PROPOSED RESERVE SOUTH OF HYDEN.

File 383/66.

Mr. Richard Lane has suggested that an area of approximately 100,000 acres of Vacant Crown Land situated near Hyden might be suitable for the purposes of Conservation of Flora and Fauna. Between the 25th and the 28th of April 1972, a preliminary survey was undertaken. The objectives included:-

1) To determine the diversity of the soil-vegetation associations included in the block.

2) To assess the suitability of the Lands Department vegetation-soil Classification Map.

3) To make an initial assessment of the diversity of large wildlife present in the area.

4) To contact Mr. Lane and to determine the recent fire history of the land.

5) To make recommendations on the equipment and staff required for a more detailed report on the soils, vegetation and fauna. This more detailed report would need to provide sufficient information to allow:-

a) delineation of reserve boundaries so as to conserve an adequate cross-section of habits.

b) prepare a case for aquisition of a reserve in the area.

c) comparison to be made with other large reserves already set aside - viz Lake Barker, Lake Magenta and Tarin Rocks Reserve - in the vicinity.

Location:

Most of the land under consideration is included on litho 375/80 although small areas overlap onto 388/80 and 376/80. The Kulin Shire controls the northern sections and the Lake Grace Shire the Southern part. The original proposal was for 40,000 acres but experience in the eastern part of the South-West Land Division has shown that reserves of closer to 100,000 acres are more desirable.

Climate:

The Atlas of Australian Resources describes the area as "inland temperate". It is an area of uncoordinated drainage as it forms part of the "Western Plateau". The 50 percentile rainfall figures are listed for Merredin - (the closest area with a weather station):-

Total	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1234	20	19	50	56	165	198	205	160	90	58	39	24

The above values are measured in "points" (100 points = 1".)

The rainfall is between 10 and 15 inches per year.

The Temperatures are listed below:-

	Average Maximum	Average Minimum	Normal Mean
Jan.	90 - 100° F	50 - 60° F	70 - 80° F
April	70 - 80	50 - 60	60 - 70
July	50 - 60	40 - 50	40 - 50
Oct.	70 - 80	40 - 50	50 - 60

The Temperature exceeds 100°F on between 10 and 40 days per year. It drops below 32°F on less than 5 days per year.

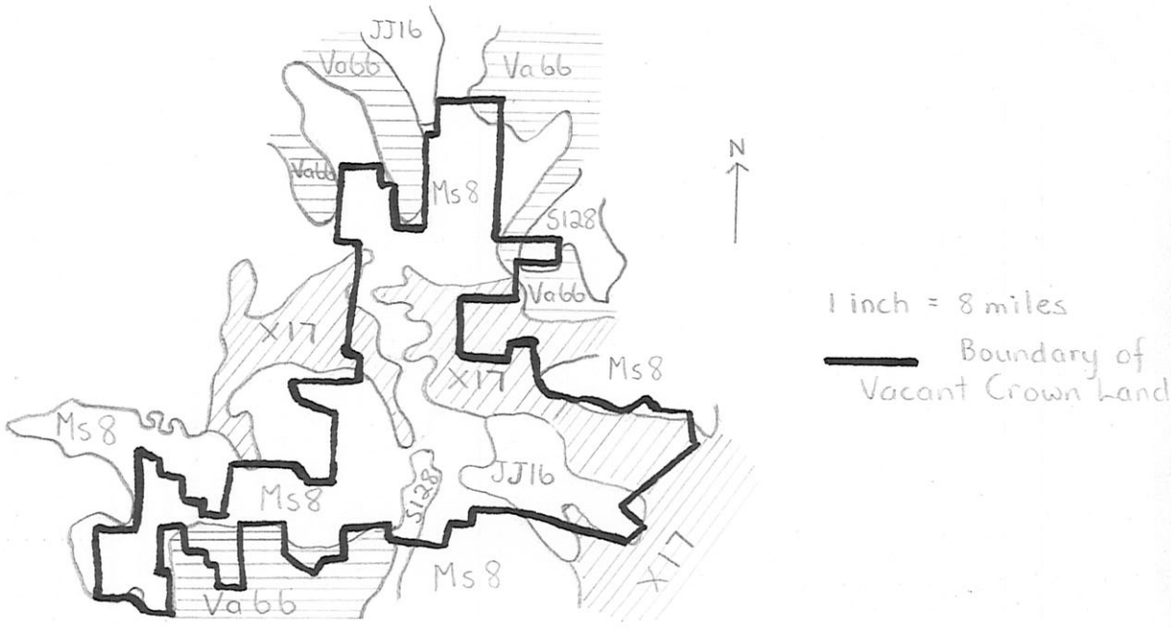
Geomorphology:

The Atlas of Australian Soils maps the following landscape surfaces on the Vacant Crown Land under consideration:-

Ms8 (dominant), X17 (extensive), JJ16 (extensive), and Va66 (insufficient). In the surrounding district the following additional surface types occur:-

Va66 (extensive), S128 and S129 (important), SV1 (important), DD9 and DD11 (less common).

One noticeable feature of the vacant land was that its present boundaries tended to follow the boundary of surface Va66 so that this, a fairly extensive complex of soils, was largely excluded.



The notes accompanying the Atlas of Australian Soils describe the above surfaces as follows:-

Ms8:

Gently sloping to gently undulating plateau areas or uplands with long and very gentle slopes and, in places, abrupt erosional scarps: chief soils are:-

(1) On depositional slopes, sandy yellow earths (Gn 2.21 and Gn 2.22) containing some ironstone gravels, and yellow earthy sands (Uc 5.22) often with ironstone gravels at depths below 6 - 7 ft.

(11) on erosional ridges and slopes, ironstone gravels (KS-Uc 4.11) together with (Uc 4.11) and (Uc 2.12) (both containing ironstone gravels), all underlain by hardened mottled zone materials at depths of 12-24 inches. Soils (1) tend to have slight dominance over soils of (11).

(111) associated are smaller areas of other soils such as (Dy 3.82) containing ironstone gravels in its surface horizons.

(1V) small areas of Units JJ16, Va66, DD9, X17, and S128 are often included.

X17:

Slopes and valleys: chief soils are sandy neutral and alkaline yellow mottled soils (Dy 5.42 and Dy 5.43). Associated are various related (Dy) soils such as (Dy 3.43) and(Dr) soils such as (Dr 5.43); leached sands such as (Uc 2.31); and areas of undescribed soils. There are similarities with unit Va66.

As mapped, small areas of units JJ16, Ms8, S128, S129 and DD11 are included.

JJ16:

Broken Terrain characterized by rock outcrops (granite bosses and tors) which may cover very large areas within the unit: shallow and often stony or gritty sandy soils (Uc 4.11), (Uc 4.33) and (Uc 4.22) form a soil scree around the areas of base rock.

Associated are small areas of many other soils, such as (Dr 2.62) and (Gc 2.22); their occurrence reflects the chemistry of the individual rock outcrop.

Small areas of Va66 and Ms8 are included.

Va66:

Gently undulating to rolling terrain with some ridges and uneven slopes; and with the variable presence of lateritic mesas and buttes and granitic tors and bosses.

Chief soils are hard alkaline yellow mottled soils (Dy 3.43) and hard alkaline red soils (Dr 2.33), (Dr 3.33) and(Dr 2.43), either of which may be dominant locally. Associated are a variety of Dy and Dr soils. Acid lateritic strata are common below 4-5 ft.

As mapped, Ms8, JJ16, S128, Oc31 and Ub2 and Uf1 are often included.

Thus the Vacant Crown Land was dominated by high level elements.

Vegetation:

The vegetation observed was typical of high country in the Eastern Wheat Belt. Salmon Gum stands and other typically low level vegetation were restricted to the shallow, gently sloping drainage lines.

On the high level ironstone ridges and sandplain country, scrub formations dominated. The steeper gravelly slopes associated with breakaways and laterite ridges supported stands of mallet - mainly blue and brown mallet with leaf litter ground cover - patches of mallee and broombush scrub.

The lower slopes - with duplex soils - were covered by open mallee formations including Golden Mallee and several other species. No "mort" associations were observed. The granite outcrops (mainly sheet exposures and bosses) were covered with "granite grass". Stands of adult Casuarina heugeliana and Acacia (accuminata?) were generally present on the deep sandy and loamy soils below the exposures - possibly taking advantage of the "runoff"effect. Generally however, the occurrence of granite exposures or near exposures seemed to be correlated with extensive areas of Casuarina campestris scrub.

The shallow drainage lines contained associations dominated by Salmon Gum (of variable quality and age) but species of mallee, Ti-tree and areas of broombush were also present.

Generally there was no sign of recent bushfires.

Vegetation boundaries marked on sheet 384 of the East Newdegate Classification were still appropriate despite the fact that the map was compiled in 1926. When interpreting these maps, however, it was important to remember that they were originally compiled for agricultural purposes. Associations were described in terms of certain agriculturally important indicator species (which gave an idea of the agricultural importance of the land) and these were not necessarily the dominants. For example, "prickly poison" - Gastrolobium spinosum - was a common vegetation description used on the above map. Although the presence or absence of this poisonous plant was probably important when considering the agricultural value of land, it is seldom a dominant species in this region, being normally found in association with open mallee formations as a sub-dominant.

Nevertheless, the East Newdegate Classification Maps should provide a convenient base map on which vegetation transects can be designed to provide more detailed information. The preliminary examination of the land has led me to the conclusion that the vegetation survey is best approached by a transect technique designed from then superimposed upon the ENC map. I believe that this approach will provide information at a level adequate for acquisition and reserve information purposes.

Animals:

During the few days so far spent on the reserve, evidence of the following animals was seen:-

Macropus fuliginosus	Grey Kangaroo	14 seen.
Macropus irma	Brush Wallaby	2 seen.
Canis sp (C. familiaris?)	Dingo or Feral Dog	Fresh Tracks.
Oryctolagus coniculus	Rabbit	Fresh scats.
Dromaius novaehollandiae	Emu	Heard calling on several occasions.
Varanus sp (V. gouldii?)	Goanna	A hole was excavated.
Gehyra variegata	Gekko	2 collected.
Amphibolurus ornatus	Ornate Dragon	Many were seen on granite outcrops.

I recommend that extensive trapping, spotlighting, bird identification and reptile collection should be undertaken in all associations. The information would be of considerable value especially when compared with that already collected on Lake Magenta, Tarin Rocks and Lake Barker Reserves.

Access:

The area was criss-crossed by tracks and gravel roads. The nature of the vegetation and the gentle gradients of the slopes permitted vehicle movement virtually anywhere within the boundaries. The known tracks are marked on the vegetation map.

History:

According to Mr. Lane, the last major bushfire was in 1949 when most of the region was severely burnt. The unburnt appearance of the vegetation would support this statement.

Information on the present vesting and previous history of this potential reserve is contained in Fisheries and Fauna File, No. 383/66.

Recommendations:

1. That a detailed survey be carried out by a well-equipped team in August or early September.

2. That the survey include soil and vegetation survey based on a transect technique, and bearing in mind that the vegetation in this region is, in a large part, influenced by soil distribution.

3. That the vegetation-soil map thereby produced be used to delineate the boundaries of the proposed reserve within the available Vacant Crown Land.

4. That a report be prepared assessing the value of the proposed reserve and comparing it with the other large reserves in the region

5. That a copy of the report be sent to the Lands Department via the W.A. Wildlife Authority.

6. That "A Class" status be considered in view of the large area of the block.

7. The following items of equipment should be obtained for the survey:

1. An aerial mozaic.

2. A set of East Newdegate Classification Sheets covering the entire block.

3. A set of stereo-pair aerial photographs.

N. McKenzie.