burnt but the damage in these areas will probably be long-lasting (Fig. 15). Areas of the Acacia kempeana community which were burnt will probably recover, as ample seedlings were seen, but regeneration in the mulga community was not extensive. A considerable area of the unique 'Garden of Eden' above Kings Canyon was also severely burnt. The severity of the fire was evidenced by the common sight of exfoliated rock faces and the death of the upper portions of many of the bloodwood trees, which are normally unaffected by high intensity fires (Fig. 16). The large areas of fire-bared ground has resulted in considerable wind and water erosion of the shallow hillside soils and serious water erosion of many of the watercourses.





Fig. 15. Euphorbia sarcostemoides recently killed by fire near Kathleen Spring. Compare with Fig. 6.



Fig. 16. Dead acacias and severely burnt Bloodwoods above Kathleen Spring.



Damaging fires of this type can only be prevented by controlled cool season burns and the presence of sufficiently large buffer zones around critical areas to prevent intrusion of uncontrolled wildfires. Occasional small fires play an important role in most of the plant communities as they encourage prolific growth of fire-encouraged plants such as the rare and beautiful Swainsonia colutoides (Fig. 17).

#### Potential of the Area for Stock Grazing

With the exception of the Bagot and Kathleen Springs area the vegetation appears to have been little grazed in the last 50 years or so. This is in part due to the fact that the areas that are well watered have little useful grazing country in their vicinity and contain many particularly troublesome poisonous plants such as Gastrolobium, Duboisia and Gyrostemon which would pose serious problems to newly introduced stock. Because the area is unfenced the added problem of stock following parakeelya (Calandrinia spp.) into desert areas after winter rains would also create management problems, especially as the small areas of suitable country would be quickly overgrazed. Although rabbit numbers were low at the time of the survey, there is evidence that their numbers have been high in the past, when they would have further reduced the available forage.

Although there are at least six permanent, or near permanent, natural watering points for stock on the south face of the George Gill Range, (within the survey area) only Bagot Spring is presently being extensively utilized by stock. Even though stock numbers are not excessive and there is more than ample forage presently available, the grazing damage to the plants in the vicinity of the springs has been extensive. The decrease in aesthetic appeal of this area due to grazing, trampling, and build-up of dung is very marked. These effects will considerably worsen as seasonal conditions deteriorate and will be most marked in periods of drought.

The absence of stock is critical to the protection of the natural values of the general area as many of the rare and unique plants are found in the vicinity of the permanent waters. If the area south and west of the range was to be used for grazing the problems involved in preventing stock degradation of the six watered areas would be prohibitive. Not only would the difficult terrain make adequate fencing extremely difficult but as all six areas are at the head of large streams fences could be destroyed by floods as often as twice a year.





Fig. 17. The rare and attractive Swainsonia colutooides regenerating after fire above the Garden of Eden.



Fig. 18. Aboriginal grinding stone near Dry Creek. Many of these were scattered about the flats to the north and west of the Range.



### Past Aboriginal Use of the Area

There is little doubt that in the past the Kings Canyon area was of major importance to the Aboriginal people. Not only does it contain ample permanent waters, in an otherwise dry area, but it is particularly rich in traditional plant foods and almost certainly contained a wealth of food animals. It also contains extensive and vigorous populations of native tobacco (Nicotiana gossei) sufficient to allow ample excess for trading. (This plant was the most important trade item for the desert Aborigines).

Signs of past Aboriginal occupation of the area are everywhere evident. Grinding stones are common and cave paintings are prolific (Figs. 18 & 19). One cave investigated yielded a digging stick in perfect condition and many others showed signs of extensive habitation. Several caves seen should prove to be excellent sites for archeological excavation. Many of the cave paintings are deteriorating and some show signs of vandalism. Increased visitor numbers will put added pressure on not only the paintings and carvings, but could also result in removal of many of the grinding stones and other artifacts. Signs of aboriginal occupation are not restricted to the George Gill Range and some of the best cave paintings and artifacts were seen away from the main range.

### Scenic Areas

There are many more important scenic areas than the few currently visited by the majority of tourists. Of particular importance is a bluff about 5 kilometres N.W. of Bagot Spring (Fig. 20) and a large area of domes, rockholes and gorges north of Bagot Spring, the "lost city" (Fig. 21). Both of these areas and some others are not easily accessible but there is little doubt that as visitor numbers increase they will be soon discovered and extensively utilized. The exclusion of these features from the proposed reserve would seriously detract from the tourist potential of the area.





Fig. 19. Cave paintings near Reedy Rockhole.



Fig. 20. One of the scenic areas about 5 km. north-west of Bagot Spring.



FAUNAMammals

A total of 19 species were recorded of which 6 are introduced (Appendix 3). This represents a relatively poor representation of mammals but it is believed that the survey recorded only a small proportion of the actual species present.

There are several factors contributing to this result, apart from the short period of the field visit. Most of the mature spinifex on sandhills or sandplains had been burned within the last three years leaving short, sparse regrowth and mammals inhabiting tall spinifex such as the Ningauai were not encountered.

No netting or shooting of bats was attempted because of their low activity during this cool time of year and their subsequent infrequent visits to pools of water where these animals are most easily collected. With further study the recorded total of four species would undoubtedly be extended to at least eleven.

There was a considerable effort to locate the rare Rock Rat, Zyzomys pedunculatus but only very old sign of the species was found. Remains of cycad nuts and quandong nuts showing grooves of rodent incisions were found in many rock overhangs and ledges. Despite quandong nuts being found in various caves, few living trees now survive in the survey area. A few pockets remain in rocky areas and the only two specimens seen away from the hills had been extensively browsed by feral animals (Fig. 22). It is believed that damage by these animals has severely reduced the occurrence of the quandong thus affecting an important food source for the Rock Rat.

Signs of old abandoned nests of the Stick-nest Rat were found in caves near Reedy Rockhole and Kathleen Spring. While this species is probably extinct there remains a vast area of unsurveyed suitable rocky habitat which could harbour it, or the Rock rat.





Fig. 21. The "Lost City" in the gorge north of Bagot Spring.



Fig. 22. A Quandong tree Santalum acuminatum heavily browsed by feral animals about 1 km. south of Stokes Creek yards.



Sign of cattle was found only at Kathleen Spring and Bagot Spring with no recent sign being found further west than Kathleen Spring. Camels were widespread but in low numbers both on and off the George Gill Range. Several were seen on the grassy flats down King Creek (Fig. 23). Horses were most common in Dry Creek Pound and scattered elsewhere.

Rabbits have formerly been common but are now in warrens in isolated pockets mainly along King Creek, Reedy Creek and around Ochre Hill. Scattered colonies occur in the rocky parts of the Range.

A significant feature of the area is the rich array of habitats and the great potential for its use in the re-introduction of species that once occurred there.

The soft creek frontage and foothills to the south of the Range would be favourable places to re-introduce the Bilby, Macrotis lagotis (Fig. 24) and Boodie Bettongia lesueur. The Mala, Lagorchestes hirsutus has been recorded from the area (Parker 1973) and the spinifex covered sandhills would be suitable for its re-establishment. The Plectrache melvillii communities appear suitable for re-introduction of the Spectacled Hare-wallaby, Lagorchestes conspicillatus.

### Birds

In just 8 field days a total of 80 species were recorded (Appendix 4). Significantly only three of these were water inhabiting birds, a group which usually comprises a substantial portion of any bird list. This effectively reflects the tremendous richness of the grassland, shrub and tree communities in the area, providing a wide range of habitats.

The ranges of the White-backed and Black-backed colour phases of the Magpie overlap in the survey area and both occur together in the same flocks. The situation will constitute a great deal of scientific interest for bird taxonomists.

Because of the great species richness of the area it will develop into an area of interest to professional and amateur ornithologists.





Fig. 23. A herd of camels on the grassy flats adjoining King's Creek.



Fig. 24. The Bilby, Macrotis lagotis. The proposed area contains suitable habitats into which this now rare marsupial could be re-introduced.



## Reptiles and Frogs

A species total of 36 reptiles and 2 frogs were recorded during the survey and a further 5 species were collected by K. Slater et al. on two brief excursions (August 1964 and November 1965) within the survey area (Appendix 5).

The grand total of 43 species is significantly high considering the relatively low productivity of mid-winter collecting. Many rock inhabiting species were inaccessible in their deep crevice refuges which characterise the sandstone habitats. In the surrounding low-lands similar difficulties were experienced in the collections of predominantly burrowing reptile and frog communities. Because of seasonal inactivity, evidence of burrow excavations were rarely encountered as entrance holes were partially buried or camouflaged by the mobile leaf litter.

During summer, a survey party could expect to record approximately 50% of their total herpetofauna through spotlighting animals which are primarily or solely nocturnal in habit. Although a number of nocturnal species were collected from their shelter sites it is significant that during this winter survey the contribution from spotlighting and night trapping represents only about 4% of the total number of reptiles and frogs collected.

Of the total 43 species recorded, 58% are widely distributed examples which, for instance, occur on national parks and reserves situated in the West Macdonnell Ranges and extend through to western desert regions including Uluru National Park. Significantly however, 42% of the species total consists of species confined generally to one or other of these regions. Indeed the proposed Kings Canyon National Park appears to represent an important herpetofaunal interzone where the characteristic species from the richer central ranges and western desert regions overlap.

Through careful examination of species assemblages recorded from within the proposed park we are confident that 76 reptiles and 5 frogs would represent a conservative estimate of the actual resident species. This figure could well be exceeded if the area receives the same long-term attention devoted to the West Macdonnell Ranges and Ayers Rock National Park. Certainly an estimate of 81 species compares most favourably with 63 and 86 species recorded from the West Macdonnell Ranges and Ayers Rock National Park, respectively.



In fact the proposed Kings Canyon National Park could well prove to be one of the richest herpetological regions in Central Australia. Furthermore the herpetofaunal elements of the region are balanced with abundant representation of species from a range of major habitats. Conversely, Uluru National Park for example, is depauperate in its rock inhabitants while there is no suitable habitat for sand-dune/sand-plain species anywhere within existing Macdonnell Ranges National Parks.

The Kings Canyon National Park would provide an area of 1000 km<sup>2</sup> of world class joining Alice Springs, the West Macdonnell Ranges, the Macdonnell Ranges and Ayers Rock.

It is abundantly clear that the Kings Canyon area has the richest assemblage of plants, and most probably animals, in the entire Central region.

While the Kings Canyon itself contains the majority of rare and relict plants the surrounding country has particular significance also, as it has the greatest diversity of plant communities and an abundance of vegetative species. Many of the species are relict and in the southern part of the Kings Canyon. It is suggested that general area and with proper management it offers the best potential available in the Kings Canyon for re-introduction of species such as the Blue, White and Spectacled Lemniscates.

At least 17 different plant communities used in the national herpetology survey are distributed in the Kings Canyon area. These are in almost perfect condition and are therefore of considerable importance as reference areas for herpetology and vegetation studies.

The Kings Canyon contains some of the finest plants of our native flora and should be given a large area of marginal artificial and natural habitats.



## DISCUSSION

The spectacular scenery found in the George Gill Range has been recognised for a considerable time but so far only Kings Canyon and Reedy Rockhole have been extensively utilized by tourists. These two areas represent a fraction of the scenic potential of the area. There is no access route to the northern side of the Range and it, like Carmichael Crag at the western end offer some of the most magnificent scenery in Central Australia (see cover photograph). The sandstone domes and deep gulleys of the Range plateau offer great potential for the development of walking trails. The ease of movement over the plateau and the presence of springs and permanent and semi-permanent rockholes make this area of particular value compared with the other ranges in Central Australia. Many additional areas of scenic value occur in the George Gill Range, some outside the eastern end of the area proposed for the Park.

A Kings Canyon National Park would provide an essential link in a regional tourist route joining Alice Springs, the West Macdonnell Ranges, the George Gill Ranges and Ayers Rock.

It is abundantly clear that the Kings Canyon area has the richest assemblage of plants, and most probably animals, in the entire Central Region.

While the Range itself contains the majority of rare and relict plants the surrounding country has particular significance also, as it has the greater diversity of plant communities and an abundance of vertebrate species. Many of the mammals now extinct in the southern part of the N.T. once occurred in this general area and with proper management it offers the best potential available to the C.C.N.T. for re-introduction of species such as Mala, Bilbies and Spectacled Hare-Wallabies.

At least 12 different plant communities used in the pastoral industry occur in limited extent in the survey area. These are in almost pristine condition and are therefore of considerable importance as reference areas for rangeland management studies.

The area also contains some of the finest stands of our native trees and shrubs together with a large number of Aboriginal artificats and paintings.



We believe that the boundaries proposed for a Kings Canyon National Park as shown in Appendix 1 are essential for the following reasons.

1. The majority of the area of biological value and most of the area of scenic potential is included.
2. The Boundary Range (Fig.25) on the northern side of the area provides a natural fence to the Park. One of the major problems faced by managers of Reserves in Central Australia is the control of feral stock. The proposed area is inhabited by small populations of camels and horses which will need to be controlled if the biological and scenic significance of the area is to be maintained. The Boundary Range secures the north-eastern boundary and the route shown through the George Gill Range itself, follows a substantial ridge system. While the latter may require a small degree of fencing the northern boundary would not, thus offering a considerable monetary saving in construction and maintenance. The pound of Dry Creek could be cleared of stock with relative ease and the natural boundaries mentioned would restrict or prevent further ingress.

Some fencing into the dune field south from Bagot Spring would be required to prevent movement of stock into the Park from Tempe Downs. The country to the south and to the west is not developed for cattle and is unlikely to be used for pastoral purposes. Horses and camels migrating in from these areas may become a problem and fencing may eventually be required.

3. Adequate development of the tourist potential will require provision for car parks, camp grounds, hotel/motel accommodation and roads. Much of the scenic value of the George Gill and Boundary Ranges will be lost if viewing stations are not provided at a distance of several kilometres. Moreover, the attractiveness of the area will be diminished if travel to such stations is through country that has been developed for pastoral uses.
4. There is a substantial and active sheet and gully erosion problem around the western and northern foothills of the George Gill Range. This will require urgent attention if the scenic and biological values are to be preserved. Inclusion of these areas within the Park would facilitate reclamation work.





Fig. 25. Boundary Range, a natural northern boundary for the proposed Park.



5. The mulga, desert oak and eucalypt communities offer good tourist potential and facilities could be developed to attract people to these areas. As use of the Range area, especially Kings Canyon, develops it will be necessary to disperse the intensity of visitation. The surrounding flat country offers an effective means of achieving this.

6. It is apparent that severe and widespread fires have swept through the Range and surrounding country during the past 3 - 4 years. These have had deleterious effects on both the biological and scenic values. Control of the surrounding country will be essential if adequate fire management is to be achieved and if movement of fire up onto the Range is to be limited.

Cattle were first grazed in the Carmichael Crag and Kings Canyon area by Mr. Billy Liddle. The enterprise began in 1919 and continued until 1927 during which time a well was dug near the western edge of the Range and a house erected (P. Forrest, internal report to CCNT and C. Smith pers comm). It is probable that the erosion now evident in this fragile area was initiated by the grazing activity. Tanks and windmills were erected at Reedy Rockhole, Bagot Spring and Kathleen Spring during subsequent years but these are now unservicable and have apparently been so for a number of years. The current health and vigour of the low-land plant communities can probably be attributed to this reduced grazing pressure.

It is not considered that the excision of the proposed 1000 km<sup>2</sup> reserve will effect the viability of the 4 815 km<sup>2</sup> Tempe Downs Lease. It is apparent that the area has not been utilized in recent times and there are several factors which mitigate against successful pastoral development (refer p. 24). However, if at some future time stock are re-introduced to the area, there is no doubt that their impact would severely damage the area's biological values and tourist potential.

It is our view that the proper protection, development and management of the land for nature conservation and tourism requires the establishment of a significant National Park.







## PLANT CHECK LIST.

- \* Indicates introduced species
- Indicates species with unusual distribution
- + Indicates rare species
- # Indicates relict species

GENUS	SPECIES	FAMILY	COMMON NAME
ABUTILON	CRYPTOPETALUM	MALVACEAE	
ABUTILON	FRASERI	MALVACEAE	
ABUTILON	LEUCOPETALUM	MALVACEAE	MALLOW
ABUTILON	OTOCARPUM	MALVACEAE	MALLOW
ACACIA	ANEURA	MIMOSACEAE	MULGA
ACACIA	CORIACEAE	MIMOSACEAE	DOGWOOD
◦ ACACIA	COWLEANA	MIMOSACEAE	
ACACIA	DICTYOPHLEBA	MIMOSACEAE	SANDHILL WATTLE
ACACIA	ESTROPHIOLATA	MIMOSACEAE	IRONWOOD
ACACIA	FARNESIANA	MIMOSACEAE	MIMOSA BUSH
◦ ACACIA	HELMSII	MIMOSACEAE	
ACACIA	KEMPEANA	MIMOSACEAE	WITCHETTY BUSH
ACACIA	LIGULATA	MIMOSACEAE	
ACACIA	MACDONNELLIENSIS	MIMOSACEAE	
ACACIA	MAITLANDII	MIMOSACEAE	
ACACIA	MURRAYANA	MIMOSACEAE	COLONY WATTLE
ACACIA	OSWALDII	MIMOSACEAE	
ACACIA	PRUINOCARPA	MIMOSACEAE	BLACK GIDYEA
ACACIA	RAMULOSA	MIMOSACEAE	
◦ ACACIA	RHODOPHORA	MIMOSACEAE	
ACACIA	TETRAGONOPHYLLA	MIMOSACEAE	DEAD FINISH
ACACIA	VICTORIAE	MIMOSACEAE	PRICKLY ACACIA
+ ADIANTUM	HISPIDULUM	ADIANTACEAE	FERN
ADRIANA	HOOKERI	EUPHORBIACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
ALTERNANTHERA	NODIFLORA	AMARANTHACEAE	
AMARANTHUS	INTERRUPTUS	AMARANTHACEAE	
AMARANTHUS	MITCHELLII	AMARANTHACEAE	
+ AMPEREA	sp.	EUPHORBIACEAE	
AMPHIPOGON	CARICINUS	GRAMINEAE	
AMYEMA	GIBBERULUM	LORANTHACEAE	MISTLETOE
AMYEMA	MAIDENII	LORANTHACEAE	MISTLETOE
AMYEMA	MIQUELII	LORANTHACEAE	MISTLETOE
AMYEMA	MIRACULOSUM	LORANTHACEAE	MISTLETOE
AMYEMA	PREISSII	LORANTHACEAE	MISTLETOE
AMYEMA	QUANDANG	LORANTHACEAE	MISTLETOE
AMYEMA	SANGUINEUM	LORANTHACEAE	MISTELTOE
+ ANACAMPSEROS	AUSTRALIANA	PORTULACACEAE	
ANGIANTHUS	PUSILLUS	COMPOSITAE	
ANTHOBOLUS	LEPTOMERIOIDES	SANTALACEAE	
ARISTIDA	BROWNIANA	GRAMINEAE	KEROSENE GRASS
ARISTIDA	CAPILLIFOLIA	GRAMINEAE	
ARISTIDA	CONTORTA	GRAMINEAE	MULGA GRASS
ARISTIDA	INAEQUIGLUMIS	GRAMINEAE	KEROSENE GRASS
ARISTIDA	JERICHOENSIS	GRAMINEAE	
ARISTIDA	LATIFOLIA	GRAMINEAE	
ARISTIDA	NITIDULA	GRAMINEAE	
ARISTIDA	STRIGOSA	GRAMINEAE	THREE AWN
# ASPLENIUM	BULBIFERUM	ASPLENIACEAE	FERN
ASTREBLA	PECTINATA	GRAMINEAE	MITCHELL GRASS
ATALAYA	HEMIGLAUCA	SAPINDACEAE	WHITEWOOD
ATRIPLEX	ELACHOPHYLLA	CHENOPODIACEAE	
ATRIPLEX	HOLOCARPA	CHENOPODIACEAE	
ATRIPLEX	LIMBATA	CHENOPODIACEAE	
ATRIPLEX	SPONGIOSA	CHENOPODIACEAE	
ATRIPLEX	VESICARIA	CHENOPODIACEAE	BLADDER SALTBUSH
+ BAECKEA	POLYSTEMONA	MYRTACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
BASSIA	ANDERSONII	CHENOPODIACEAE	
BASSIA	BICORNIS	CHENOPODIACEAE	
BASSIA	CONVEXULA	CHENOPODIACEAE	
BASSIA	CORNISHIANA	CHENOPODIACEAE	
BASSIA	COSTATA	CHENOPODIACEAE	
BASSIA	DIACANTHA	CHENOPODIACEAE	
BASSIA	DIVARICATA	CHENOPODIACEAE	
BASSIA	EREMAEA	CHENOPODIACEAE	
BASSIA	ERIANCANTHA	CHENOPODIACEAE	
BASSIA	JOHNSONII	CHENOPODIACEAE	
BASSIA	LANICUSPIS	CHENOPODIACEAE	
BASSIA	PARADOXA	CHENOPODIACEAE	
BASSIA	PARALLELICUSPIS	CHENOPODIACEAE	
BASSIA	PATENTICUSPIS	CHENOPODIACEAE	
BIDENS	BIPINNATA	COMPOSITAE	COBBLERS PEGS
BLENNODIA	CANESCENS	CRUCIFERAE	
BOERHAVIA	DIFFUSA	NYCTAGINACEAE	TAR VINE
BONAMIA	ROSEA	CONVOLVULACEAE	
BOTHRIOCHLOA	EWARTIANA	GRAMINEAE	BLUE GRASS
BRACHIARIA	GILESII	GRAMINEAE	
BRACHIARIA	MILIIIFORMIS	GRAMINEAE	SUMMER GRASS
BRACHYCOME	BLACKII	COMPOSITAE	
BRACHYCOME	CILIARIS	COMPOSITAE	
BRACHYCOME	TESQUORUM	COMPOSITAE	
* BRASSICA	TOURNEFORTII	CRUCIFERAE	WILD TURNIP
BRUNONIA	AUSTRALIS	BRUNONIACEAE	BLUE PIN CUSHION
BULBOSTYLIS	BARBATA	CYPERACEAE	SEDGE
BULBOSTYLIS	TURBINATA	CYPERACEAE	
CAESIA	DICHOTOMA	LILIACEAE	
CALANDRINIA	BALONENSIS	PORTULACACEAE	PARAKEELYA
CALANDRINIA	PTYCHOSPERMA	PORTULACACEAE	PARAKEELYA



GENUS	SPECIES	FAMILY	COMMON NAME
CALANDRINIA	REMOTA	PORTULACACEAE	
+ CALLISTEMON	AFF. VIMINALIS	MYRTACEAE	
CALLITRIS	COLUMELLARIS	CUPRESSACEAE	NATIVE PINE
CALOCEPHALUS	PLATYCEPHALUS	COMPOSITAE	BILLY BUTTONS
CALOTIS	CYMBACANTHA	COMPOSITAE	
CALOTIS	HISPIDULA	COMPOSITAE	BOGAN-FLEA
CALOTIS	LATIUSCULA	COMPOSITAE	
CALYTRIX	LONGIFLORA	MYRTACEAE	DESERT MYRTLE
CANTHIUM	LATIFOLIUM	RUBIACEAE	NATIVE CURRANT
CANTHIUM	LINEARE	RUBIACEAE	
CAPPARIS	MITCHELLII	CAPPARIDACEAE	WILD ORANGE
CASSIA	ARTEMISIODES	CAESALPINIACEAE	SILVER CASSIA
CASSIA	DESOLATA	CAESALPINIACEAE	
CASSIA	HELMSII	CAESALPINIACEAE	DESERT CASSIA
CASSIA	NEMOPHILA	CAESALPINIACEAE	DESERT CASSIA
CASSIA	AFF. NEMOPHILA	CAESALPINIACEAE	DESERT CASSIA
CASSIA	NOTABILIS	CAESALPINIACEAE	
CASSIA	OLIGOPHYLLA	CAESALPINIACEAE	
CASSIA	PLATYPODA	CAESALPINIACEAE	
CASSIA	PLEUROCARPA	CAESALPINIACEAE	CHOCOLATE BUSH
CASSIA	PRUINOSA	CAESALPINIACEAE	
CASSIA	VENUSTA	CAESALPINIACEAE	
CASUARINA	DECAISNEANA	CASUARINACEAE	DESERT OAK
* CENCHRUS	CILIARIS	GRAMINEAE	BUFFEL GRASS
* CENCHRUS	ECHINATUS	GRAMINEAE	BURR GRASS
CENTAURIUM	SPICATUM	GENTIANACEAE	
CENTIPEDA	CUNNINGHAMII	COMPOSITAE	
CENTIPEDA	MINIMA	COMPOSITAE	
+ CENTROLEPIS	POLYGYNIA	CENTROLEPIDACEAE	
CHAMAESYCE	AUSTRALIS	EUPHORBIACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
CHAMAESYCE	DRUMMONDII	EUPHORBIACEAE	
CHAMAESYCE	WHEELERI	EUPHORBIACEAE	
CHARA	sp.	CHARACEAE	
CHEILANTHES	LASIOPHYLLA	ADIANTACEAE	ROCK FERN
CHEILANTHES	TENUIFOLIA	ADIANTACEAE	FERN
CHEILANTHES	SIEBERI	ADIANTACEAE	
CHENOPODIUM	DESERTORUM	CHENOPODIACEAE	
CHENOPOIDUM	INFLATUM	CHENOPODIACEAE	
CHENOPODIUM	MELANOCARPUM	CHENOPODIACEAE	
CHENOPODIUM	NITRARIACEUM	CHENOPODIACEAE	
CHENOPODIUM	RHADINOSTACHYUM	CHENOPODIACEAE	RAT TAILS
CHRYSOPOGON	FALLAX	GRAMINEAE	RIBBON GRASS
* CITRULLUS	LANATUS	CUCURBITACEAE	BITTER MELON
CLEOME	VISCOSA	CLEOMACEAE	
CODONOCARPUS	COTINIFOLIUS	GYROSTEMONACEAE	
+ COMESPERMA	VISCIDULUM	POLYGALACEAE	DESERT POPLAR
CONVOLVULUS	ERUBESCENS	CONVOLVULACEAE	BINDWEED
* CONYZA	BONARIENSIS	COMPOSITAE	FLEABONE
CORCHORUS	SIDIOIDES	TILIACEAE	
CRASSULA	COLORATA	CRASSULACEAE	
CRASSULA	SIEBERANA	CRASSULACEAE	
CROTALARIA	CUNNINGHAMII	PAPILIONACEAE	RATTLEPOD
CROTALARIA	EREMAEA	PAPILIONACEAE	
CROTALARIA	SMITHIANA	PAPILIONACEAE	
# CYCLOSORUS	INTERRUPTUS	THELYPTERIDACEAE	FERN
CYMBOPOGON	AMBIGUUS	GRAMINEAE	LEMON GRASS
CYMBOPOGON	OBTECTUS	GRAMINEAE	LEMON GRASS
* CYNODON	DACTYLON	GRAMINEAE	COUCH GRASS
CYNOGLOSSUM	AUSTRALE	BORAGINACEAE	
CYPERUS	BULBOSUS	CYPERACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
CYPERUS	CASTANEUS	CYPERACEAE	
CYPERUS	CUNNINGHAMII	CYPERACEAE	SEDGE
CYPERUS	AFF. CUNNINGHAMII	CYPERACEAE	
CYPERUS	DACTYLOTES	CYPERACEAE	
CYPERUS	GYNMOCAULOS	CYPERACEAE	SEDGE
CYPERUS	IRIA	CYPERACEAE	SEDGE
CYPERUS	SQUARROSUS	CYPERACEAE	SEDGE
CYPERUS	SUBPINNATUS	CYPERACEAE	
CYPERUS	VICTORIENSIS	CYPERACEAE	
DACTYLOCTENIUM	RADULANS	GRAMINEAE	BUTTON GRASS
DAMPIERA	CINEREA	GOODENIACEAE	
DATURA	LEICHHARDTII	SOLANACEAE	THORNAPPLE
DAUCUS	GLOCHIDIATUS	UMBELLIFERAE	WILD CARROT
DAVIESIA	ARTHROPODA	PAPILIONACEAE	
DICHANTHIUM	SERICEUM	GRAMINEAE	BLUE GRASS
DICHROMOCHLAMYS	DENTATIFOLIA	COMPOSITAE	
DICRASTYLIS	GILESII	DICRASTYLIDACEAE	
DICRASTYLIS	LEWELLINII	DICRASTYLIDACEAE	
DIDYMOTHECA	TEPPERI	GYROSTEMONACEAE	
DIGITARIA	AMMOPHILA	GRAMINEAE	
DIGITARIA	BROWNII	GRAMINEAE	COTTON GRASS
DIGITARIA	COENICOLA	GRAMINEAE	
DIGITARIA	CTENANTHA	GRAMINEAE	
DIGITARIA	ERIOLEPIS	GRAMINEAE	
DIGITARIA	SP.	GRAMINEAE	
DIPLACHNE	FUSCA	GRAMINEAE	BEETLE GRASS
DODONAEA	ANGUSTISSIMA	SAPINDACEAE	
DODONAEA	LANCEOLATA	SAPINDACEAE	
DODONAEA	VISCOSA	SAPINDACEAE	HOPBUSH
° DROSERA	BURMANNII	DROSERACEAE	
DROSERA	INDICA	DROSERACEAE	SUNDEW



GENUS	SPECIES	FAMILY	COMMON NAME
DUBOISIA	HOPWOODII	SOLANACEAE	PITURI BUSH
DYSPHANIA	LITTORALIS	CHENOPODIACEAE	PALE SPIKE BUSH
DYSPHANIA	MYRIOCEPHALA	CHENOPODIACEAE	
+ ELACHOLOMA	HORNII	SCROPHULARIACEAE	
+ ELATINE	GRATIOLOIDES	ELATINACEAE	
° ELEOCHARIS	PUSILLA	CYPERACEAE	
* EMEX	AUSTRALIS	POLYGONACEAE	THREE CORNER JACK
ENCHYLAENA	TOMENTOSA	CHENOPODIACEAE	RUBY SALTBUSH
ENNEAPOGON	AVENACEUS	GRAMINEAE	BOTTLE WASHERS
ENNEAPOGON	CYLINDRICUS	GRAMINEAE	NINE AWN
ENNEAPOGON	OBLONGUS	GRAMINEAE	
ENNEAPOGON	POLYPHYLLUS	GRAMINEAE	NINE AWN
ENTEROPOGON	ACICULARIS	GRAMINEAE	CURLY WINDMILL GRASS
EPALTES	AUSTRALIS	COMPOSITAE	
* ERAGROSTIS	BARRELIERI	GRAMINEAE	PITTED LOVE-GRASS
ERAGROSTIS	BASEDOWII	GRAMINEAE	
ERAGROSTIS	CUMINGII	GRAMINEAE	
ERAGROSTIS	DIELSII	GRAMINEAE	LOVE-GRASS
ERAGROSTIS	ELONGATA	GRAMINEAE	
ERAGROSTIS	ERIOPODA	GRAMINEAE	WOOLY BUTT
ERAGROSTIS	FALCATA	GRAMINEAE	WOOLY BUTT
ERAGROSTIS	KENNEDYAE	GRAMINEAE	
ERAGROSTIS	LACUNARIA	GRAMINEAE	
ERAGROSTIS	LANIFLORA	GRAMINEAE	
ERAGROSTIS	LEPTOCARPA	GRAMINEAE	
ERAGROSTIS	PARVIFLORA	GRAMINEAE	
ERAGROSTIS	SETIFOLIA	GRAMINEAE	NEVER FAIL
ERAGROSTIS	SP	GRAMINEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
ERAGROSTIS	SP	GRAMINEAE	
ERAGROSTIS	SPECIOSA	GRAMINEAE	
ERAGROSTIS	XEROPHILA	GRAMINEAE	
EREMOPHILA	DUTTONII	MYOPORACEAE	
EREMOPHILA	FREELINGII	MYOPORACEAE	
EREMOPHILA	EXOTRACHYS	MYOPORACEAE	
EREMOPHILA	GILESII	MYOPORACEAE	
EREMOPHILA	GLABRA	MYOPORACEAE	
EREMOPHILA	GOODWINII	MYOPORACEAE	
EREMOPHILA	LATROBEI	MYOPORACEAE	NATIVE FUSCHIA
EREMOPHILA	LONGIFOLIA	MYOPORACEAE	EMU BUSH
EREMOPHILA	MACDONNELLII	MYOPORACEAE	
EREMOPHILA	OVATA	MYOPORACEAE	
EREMOPHILA	STURTII	MYOPORACEAE	TURPENTINE
EREMOPHILA	WILLSII	MYOPORACEAE	
ERACHNE	ARISTIDEA	GRAMINEAE	WANDERRIE
ERACHNE	HELMSII	GRAMINEAE	WANDERRIE
ERACHNE	MUCRONATA	GRAMINEAE	WANDERRIE
ERACHNE	PULCHELLA	GRAMINEAE	
# ERIOCAULON	PYGMAEUM	ERIOCAULACEAE	
ERODIUM	CRINITUM	GERANIACEAE	HERONS BILL
ERODIUM	CYGNORUM	GERANIACEAE	STORK BILL
EUCALYPTUS	CAMALDULENSIS	MYRTACEAE	RIVER RED GUM
EUCALYPTUS	GAMOPHYLLA	MYRTACEAE	BLUE MALLEE
EUCALYPTUS	GILLENII	MYRTACEAE	
EUCALYPTUS	INTERTEXTA	MYRTACEAE	BASTARD BOX
EUCALYPTUS	MANNENSIS	MYRTACEAE	
EUCALYPTUS	OXYMITRA	MYRTACEAE	MALLEE
EUCALYPTUS	PAPUANA	MYRTACEAE	GHOST GUM



GENUS	SPECIES	FAMILY	COMMON NAME
EUCALYPTUS	POLYCARPA	MYRTACEAE	
	VAR. OLIGOCARPHA		
EUCALYPTUS	SESSILIS	MYRTACEAE	
EUCALYPTUS	SOCIALIS	MYRTACEAE	
EUCALYPTUS	TERMINALIS	MYRTACEAE	BLOODWOOD
EUCALYPTUS	AFF. TERMINALIS	MYRTACEAE	
EUCALYPTUS	TRIVALVIS	MYRTACEAE	MALLEE
EULALIA	FULVA	GRAMINEAE	SILKY BROWNTOP
EUPHORBIA	BOOPHONA	EUPHORBIACEAE	
EUPHORBIA	COUGHLANII	EUPHORBIACEAE	
+ EUPHORBIA	SARCOSTEMMOIDES	EUPHORBIACEAE	
EUPHORBIA	TANNENSIS	EUPHORBIACEAE	CAUSTIC BUSH
EVOLVULUS	ALSINOIDES	CONVOLVULACEAE	
EXOCARPOS	SPARTEUS	SANTALACEAE	BROOMBUSH
FICUS	PLATYPODA	MORACEAE	WILD FIG
° FIMBRISTYLIS	AMMOBIA	CYPERACEAE	
FIMBRISTYLIS	DICHOTOMA	CYPERACEAE	EIGHT DAY GRASS
+ FIMBRISTYLIS	SIEBERIANA	CYPERACEAE	
GASTROLOBIUM	GRANDIFLORUM	PAPILIONACEAE	MOTHER-IN-LAW PLANT
GLOSSOSTIGMA	SPATHULATUM	SCROPULARIACEAE	
GLYCINE	CANESCENS	PAPILIONACEAE	
GNAPHALIUM	INVOLUCRATUM	COMPOSITAE	
GNAPHALIUM	LUTEOALBUM	COMPOSITAE	
GOODENIA	AZUREA	GOODENIACEAE	
GOODENIA	BERAUDIANA	GOODENIACEAE	
GOODENIA	CYCLOPTERA	GOODENIACEAE	
GOODENIA	GIBBOSA	GOODENIACEAE	
GOODENIA	GRANDIFLORA	GOODENIACEAE	
GOODENIA	LARAPINTA	GOODENIACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
GOODENIA	LUNATA	GOODENIACEAE	
GOODENIA	MUECKEANA	GOODENIACEAE	
GOODENIA	TRIODIOPHILA	GOODENIACEAE	
GOODENIA	UNILOBATA	GOODENIACEAE	
GOODENIA	VILMORINAE	GOODENIACEAE	
+ GOODENIA	SP.	GOODENIACEAE	
+ GOODENIA	SP.	GOODENIACEAE	
GOSSYPIUM	STURTIANUM	MALVACEAE	STURT DESERT ROSE
GREVILLEA	JUNCIFOLIA	PROTEACEAE	HONEY GREVILLEA
GREVILLEA	PTEROSPERMA	PROTEACEAE	
GREVILLEA	STENOBOTRYA	PROTEACEAE	
GREVILLEA	STRIATA	PROTEACEAE	BEEFWOOD
GREVILLEA	WICKHAMII	PROTEACEAE	
GYROSTEMON	RAMULOSUS	GYROSTEMONACEAE	
HAKEA	EYREANA	PROTEACEAE	CORKWOOD FORK-LEAVED
+ HAKEA	GRAMMATOPHYLLA	PROTEACEAE	
HAKEA	LEUCOPTERA	PROTEACEAE	NEEDLEWOOD
HAKEA	SUBEREA	PROTEACEAE	
HALGANIA	CYANEA	BORAGINACEAE	
HALGANIA	ERECTA	BORAGINACEAE	
HALORAGIS	ASPERA	HALORAGACEAE	
HALORAGIS	GOSSEI	HALORAGACEAE	
HALORAGIS	ODONTOCARPA	HALORAGACEAE	
HALORAGIS	UNCATIPILA	HALORAGACEAE	
+ HANNAFORDIA	BISSELLII	STERCULIACEAE	
HARMSIODOXA	BLENNODIOIDES	CRUCIFERAE	
HELICHRYSUM	AMBIGUUM	COMPOSITAE	
HELICHRYSUM	APICULATUM	COMPOSITAE	
HELICHRYSUM	BRACTEATUM	COMPOSITAE	GOLDEN EVERLASTING
HELICHRYSUM	CASSINIANUM	COMPOSITAE	
HELICHRYSUM	SEMIFERTILE	COMPOSITAE	



GENUS	SPECIES	FAMILY	COMMON NAME
+ HELICHRYSUM	THOMSONII	COMPOSITAE	
HELIOTROPIUM	BACCIFERUM	BORAGINACEAE	
HELIOTROPIUM	PLEIOPTERUM	BORAGINACEAE	
HELIOTROPIUM	TENUIFOLIUM	BORAGINACEAE	
HELIPTERUM	CHARSLEYAE	COMPOSITAE	
HELIPTERUM	FITZGIBBONII	COMPOSITAE	
HELIPTERUM	FLORIBUNDUM	COMPOSITAE	PAPER DAISY
HELIPTERUM	PTEROCHAETUM	COMPOSITAE	
HELIPTERUM	SAXATILE	COMPOSITAE	
HELIPTERUM	STIPITATUM	COMPOSITAE	PAPER DAISY
HELIPTERUM	STRICTUM	COMPOSITAE	
HELIPTERUM	TIETKENSII	COMPOSITAE	
HETERODENDUM	OLEIFOLIUM	SAPINACEAE	BULLOCK BUSH
+ HIBBERTIA	GLABERRIMA	DILLENACEAE	GUINEA FLOWER
HIBISCUS	KRICHAUFFIANUS	MALVACEAE	NATIVE HIBISCUS
HIBISCUS	LEPTOCLADUS	MALVACEAE	
HIBISCUS	STURTII	MALVACEAE	
	VAR GRANDIFLORUS		
HIBISCUS	STURTII	MALVACEAE	
	VAR TRUNCATUM		
HYBANTHUS	AURANTIACUS	VIOLACEAE	
+ HYDROCOTYLE	LARAPINTA	HYDROCOTYLACEAE	
HYDROCOTYLE	TRACHYCARPA	HYDROCOTYLACEAE	
# HYPERICUM	GRAMINEUM	GUTTIFERAE	
# IMPERATA	CYLINDRICA	GRAMINEAE	BLADY GRASS
INDIGOFERA	BASEDOWII	PAPILIONACEAE	
INDIGOFERA	BREVIDENS	PAPILIONACEAE	
INDIGOFERA	COLUTEA	PAPILIONACEAE	
INDIGOFERA	GEORGEI	PAPILIONACEAE	
INDIGOFERA	LINNAEI	PAPILIONACEAE	BIRDSVILLE INDIGO



GENUS	SPECIES	FAMILY	COMMON NAME
IPOMOEA	MUELLERI	CONVOLVULACEAE	
IPOMOEA	POLYMORPHA	CONVOLVULACEAE	
ISEILEMA	DOLICHOTRICHUM	GRAMINEAE	
ISEILEMA	VAGINIFLORUM	GRAMINEAE	FLINDERS GRASS
+ ISOETES	MUELLERI	ISOETACEAE	QUILLWART
ISOLEPIS	CONGRUA	CYPERACEAE	
ISOTOMA	PETRAEA	CAMPANULACEAE	ROCK ISOTOME
ISOTROPIS	CENTRALIS	PAPILIONACEAE	
IXIOCHLAYMS	CUNEIFOLIA	COMPOSITAE	
+ IXIOLAENA	SP.	COMPOSITAE	
° IXIOLAENA	SP.	COMPOSITAE	
JASMINUM	CALCARIUM	OLEACEAE	
JASMINUM	LINEARE	OLEACEAE	
JUNCUS	ARIDICOLA	JUNCACEAE	RUSH
# JUNCUS	CONTINUUS	JUNCACEAE	
JUNCUS	KRAUSII	JUNCACEAE	
KERAURENIA	INTEGRIFOLIA	STERCULIACEAE	
KERAURENIA	NEPHROSPERMA	STERCULIACEAE	
LAWRENCIA	GLOMERATA	MALVACEAE	
LEICHHARDTIA	AUSTRALIS	ASCLEPIACEAE	BUSH BANANA
LEPIDIUM	MUELLERI-FERDINANDI	CRUCIFERAE	
LEPIDIUM	OXYTRICHUM	CRUCIFERAE	
LEPIDIUM	ROTUNDUM	CRUCIFERAE	
LEPTOSEMA	CHAMBERSII	PAPILIONACEAE	UPSIDE-DOWN PLANT
LESCHENAULTIA	DIVARICATA	GOODENIACEAE	
LESCHENAULTIA	STRIATA	GOODENIACEAE	
# LINDSAEA	ENSIFOLIA	LINDSAEACEAE	FERN
LIPOCARPHA	MICROCEPHALA	CYPERACEAE	
LOTUS	CRUENTUS	PAPILIONACEAE	
LYSIANA	EXOCARPI	LORANTHACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
LYSIANA	MURRAYI	LORANTHACEAE	MISTLETOE
LYSIANA	SPATHULATA	LORANTHACEAE	
# MACROZAMIA	MACDONNELLII	ZAMIACEAE	CYCAD
MAIREANA	APHYLLA	CHENOPODIACEAE	
MAIREANA	ASTROTRICHA	CHENOPODIACEAE	
+ MAIREANA	CAMPANULATA	CHENOPODIACEAE	
MAIREANA	CILIATA	CHENOPODIACEAE	
MAREANA	CORONATA	CHENOPODIACEAE	
MAIREANA	GEORGEI	CHENOPODIACEAE	
MAIREANA	INTEGRA	CHENOPODIACEAE	
MAIREANA	PLANIFOLIA	CHENOPODIACEAE	
MAIREANA	SCLEROPTERA	CHENOPODIACEAE	
MAIREANA	SEDIFOLIA	CHENOPODIACEAE	BLUE BUSH
MAIREANA	TOMENTOSA	CHENOPODIACEAE	
MAIREANA	TRICHOPTERA	CHENOPODIACEAE	
MAIREANA	TRIPTERA	CHENOPODIACEAE	
MAIREANA	VILLOSA	CHENOPODIACEAE	
* MALVA	PARVIFLORA	MALVACEAE	SMALL MALLOW
MALVASTRUM	AMERICANUM	MALVACEAE	
MARSILEA	DRUMMONDII	MARSILEACEAE	NARDOO
MARSILEA	EXARATA	MARSILEACEAE	
MELHANIA	OBLONGIFOLIA	STERCULIACEAE	
MELOTHRIA	MADERASPATANA	CUCURBITACEAE	
MENKEA	SPHAEROCARPA	CRUCIFERAE	
MICROMYRTUS	FLAVIFLORA	MYRTACEAE	
MINURIA	LEPTOPHYLLA	COMPOSITAE	
# MIRBELIA	RAMULOSA	PAPILIONACEAE	
° MIRBELIA	VIMINALIS	PAPILIONACEAE	
MOLLUGO	CERVIANA	AIZOACEAE	
MONACHATHER	PARADOXA	GRAMINEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
MUELLERANTHUS	STIPULARIS	PAPILIONACEAE	
MYRIOCEPHALUS	STUARTII	COMPOSITAE	
NEURACHNE	MUNROI	GRAMINEAE	
NEWCASTELIA	SPODOTRICHIA	DICRASTYLIDACEAE	
+ NICOTIANA	GOSSEI	SOLANACEAE	NATIVE TOBACCO
NICOTIANA	ROSTULATA	SOLANACEAE	NATIVE TOBACCO
NICOTIANA	MEGALOSIPHON	SOLANACEAE	
NICOTIANA	VELUTINA	SOLANACEAE	
OLEARIA	FERRESII	COMPOSITAE	
OLEARIA	STUARTII	COMPOSITAE	
OLEARIA	SUBSPICATA	COMPOSITAE	
# OTTELIA	OVALIFOLIA	HYDROCHARITACEA	SWAMP LILY
OXALIS	CORNICULATA	OXALIDACEAE	
PANDOREA	DORATOXYLON	BIGNONIACEAE	SPEARWOOD
PANICUM	AUSTRALIENSE	GRAMINEAE	
PANICUM	DECOMPOSITUM	GRAMINEAE	
PANICUM	WHITEI	GRAMINEAE	PIGEON GRASS
PARACTAENUM	NOVAE-HOLLANDIAE	GRAMINEAE	
PARANEURACHNE	MUELLERI	GRAMINEAE	
PARIETARIA	DEBILIS	URTICACEAE	SHADE PELLITORY
PASPALIDIUM	BASICLADUM	GRAMINEAE	
PASPALIDIUM	CLEMENTII	GRAMINEAE	
PASPALIDIUM	CONRICTUM	GRAMINEAE	
PASPALIDIUM	RARUM	GRAMINEAE	
PEROTIS	RARA	GRAMINEAE	COMET GRASS
PETALOSTYLIS	LABICHBOIDES	CAESALPINIACEAE	
+ PHRAGMITES	COMMUNIS	GRAMINEAE	
PHYLLANTUS	FUERNROHBII	EUPHORBIACEAE	
PHYLLANTHUS	LACUNARIUS	EUPHORBIACEAE	
PHYLLANTHUS	RHYTIDOSPERMUS	EUPHORBIACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
+ PHYLLANTHUS	aff. SIMPLEX	EUPHORBIACEAE	
PIMELEA	TRICHOSTACHYA	THYMELAEACEAE	
PITTOSPORUM	PHYLLIRAEOIDES	PITTOSPORACEAE	
PLAGOISETUM	REFRACTUM	GRAMINEAE	
PLECTRACHNE	MELVILLEI	GRAMINEAE	
PLECTRACHNE	SCHINZII	GRAMINEAE	
+ PLECTRANTHUS	INTRATERRANEUS	LABIATAE	
PLEUROSORUS	RUTIFOLIUS	ASPLENIACEAE	
PLUCHEA	DENTEX	COMPOSITAE	
PLUCHEA	RUBELLIFLORA	COMPOSITAE	
PLUCHEA	TETRANTHERA	COMPOSITAE	
+ POLYCARPAEA	ARIDA	CARYOPHYLLACEAE	
POLYCARPAEA	CORYMBOSA	CARYOPHYLLACEAE	
# POLYGONUM	SALICIFOLIUM	POLYGONACEAE	
# POLYSTICHUM	PROLIFERUM	ASPIDIACEAE	FERN
POMAX	UMBELLATA	RUBIACEAE	
PORANTHERA	MICROPHYLLA	EUPHORBIACEAE	
# PORANTHERA	TRIANDRA	EUPHORBIACEAE	
PORTULACA	FILIFOLIA	PORTULACACEAE	
PORTULACA	OLERACEA	PORTULACACEAE	MUNYEROO
# POTAMOGETON	TRICARINATUS	POTAMOGETONACEAE	
PROSTANTHERA	BAXTERI	LABIATAE	
PROSTANTHERA	STRIATIFLORA	LABIATAE	MINT BUSH
# PSILOTUM	NUDUM	PSILOTACEAE	
PSORALEA	CINEREA	PAPILIONACEAE	
PSORALEA	PATENS	PAPILIONACEAE	VERBINE
PTEROCAULON	SPHACELATUM	COMPOSITAE	
PTEROCAULON	SERRULATUM	COMPOSITAE	APPLE BUSH
PTILOTUS	ATRIPLICIFOLIUS	AMARANTHACEAE	
PTILOTUS	DECIPIENS	AMARANTHACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
PTILOTUS	EXALTATUS	AMARANTHACEAE	
PTILOTUS	HELIPTEROIDES	AMARANTHACEAE	
PTILOTUS	INCANUS	AMARANTHACEAE	
PTILOTUS	LATIFOLIUS	AMARANTHACEAE	
PTILOTUS	MACROCEPHALUS	AMARANTHACEAE	
PTILOTUS	NOBILIS	AMARANTHACEAE	PUSSY OR LAMBS TAIL
PTILOTUS	OBOVATUS	AMARANTHACEAE	
PTILOTUS	POLSTACHYUS	AMARANTHACEAE	PUSSY OR LAMBS TAIL
PTILOTUS	SCHWARTZII	AMARANTHACEAE	
PTYCHOSEMA	ANOMALUM	PAPILIONACEAE	
RHAGODIA	NUTANS	CHENOPODIACEAE	SALTBUSH
RHAGODIA	PABABOLICA	CHENOPODIACEAE	
RHAGODIA	SPINESCENS	CHENOPODIACEAE	SALTBUSH
RHYNCHARRHEANA	LINEARIS	ASCLEPIADACEAE	
RHYNCHOSIA	MINIMA	PAPILIONACEAE	
+ RICINOCARPOS	SP.	EUPHORBIACEAE	
ROSTELLULARIA	POGONANTHERA	ACANTHACEAE	
RULINGIA	LOXOPHYLLA	STERCULIACEAE	
+ RULINGIA	MAGNIFLORA	STERCULIACEAE	
* RUMEX	VESICARIUS	POLYGONACEAE	RUBY DOCK
RUTIDOSIS	HELICHRYSOIDES	COMPOSITAE	
SALSOLA	KALI	CHENOPODIACEAE	(BUCKBUSH) ROLY POLY
SANTALUM	ACUMINATUM	SANTALACEAE	QUANDONG
SANTALUM	LANCEOLATUM	SANTALACEAE	NATIVE PLUM
SARCOSTEMMA	AUSTRALE	ASCEPIADACEAE	CAUSTIC VINE
+ SAUROPUS	RAMOSISSIMUS	EUPHORBIACEAE	
SCAEVOLA	COLLINA	GOODENIACEAE	
SCAEVOLA	DEPAUPERATA	GOODENIACEAE	
SCAEVOLA	PARVIFOLIA	GOODENIACEAE	
SCAEVOLA	SPINESCENS	GOODENIACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
# SCHOENUS	FALCATUS	CYPERACEAE	
SCIRPUS	DISSACHANTHUS	CYPERACEAE	
# SCIRPUS	LITORALIS	CYPERACEAE	
+ SEDOPSIS	FILSONII	PORTULACACEAE	
SENECIO	GREGORII	COMPOSITAE	YELLOW TOP
SENECIO	LACERATUS	COMPOSITAE	YELLOW TOP
SENECIO	LAUTUS	COMPOSITAE	
SETARIA	APICULATA	GRAMINEAE	
SIDA	CARDIOPHYLLA	MALVACEAE	
SIDA	CRYPHIOPETALA	MALVACEAE	
SIDA	FIBULIFERA	MALVACEAE	
SIDA	FILIFORMIS	MALVACEAE	
SIDA	PLATYCALYX	MALVACEAE	
SIDA	RHOMBIFOLIA	MALVACEAE	
SIDA	ROHLENAE	MALVACEAE	
SIDA	VIRGATA	MALVACEAE	
SIDA	SP.	MALVACEAE	
SIEGESBECKIA	ORIENTALIS	COMPOSITAE	DESERT RAISIN
SISYMBRIUM	ERYSIMOIDES	CRUCIFERAE	
SOLANUM	CENTRALE	SOLANACEAE	
SOLANUM	EARDLEYAE	SOLANACEAE	
SOLANUM	ELLIPTICUM	SOLANACEAE	WILD TOMATO
SOLANUM	AFF. ELLIPTICUM	SOLANACEAE	
SOLANUM	ORBICULATUM	SOLANACEAE	
SOLANUM	PETROPHILUM	SOLANACEAE	
SOLANUM	QUADRILOCULATUM	SOLANACEAE	
SOLANUM	STURTIANUM	SOLANACEAE	
SONCHUS	ASPER	COMPOSITAE	MILK THISTLE
* SONCHUS	OLERACEUS	COMPOSITAE	SOW WHISTLE
SPARTOTHAMNELLA	TEUCRIIFLORA	DICRASTYLIDACEAE	



GENUS	SPECIES	FAMILY	COMMON NAME
SPOROBOLUS	ACTINOCLADUS	GRAMINEAE	
SPOROBOLUS	AUSTRALASICUS	GRAMINEAE	
SPOROBOLUS	BLAKEI	GRAMINEAE	
SPOROBOLUS	CAROLI	GRAMINEAE	
STACKHOUSIA	MEGALOPTERA	STACKHOUSIACEAE	
STEMODIA	VICOSA	SCROPHULARIACEAE	
STENOPETALUM	ANFRACTUM	CRUCIFERAE	
STENOPETALUM	DECIPIENS	CRUCIFERAE	
STENOPETALUM	NUTANS	CRUCIFERAE	
STENOPETALUM	VELUTINUM	CRUCIFERAE	
+ STIPA	SCABRA	GRAMINEAE	
STIPA	SP LATZ 4305	GRAMINEAE	
STREPTOGLOSSA	DECURRENS	COMPOSITAE	
STREPTOGLOSSA	LIATROIDES	COMPOSITAE	
+ STYLIDIUM	INAEQUIPETALUM	STYLIDIACEAE	TRIGGER PLANT
SWAINSONA	BURKEI	PAPILIONACEAE	DARLING PEAS
+ SWAINSONA	COLUTOIDES	PAPILIONACEAE	
SWAINSONA	FLAVICARINATA	PAPILIONACEAE	
SWAINSONA	MICROPHYLLA	PAPILIONACEAE	
SWAINSONA	MICROPHYLLA	PAPILIONACEAE	
SWAINSONA	PHACOIDES	PAPILIONACEAE	
SYNAPTANTHA	TILLAEACEA	RUBIACEAE	
TEPHROSIA	SPHAEROSPORA	PAPILIONACEAE	
THEMEDA	AUSTRALIS	GRAMINEAE	KANGAROO GRASS
THEMEDA	AVENACEA	GRAMINEAE	OAT GRASS
THRYPTOMENE	MAISONNEUVII	MYRTACEAE	DESERT MYRTLE
THYRIDOLEPIS	MULTICULMIS	GRAMINEAE	
THYRIDOLEPIS	XEROPHILA	GRAMINEAE	
+ TRACHYMENE	GILLENIAE	UMBELLIFERAE	
TRACHYMENE	GLAUCIFOLIA	UMBELLIFERAE	WILD PARSNIP



GENUS	SPECIES	FAMILY	COMMON NAME
TRAGUS	AUSTRALIANUS	GRAMINEAE	SMALL BURR GRASS
TRIANHEMA	TRIGQUETRA	AIZOACEAE	
TRIBULUS	TERRESTRIS	ZYGOPHYLLACEAE	CALTROP
TRICHODESMA	ZEYLANICUM	BORAGINACEAE	CATTLE BUSH
+ TRIGOLCHIN	CENTROCARPA	JUNCAGINACEAE	
TRIODIA	CLELANDII	GRAMINEAE	SPINIFEX
TRIODIA	LONGICEPS	GRAMINEAE	
TRIODIA	PUNGENS	GRAMINEAE	
TRIPOGON	LOLIIFORMIS	GRAMINEAE	FIVE MINUTE GRASS
+ TRIPOGON	Aff. LOLIIFORMIS	GRAMINEAE	
TRIRAPHIS	MOLLIS	GRAMINEAE	PURPLE PLUME GRASS
TYPHA	DOMINGENSIS	TYPHACEAE	
# VALLISNERIA	SPIRALIS	HYDROCHARITACEAE	EEL GRASS
VELLEIA	CONNATA	GOODENIACEAE	
VELLEIA	GLABRATA	GOODENIACEAE	
VIGNA	LANCEOLATA	PAPILIONACEAE	PENCIL YAM
VITTADINIA	SCABRA	COMPOSITAE	
VITTADINIA	SP.	COMPOSITAE	
WAHLENBERGIA	GRACILIS	CAMPANULACEAE	
WAHLENBERGIA	TUMIOFRUCTA	CAMPANULACEAE	
WEDELIA	STIRILINGII	COMPOSITAE	
ZALEYA	GALERICULATA	AIZOACEAE	
ZYGOCHLOA	PARADOXA	GRAMINEAE	CANE GRASS
ZYGOPHYLLUM	AMMOPHILUM	ZYGOPHYLLACEAE	TWIN LEAF
ZYGOPHYLLUM	APICULATUM	ZYGOPHYLLACEAE	
ZYGOPHYLLUM	EREMAEUM	ZYGOPHYLLACEAE	
ZYGOPHYLLUM	IODOCARPUM	ZYGOPHYLLACEAE	
ZYGOPHYLLUM	PRISMATOTHECUM	ZYGOPHYLLACEAE	
ZYGOPHYLLUM	TESQUORUM	ZYGOPHYLLACEAE	



FUNGI

GENUS	SPECIES	FAMILY	COMMON NAME
DISCISEDA	Sp.	LYCOPERDACEAE	Puff ball
LYCOPERDON	Sp.	LYCOPERDACEAE	Puff ball
LYCOPERDON	Sp.	LYCOPERDACEAE	Puff ball
PISOLITHUS	TINCTORIUS	SCLERODERMATACEAE	Earth ball
PODAXIS	PISTILLARIS	PODAXACEAE	Desert Coprinus
PORIA	Sp.	POLYPORACEAE	
PYCNOPORUS	COCCINEUS	POLYPORACEAE	Scarlet shelf fungus
TULOSTOMA	Sp.	TULOSTOMATACEAE	Stalked puff ball
KALOTAS N.T. 335M		LYCOPERDACEAE	Puff ball
KALOTAS N.T. 330M		LYCOPERDACEAE	Small Puff ball
KALOTAS N.T. 332M		LYCOPERDACEAE	Small Puff ball
KALOTAS N.T. 333M		BOLETACEAE	



## CHECK-LIST OF MAMMALS

Order : Monotremata  
 Family : Tachyglossidae

Echidna Tachyglossus aculeatus

Order : Marsupialia  
 Family : Macropodidae

Red Kangaroo Macropus rufus  
 Euro Macropus robustus  
 Rock Wallaby Petrogale penicillata

Family : Dasyuridae

Red-eared Antechinus Antechinus macdonnellensis  
 Sminthopsis Sminthopsis sp. nov. affin. hirtipes/macroura

Order : Eutheria  
 Family : Muridae

Sandy Inland Mouse Pseudomys hemmannsburgensis  
 Spinifex Hopping-mouse Notomys alexis  
 \*House Mouse Mus musculus  
 \*\* Central Rock-rat Zyzomys pedunculatus  
 \*\*White-tipped Stick-nest Rat Leporillus apicalis

Family : Vespertilionidae

Little Brown Bat Eptesicus pumilis  
 Goulds Wattled Bat Chalinolobus gouldii

Family : Molossidae

White-striped Bat Tadarida australis



Family : Emballonuridae

Taphazous hilli

Family : Canidae

Dingo

Canis familiaris

Family : Bovidae

\*Ox

Bos taurus

Family Equidae

\*Horse

Equus caballus

Family : Camelidae

\*Camel

Camelus dromedarius

Family : Leporidae

\*Rabbit

Oryctolagus cuniculus

Family : Felidae

\*Cat

Felis catus

\*Introduced species

\*\* Evidence of earlier existence found (e.g. abandoned nests)



## CHECK LIST OF BIRDS

Acanthizidae

Acanthiza apicalis	Inland Thornbill
Acanthiza nana	Yellow Thornbill
Aphelocephala leucopsis	Southern Whiteface
Sericornis brunneus	Redthroat

Accipitridae

Accipiter fasciatus	Australian Goshawk
Aquila audax	Wedge-tailed Eagle
Circus assimilis	Spotted Harrier
Elanus notatus	Black-shouldered Kite
Haliastur sphenurus	Whistling Kite
Hamirostra melanosternon	Black-breasted Kite
Hieraaetus morphnoides	Little Eagle
Milvus migrans	Black Kite

Aegothelidae

Aegotneles cristatus	Australian Owlet Nightjar
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Caprimulgidae

Caprimulgus guttatus	Spotted Nightjar
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Alcedinidae

Halcyon pyrrhopygia	Red-backed Kingfisher
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Ardeidae

Ardea novaehollandiae	White-faced Heron
Ardea pacifica	Pacific Heron

Hirundinidae

Artamus cinereus	Black faced Wood Swallow
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Artamus minor  
Cheramoeca leucosternum

Little Wood Swallow  
White-backed Swallow

Cacatuidae

Cacatua leadbeateri  
Calyptorhynchus magnificus

Pink Cockatoo  
Red-tailed Black Cockatoo

Campephagidae

Corcaciina novaehollandiae  
Lalage sueurii

Black-faced Cuckoo-shrike  
White-winged Triller

Cracticidae

Cracticus nigrogularis  
Cracticus torquatus  
Gymnorhina tibicen

Pied Butcher Bird  
Grey Butcher Bird  
(White-backed Magpie  
(Black-backed Magpie

Columbidae

Geopelia cuneata  
Geopelia striata  
Petrophassa plumifera  
Ocyphaps Laphotes  
Phaps chalcoptera

Diamond Dove  
Peaceful Dove  
Spinifex Pigeon  
Crested Pigeon  
Common Bronzewing

Corvidae

Corvus sp.

Crow

Cuculidae

Chrysococcyz basalis  
Cuculus pallidus

Horsefield's Bronze Cuckoo  
Pallid Cuckoo

Dicaeidae

Dicaeum hirundinadeum

Mistletoe Bird



Pardalotidae

Pardalotus rubricatus Red-browed Pardalote  
Pardalotus striatus Striated Pardalote

Dromaiidae

Dromaius novaehollandiae Emu

Ephthianuridae

Ephthianura tricolor Crimson Chat

Falconidae

Falco berigora Brown Falcon  
Falco cenchroides Australian Kestrel  
Falco longipennis Little Falcon

Grallinidae

Grallina cyanoleuca Australian Magpie-Lark

Hirundinidae

Cecropis ariel Fairy Martin

Maluridae

Amytornis purnelli Dusky Grasswren  
Malurus splendens Splendid Fairy-wren  
Malurus lamberti Variegated Fairy-wren

Meliphagidae

Anthochaera rufogularis Spiney-cheeked Honeyeater  
Lichmera indistincta Brown Honey eater  
Manorina flavigula Yellow-throated Miner  
Lichenostomus keartlandi Grey-headed Honeyeater  
Lichenostomus penicillata White-plumed Honeyeater



Lichenostomus plumulus	Grey-fronted Honeyeater
Lichenostomus virescens	Singing Honeyeater
Phylidonyris albifrons	White-fronted Honeyeater

Meropidae

Merops ornatus	Rainbow Bee-eater
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Motacillidae

Anthus novaeseelandiae	Richards Pipit
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Muscicapidae

Colluricincla harmonica	Grey Shrike-Thrush
Melanodryas cucullata	Hooded Robin
Petroica goodenovii	Red-capped Robin
Rhipidura fuliginosa	Grey Fantail
Rhipidura leucophrys	Willie Wagtail
Oreoica gutturalis	Crested Bellbird
Pachycephala rufiventris	Rufous Whistler

Otididae

Ardeotis australis	Bustard
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Platycercidae

Barnardius zonarius	Port Lincoln Ringneck
Melopsittacus undulatus	Budgerigah
Psephotus varius	Mulga Parrot

Podargidae

Podargus strigoides	Tawny Frogmouth
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Podicipedidae

Tachybaptus novaehollandiae	Australasian Grebe
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Polytelitidae

Nymphicus hollandicus	Cockatiel
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Paradisaeidae

Chlamydera maculata

Spotted Bower Bird

Ploceidae

Emblema picta

Painted Firetail

Poephila guttata

Zebra Finch

Strigidae

Ninox novaeseelandiae

Boobook Owl

Tytonidae

Tyto alba

Barn Owl

Sylviidae

Cinclorhamphus cruralis

Brown Song Lark

Cinclorhamphus mathewsi

Rufous Song Lark

Timaliidae

Pomatostomus superciliosus

White-browed Babbler

Turnicidae

Turnix velox

Little Button Quail



## CHECK-LIST REPTILES AND FROGS

## \* K. SLATER RECORDS

Gecko Lizards

Clawless gecko  
 Jewelled gecko  
 Spiney-tailed gecko  
 Spotted dtella  
 Tree dtella  
 Bynoe's gecko  
 Knob-tailed gecko  
 Knob-tailed gecko  
 \*Marbled velvet gecko  
 Beaked gecko

Family - Gekkonidae

Crenadactylus ocellatus  
 Dipodactylus elderi  
 Diplodactylus intermedius  
 Gehyra punctata  
 Gehyra variegata  
 Heteronotia binoei  
 Nephurus asper  
 Nephurus laevissimus  
 Oedura marmorata  
 Rynchoedura ornata

Legless Lizards

No common name  
 Burtons Legless Lizard  
 Hooded scaly-foot

Family-Pygopodidae

Delma borea  
 Lialis burtonis  
 Pygopus nigriceps

Dragon Lizards

Ring-tailed dragon  
 Military dragon  
 Bearded dragon  
 Central netted dragon  
 No common name  
 No common name  
 Thorny devil

Family-Agamidae

Amphibolurus caudicinctus  
 Amphibolurus isolepis  
 Amphibolurus mitchelli  
 Amphibolurus nuchalis  
 Diporiphora winneckeii  
 Lophognathus longirostris  
 Moloch horridus

Goanna or Monitor Lizards

Pygmy mulga goanna  
 Sand goanna  
 Pygmy goanna

Family-Varanidae

Varanus gilleni  
 Varanus gouldii  
 Varanus tristis



Skink Lizards

Tree skink

No common name

Striped skink

Striped skink

Striped skink

Ocellated skink

Striped skink

Striped skink

\*Rock skink

\*No common name

Burrowing skink

No common name

No common name

Fire-tailed skink

No common name

Front-Fanged

Land Snakes

\*Western brown snake

Eastern brown snake

\*Curl snake

Tree Frogs

Centralian tree frog

Desert tree frog

Family-Scincidae

Cryptoblepharus plagiocephalus

Ctenotus brooksii

Ctenotus collettii

Ctenotus leae

Ctenotus leonhardii

Ctenotus pantherinus

Ctenotus quattuordecimlineatus

Ctenotus schomburgkii

Egernia margaretae

Egernia striata

Lerista labialis

Menetia greyi

Morethia boulengeri

Morethia ruficauda

Omolepida brachialis

Family-Elapidae

Pseudonaja nuchalis

Pseudonaja textilis

Suta suta

Family-Hylidae

Litoria gilleni

Litoria rubella