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WESTERN AUSTRALIA

A SURVEY OF  
CROWN LAND NORTH OF YUNA.  
PROPOSED RESERVE REPORT.

A Report Compiled By  
D. J. Mell  
District Wildlife Officer  
Fisheries & Wildlife Department  
Geraldton



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Geraldton District  
Office.

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Dept. Fisheries & Wildlife,  
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PERTH. W.A. 6000

Attention C.W.O.

RESERVE SURVEY

NAME: None.

REASON FOR SURVEY: Self initiative.

RESERVE NUMBER: Nil.

LAND DISTRICT: Victoria. LITHO: 55/300 191/80.

LOCATION NUMBERS: Nil. 10720 appearing on Litho 55/300  
is crown land and appears to have  
reverted to inclusion with the larger  
unsurveyed block to the east and south.  
It is not recorded with the Northampton  
Shire.

AREA: Unknown. The boundaries include Square Road on  
the West, Coolcalalya-Yandi Road on the North,  
the Number 3 Vermin Fence to the south and Kallee  
Station to the east.

PERSONNEL: D.J. EMIL.

METHOD: Extensive vehicle and foot patrols.

DATE/TIME: From October 19th to November 7th, 1980,  
for varying lengths of time,

TEMPERATURE: Generally fine and warm. Maximums up to 36°C. Wind, mainly easterlies at 5-15 kph.

CLOUD: Varied from clear skies to thunderstorm activity with 4/5 cumulo nimbus cloud cover. No rain.

ADJOINING LAND:

The northern boundary of this block adjoins a sandy station track which runs from Yandi to Coolcalalya Station. Part of the southern boundary of this station also adjoins.

To the north of the track lies the southern portion of Yandi Station and the Purchison River. This area is poorly fenced with five strand plain wire and is grazed by sheer. None of this land is cleared. The property is leased by Mr. J. Drew, Yandi Pastoral Co., via Ajana. Coolcalalya Station is owned by E.V. Barndon formerly of 55 Mark Street, Geraldton. Barndon now resides at the Station.

To the west, this block adjoins Square Road, which runs from the Yandi Road to the number three Vermin Fence. West of the road, which is fenced with rabbit netting, one plain, one barb, one plain, there are eight locations;

- 392 Part of Yandi: J. Drew.
- 5145 J. & V.R. Porter, Riverside Pastoral Co., Ajana.
- 5144 J. & V.R. Porter, Riverside Pastoral Co., Ajana.
- 10511 J. & V.R. Porter, Riverside Pastoral Co., Ajana.
- 10512 J. & V.R. Porter, Riverside Pastoral Co., Ajana.
- 10756 W. & E. Boetcher, P.O. Ajana.
- 10697 G.R. Foot, Ajana.
- 7473 J.L. Ralph, Binna.

Apart from two relatively small areas of scrub, all the above locations adjoining Square Road are cleared and under crop or pasture.

The southern boundary adjoins the number three Vermin Fence which runs east-west from Bluff Inoll, south of Kalbarri. The majority of the land south of the fence is cleared and under crop or pasture. A number of locations project into the block at the mid southern boundary (see diagram). Most of these blocks have been cleared and developed, however the north west extremity is uncleared.

The locations include:

- 5076 S.J., F.G., P.J. & R.J. O'Donnell of 53 Drew Street, Bluff Point.
- 5077 S.J., F.G., P.J. & R.J. O'Donnell of 53 Drew Street, Bluff Point.
- 5078 S.J., F.G., P.J. & R.J. O'Donnell of 53 Drew Street Bluff Point.
- 10483 Vacant Crown Land.
- 5074 E.J. & E.K. Wickers. F.F.B. 33, F.C. Geraldton.
- 5075 O'Donnell, 53 Drew Street, Bluff Point.
- 5073 W.E. & F.F. Green. F.F.B. 9, Geraldton.
- 5080 W.E. & F.F. Green. F.F.B. 9, Geraldton.
- 5082 W.E. & F.F. Green. F.F.B. 9, Geraldton.
- 5083 E.C. & E.K. Ford, Binna.
- 5086 E.C. & E.K. Ford, Binna.
- 5087 E.C. & E.K. Ford, Binna.
- 5084 W.E. & F.F. Green, F.F.B. 9, F.C., Geraldton.
- 5081 W.E. & F.F. Green, F.F.B. 9, F.C., Geraldton.
- 5079 E.C. & E.K. Ford. Binna.
- 5072 E.C. & E.K. Ford. Binna.
- 10619 W.E. & F.F. Green, F.F.B. 9, F.C., Geraldton.
- 10778 W.E. & F.F. Green, F.F.B. 9, F.C., Geraldton.

In the south east corner of the block near Timber Reserve number 17946 is an area of land recorded as Stredbrooke Pastoral Co. The area is not fully fenced or developed in any way, nor is it stocked. The block is 4.8 km by 4.8 km in size and is owned by Andrew and Ian Thomas c/- F.C. Yuna. Mr. Ian Thomas advises that he has not been to the block for five years.

They farm south of the Vermin Fence. Although it is not used at this time, Mr. Thomas states that he objects to any proposal of a Reserve adjoining as "he has enough trouble with vermin now".

Adjoining the eastern boundary of the block is Lallee Station owned by J.H. & J.L. Reimers, Lallee Station via Yuna and Lake Merramyne Station owned by L.D. & P.J. Mulcahy, Kingsgrove Station via Lullewa. A new vermin fence runs from the southern boundary of Coolcalalya Station, south-east to Lake Merramyne Station. East of the vermin fence, the crown land runs through to Yallalong Station's west boundary.

Fences on the western extremities of Lallee are confusing and, although in reasonable condition, would not prevent stock from moving into the adjoining crown land. This section of Lallee, which is 80,000 acres in size, is not stocked.

#### HUFAN USAGE.

Two small mineral leases exist in the northern region of this block (see diagram). The leases cover rock outcrops which I believe may be investigated for diamonds. The north-west shelf gas pipeline passes north to south through this block. It crosses the Murchison River east of Coolcalalya homestead. East of the new vermin fence and adjoining the south-east corner of Coolcalalya is an area of land which has been applied for as pastoral lease to be added to Coolcalalya. Coolcalalya has recently released a large area of land north of the River.

Appearing on the litho are a large number of 1,000 to 5,000 acre blocks west of Merramyne. These were apparently experimental farms established by the Agricultural Department after the second World War. The scheme failed, all blocks remain crown land and the boundaries do not appear on modern day lithos. Some original gate and fence posts still remain in the area.

An access road has recently been constructed for use in the North West Gas Project. It runs parallel to Square Road from the Yandi-Coolcalalya Road, south to the Vermin fence.

#### DAMAGE AND DEGRADATION:

Some invasion of wild turnip exists along the western and part of the southern boundaries. Small pits have been dug along the side of Square Road, apparently to accommodate some of the many emus that were shot along this road during the invasion several years ago.

#### FIREBREAKS:

No firebreaks exist specifically for that purpose anywhere around the block. However, there are accessible tracks around the perimeter of the block in addition to what appears to be survey or exploratory grid search tracks throughout the block.

#### SOILS:

Soil varies from typical yellow sand plain in the west to red sandy loam in the east and north of the block. The change occurs in patches, yellow to red from west to east with areas of rock outcrop on the west boundary and mid north areas (mineral leases). The west boundary outcrop appears to be of a sandstone and granite composition, while the mid-northern outcrops appear to be a laterite conglomerate.

#### TOPOGRAPHY:

Gently undulating and featurless sandplain. The Topographic Unit for this region is the Victoria Plateau.

#### FIRE HISTORY:

An area, approximately 25% of the block, was burnt in 1978. The area extends in a broad strip from the Murchison River, east of Coolcalulya homestead, south to the northern extremity of Dartmoor Road and east to Fallee Station. The remainder of the block appears not to have been burnt for many years.



PLANT FORMATION:

Generally on the yellow sand there is a scrub of *Actinostrobus arenarius* (Sandplain cypress), *Banksia scieptrum* (Sceptre banksia), *Xylomelum angustifolium* (Wood-pear), *Banksia ashbyi* (Ashby's banksia), *Grevillea cordoniana* and *Eucalyptus* over heath A species rich.

Heath A includes such species as *Calothamnus telephospermus*, *Corospermum stoechadis* (Smoke bush), *Acacia acuminata* (Jam wattle), *Acacia lineolata*, *Calothamnus pileosii*, *Melaleuca scabra* (Rough honey-myrtle), *Melaleuca seriata*, *Beaufortia squarrosa* (Sand bottlebrush), *Lamarchea baeuifolia*, *Beaufortia dampiera*, *Melaleuca depressa*, *Casuarina campestris* (Fenna), *Calothamnus chrysanthemus*, *Grevillea integrifolia* (Entire-leaved grevillea), *Grevillea cardians*, *Grevillea eriostachya* (Flare grevillea), *Bremea pauciflora* with areas of Dwarf scrub & *Hibbertia conspicua* (Leafless hibbertia), *Pileanthus peduncularis* (Copper-cups), *Comesperma* sp., *Petrophile* sp., *Verticordia mullerana*, *Verticordia monodelpha*, *Verticordia polytricha*, *Verticordia lepidophylla*, *Medeicollia monostachya* (Sedge) and small myrtls which include *Thryptomene*, *Baekea* and *Sholtzia*.

On the red soil the *Eucalyptus*, *Casuarina acutivalvis* ("Sheoke") and *Melaleuca eucalyptostachya* dominate in thickets. Found here also is *Acacia acuminata* (Jam wattle), *Acacia longispinea*, *Melaleuca uncinata* (Broom honey-myrtle), *Persea* sp., and *Bremophila clarkii* (Poverty bush). In other areas there is *Callitris columellaris* (Cypress pine), *Eucalyptus loxophloea* (York gum), *Acacia ramulosa* (Bowgada), *Acacia tetragonophylla* (Kurara) and *Baekea invaginata*.

Below in more detail are the descriptions of plants and formations from throughout the block surveyed. Of particular interest was:

- (a) The west side and northwest corner of the block which contained an extensive variety of flora.
- (b) The areas of *Eucalyptus* dominance.
- (c) The red soil areas typical of station country in this region which contain *Callitris*, *Eucalyptus* and *Bowgada*. These areas occurred in the north east region of the block and on the eastern extremity both east and west of the vermin fence near the northern extremity of the Dartmoor road.

- (d) The occurrence of giant species of *Melaleuca* *eleutherostachya* and *Melaleuca uncinata* (Broom honey-myrtle) growing to over five metres. *Bremaea* sp., (probably *pauciflora*) up to five metres or more growing in the eastern portions of the block. *Calothamnus gilesii* individuals up to four metres in the north eastern and southern regions of the block. *Melaleuca leiocarpa* growing to five metres and York Gum both of which occur in the eastern extremities of the block.

The locations below are numbered in order that reference to the maps will indicate the correct area being described.

N.B. The phrase small myrts refers collectively to *Baekea*, *Sholtzia* and *Thryptomene* owing to identification difficulties when trying to distinguish between these three genera.

#### LOCATION (1)

Open scrub *Banksia sceptra* (Sceptre banksia) and *Actinostrobos arenarius* (Sandplain cypress) over low scrub A *Calothamnus blepharospermus*, *Calothamnus gilesii*, *Conospermum stoechadis* (Smoke bush) *Melaleuca scabra* (Rough honey-myrtle), *Calothamnus homalophyllus* (Purchison claw flower), *Grevillea eriostachya* (Flame grevillea) and some *Banksia lindleyana* (Porcupine banksia) over leaf Scrub C *Leschenaultia liniaroides* (Yellow leschenaultia), *Compasperma* sp., (Milkwort), *Hibbertia conspicua* (Leafless hibbertia), small myrts, *Petrophile* sp., *Pileanthus peduncularis* (Copper-cups), *Melaleuca serriata* and some areas of *Ecdeicolia monostachya* (Sedge).

#### LOCATION (2)

Open scrub *Actinostrobos arenarius* (Sandplain cypress) over open tall sedge *Ecdeicolia monostachya* with emergent *Grevillea intergrifolia* (Entire-leafed grevillea), *Conospermum stoechadis* (Smoke bush), *Pileanthus peduncularis* (Copper-cups), *Melaleuca scabra* (Rough honey-myrtle) and *Subosia hopwoodii* (Pituri).

#### LOCATION (3)

Open scrub *Acacia? lineolata* over low scrub B.

LOCATION(3) Continue...

*Nelaleuca cordata*, small myrtls, over areas of open tall sedge *Mcdeicola monostachya*. Small pockets of *Verticordia polytricha* (Northern cauliflower), *Darwinia diosmoides*, *Lubbockia hopwoodii* (Citrus), *Verticordia spicata* (Spiked featherflower), *Keraudrinia bernardiaefolia* (Crinkle-leaved firebush), *Nelaleuca uncinata* (Broom honey-myrtle) and *Microstylis fulva* can also be seen here.



Location One, showing the *Calothammus*, *Actinostrobos* and *Banksia sceptrum* of the area.



Location Two. Note the plant species and density change from Location one nearby.

LOCATION (4)

Heath A *Acacia? lineolata*, *Casuarina campestris* (Tanna) with emergent *Actinostrobus arenarius* (Sandplain cypress) over open Dwarf Scrub & small myrts, *Lealouca scabra* (Rough honey-myrtle), *Verticordia polytricha* (Northern cauliflower), *Verticordia monodelpha* (Pink wooly featherflower) with some emergent *Hakea bucculenta* (Red poker). This formation changes abruptly to the east and becomes a thicket of *Casuarina campestris* (Tanna), *Grevillea eriostachya* (Flame grevillea), *Calothamnus blepharospermus*, *Beaufortia dampiera* and *Bronzea pauciflora* with emergent *Banksia sceptra* (Sceptre banksia) over open Dwarf Scrub & small myrts, *Hibbertia conspicua* (Leafless hibbertia) and *Rulinsia densiflora*.



Location Four, showing some of the *Casuarina*, *Grevillea* and *Verticordia*.

LOCATION (5)

(on the ridges - open scrub *Actinostrobus arenarius* (Sandplain cypress) and shrub *Mallee lucalyptus oldfieldii* (Oldfields mallee) over low scrub & *Casuarina campestris* (Tanna), *Hakea bucculenta* (Red poker), small myrts with *Verticordia polytricha* (Northern cauliflower) and *Verticordia mulleriana* (Featherflower).

In the gullies - open scrub *Actinostrobus arenarius* (Sandplain cypress) over Dwarf Scrub C *Conospermum stoechadis* (Smoke bush), *Casuarina caspestris* (Fanna), *Pileanthus peduncularis* (Copper-curs), *Melaleuca nematophylla* (Wiry honey-myrtle), with emergent *Eucalyptus oldfieldii* (Oldfields mallee), *Hakea bucculenta* (Red poker) and *Xylomelum angustifolium* (Woody pear) over *Calytrix brevifolia* ("Fringe myrtle"). *Verticordia monodelpha* (Pink woolly featherflower), small myrts and *Petrophile* sp.

LOCATION (6)

(a) Shrub Mallee *Eucalyptus oldfieldii* (Oldfields mallee) and Mallee *Eucalypt* sp., over open Dwarf Scrub C small myrts, and open tall sedges *Medicaria monostachya*.

(b) To the east this changes to low scrub A *Melaleuca eleutherostachya*, *Bremophila clarkii* (Poverty bush), *Acacia tetragonophylla* (Kurara), *Acacia acuminata* (Jam wattle) with emergent *Casuarina acutivalvis* ("Skeoke"). At this location, several specimens of *Melaleuca eleutherostachya* attain the height over five metres.

(c) Further east again the formation becomes open tree Mallee *Eucalyptus* sp., over thicket *Melaleuca eleutherostachya*, *Acacia tetragonophylla* (Kurara) and *Bremophila* sp., over herbs.

(d) The soil changes to yellow sand and the plants include open scrub *Actinostrobus arenarius* (Sandplain cypress) over Heath B *Conospermum stoechadis* (Smoke bush), *Calothamnus blepharospermus*, *Melaleuca scabra* (rough honey-myrtle), *Melaleuca seriata*, *Beaufortia squarrosa* (sand bottlebrush), *Verticordia lepidophylla*, over *Calytrix brevifolia* ("Fringe myrtle"), *Verticordia polytricha* (Northern cauliflower) and small myrts with areas of sedge, emergent *Xylomelum angustifolium* (Woody pear) and *Crevillea annulifera* (Prickly plume grevillea). Through this region there are isolated stands of *Eucalyptus oldfieldii* (Oldfields mallee). Along the ridges, the dominants consist of *Banksia sceptra* (Sceptre banksia), *Xylomelum angustifolium* (Woody pear) and *Calothamnus chrysantherus* or *Calothamnus blepharospermus*.



The view from a sand ridge overlooking Location Six. This ridge is on the east side of the location.



Location Six(C) open tree halloo.



Location Six (B) a five metre specimen of *Melaleuca leucomystachya*.

LOCATION (7)

Very open shrub mallee Eucalypt over open scrub  
Actinostrobus arenarius (Sandplain cypress) and  
Eucalyptus oldfieldii (Oldfields mallee), over Heath  
A Lamarchea hakeifolia, Acacia acuminata (Jun  
wattle), Acacia lineolata, over Dwarf Scrub C  
Calothamnus homalophyllus (Murchison claw flower)  
and small myrts with some sedge.

LOCATION (8)

Low woodland A Eucalyptus loxophleba (York gum) over  
thicket Acacia tetragonophylla (Kurara), Acacia  
ramulosa (Bowgada) over Ptilotus sp.



Location Eight on the north boundary of Victoria location 5078.

LOCATION (9)

Scrub of *Banksia sceptrum* (Sceptre banksia),  
*Actinostrobilus arenarius* (Sandplain cypress) and  
*Xylomelum angustifolium* (Woody pear) over *Conospermum*  
*stoechadis* (Smoke bush), *Calothamnus blepharosperrus*,  
*Calytrix brevifolia* ("Fringe myrtle"), *Wendlandia*  
*thryptomenoides*, *Sholtzia involucreta*, *Verticordia*  
*polytricha* (Northern cauliflower), *Verticordia*  
*occulata*, *Dicrastylis fulva* and *Rulingia densiflora*  
with emergent *Eucalyptus* sp.

LOCATION (10)

Regenerating from a fire in 1978, the plants observed  
here are as below;

*Lachnostachys eriobotria* ("Lambstails").  
*Eucalyptus* sp.  
*Banksia sceptrum* (Sceptre banksia).  
*Dampiera* sp.  
*Wairamsia* sp.  
*Calothamnus gilesii*.  
*Calothamnus chrysanthus*.  
*Jacksonia* sp.  
*Dicrastylis fulva*.  
*Leptosiphon scabra* (Rough honey-myrtle).  
*Leschenaultia linarioides* (Yellow leschenaultia).  
*Hibbertia conspicua* (Leafless hibbertia).  
*Conospermum stoechadis* (Smoke bush).  
*Leptosiphon seriata*.  
? *Verauxia* sp.



Location Ten and the track heading north-east  
to the new vermin fence and on to the south  
boundary of Coclelalya.



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Location Ten. Note the regenerating flora and the area of unburnt scrub in the distance.

LOCATION (11)

(a) Open scrub *Actinostrobilus arenarius* (Sandplain cypress) over low Scrub B *Calothamnus blepharospermus*, *Melaleuca scabra* (Rough honey-myrtle), *Beaufortia squarrosa* (Sand bottlebrush) over *Verticordia oculata*, *Verticordia polytricha* (Northern cauliflower) with areas of tall sedge.

(b) To the east the formation becomes Heath - *Acacia lineolata* over *Melaleuca cordata*, *Calothamnus blepharospermus* over open tall sedges. There are some areas where *Eucalyptus oldfieldii* (Oldfields mallee) dominates.

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(c) Moving east this area has also been affected by the fire which occurred in 1978. Regenerating flora includes;

- Dampiera sp.
- Dicrastylis fulva.
- Helaleuca cordata.
- Alyogyne pinoniana (Sand hibiscus).
- Thyllota dasyphylla (Hop bushpea).
- Casuarina campestris (Tamma).
- Eucalyptus sp.
- Luboisia hopwoodii (Pituri).
- Goodenia sericostachya (Silky-spiked goodenia).
- Grevillea annulifera (Prickly plume grevillea).
- Stylidium sp.
- Stackhousia dielsii (Yellow stackhousia).
- Hibbertia conspicua (Leafless hibbertia).
- Pityrodia oldfieldii (Oldfields foxglove).
- Pityrodia verbascina.
- Acacia lineolata.

#### LOCALITY (12)

Open shrub halloo Eucalyptus oldfieldii (Oldfields mallee) over heath & Eremaea pauciflora, Bremophilla clarkei (Koverly bush), Acacia lineolata, Acacia tetragonophylla (Kurara), Hakea bucculenta (Red poker), Persoonia sp., Casuarina acutivalvis ("Sheoke"), Acacia acuminata (Jam Wattle), Calothamnus blepharospermus over Helaleuca scabra (Rough honey-myrtle), Helaleuca leiocarpa, Solanum ? orbiculatum, Acacia cyclops, Calothamnus homalophyllus (Furber's claw flower), Acacia ? tamminensis, Deaufortia dampiera, Calytrix brevifolia ("Prince myrtle"), Helaleuca eleutherostachya, Hibbertia conspicua (Leafless hibbertia) and Comaspermum sp.

5.6 km north of the Number three vermin fence there is an area of Eremaea ? pauciflora which have large diameter trunks and grow to five metres tall or more. Associated with the Eremaea is Callitris columellaris (Cypress pine), Casuarina acutivalvis ("Sheoke"), Acacia tetragonophylla (Kurara) and some Banksia ashbyi (Ashby's banksia) over small myrtles and Spinifex.

Further south on the same track, Calothamnus pilosii can be found growing to three metres and over.

4/6



Location Twelve, 5.6km north of the No.3 vermin fence. Note the giant form of *Eremaea pauciflora*.

LOCATION (13)

6 km north of the grid is found a low woodland *Eucalyptus loxophleba* (York gum) and tree *Ballee* sp., with *Callitris columellaris* (Cypress pine), *Santalum acuminatum* (Sweet quandong) and *Casuarina acutivalvis* ("Sheoke") over scrub *Melaleuca leiocarpa*, *Acacia acuminata* (Jam wattle), *Acacia tetragonophylla* (Kurara), *Acacia longispica* and *Acacia ramulosa* (Bowgada). Some individual *Melaleuca leiocarpa* attain the height of up to five metres and have large diameter single trunks (see photograph).

11.5 km north of the grid the flora changes to tree *Ballee* sp., over *Tridida* sp., with some *Acacia tetragonophylla* (Kurara) and *Acacia acuminata* (Jam wattle). This gives way to the north to yellow sandplain which contains *Calothamnus blepharospermus* up to three metres and *Grevillea eriostachya* (Flame grevillea) over *Melaleuca scabra* (rough honey-myrtle), *Conospermum stoechadis* (Smoke bush), *Melaleuca cordata*, *Tetraphile* sp., *Hibbertia conspicua* (leafless hibbertia) with some sedge and *spinifex*. This is close to the northern boundary of Ballee Station.

The soil returns to red sandy loam and the dominants alternate from *Acacia ramulosa* (Bowgada), *Mallee* sp., and *Callitris columellaris* (Cypress pine), to *Eucalyptus loxophleba* (York gum), *Mallee* sp., associations.

17 km north of the grid the association is *Callitris columellaris* (Cypress pine) and *Acacia ramulosa* (Bowgada) with *Melaleuca leiocarpa* generally to about two metres, with individuals up to four metres high.



Location Thirteen, showing the giant form of *Melaleuca leiocarpa* which has grown to five metres high. This specimen is probably situated on Mallee Station.

#### LOCATION (14)

Tree Mallee (three species) over scrub *Casuarina acutivalvis* ("Sheoke"), *Acacia acuminata* (Jam wattle), *Grevillea gordoniana*, *Bremophila clarkii* (Poverty bush), *Acacia tetragonophylla* (Kurara) and emergent *Callitris columellaris* (Cypress pine) over some *Triodia* sp.

LOCATION (15)

This region contains small patches of unburnt country amongst the regenerating flora of the 1978 fire. One of the unburnt areas is as follows;

Heath A *Acacia lineolata*, *Melaleuca uncinata* (Broom honey-myrtle), *Hakea invaginata* over low Heath C *Conospermum stoechadis* (Smoke bush), *Pileanthus peduncularis* (Copper-cups), small myrt sp., *Darwinia diosmoides*, and some sedge. There is some emergent *Casuarina acutivalvis* ("Sheoke") and Mallee *Eucalyptus* sp., throughout.

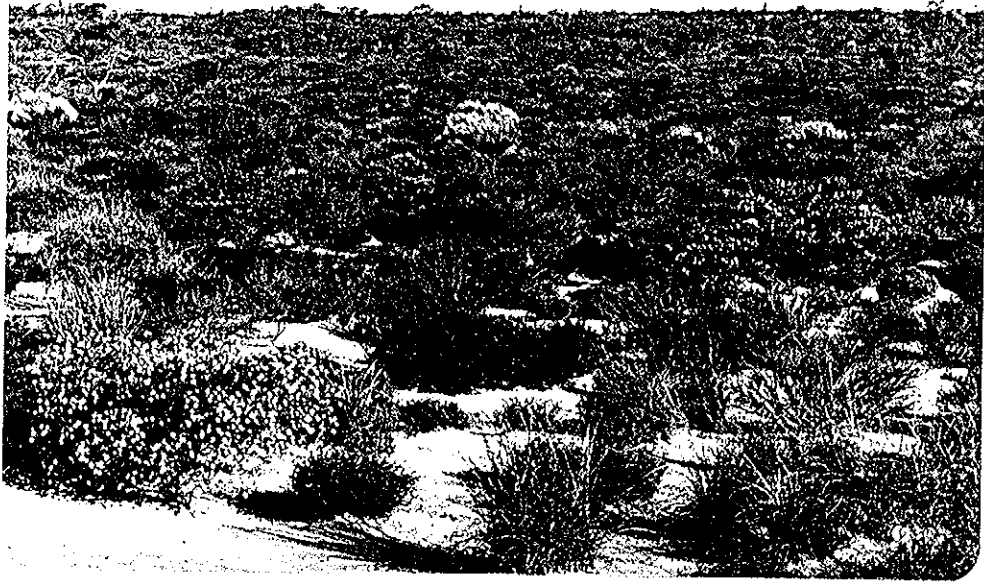
LOCATION (16)

2 km west of the Coolcalalya boundary the flora consists of open scrub *Banksia ashbyi* (Ashby's banksia), *Actinostrobus arenarius* (Sandplain cypress), *Calothamnus gilesii* and *Eucalyptus oldfieldii* (Oldfields Mallee) over low scrub A *Lamarchea hakeifolia*, *Acacia lineolata*, small myrt sp., *Melaleuca seriata* over *Calytrix brevifolia* ("Fringe myrtle"). Generally *Calothamnus gilesii* at this location is two metres high with some individuals attaining the height of 3.5 metres.

On the same track a further four kilometres west, particularly on the sand ridge slopes, *Calothamnus gilesii* often attains the height of four metres with a trunk circumference at the base of up to 90 cm.

LOCATION (17)

Low heath C *Melaleuca seriata*, small myrts sp., *Hibbertia conspicua* (Leafless Hibbertia), *Pileanthus peduncularis* (Copper-cups), *Melaleuca scabra* (Rough honey-myrtle), *Melaleuca cordata*, *Calytrix brevifolia* ("Fringe myrtle") and *Verticordia spicata* (Spiked feather-flower) with emergent Mallee *Eucalypt*, *Actinostrobus arenarius* (Sandplain cypress) and *Santalum accuminatum* (Sweet quandong).



Location Seventeen: low heath C.

The ridges consist of scrub *Banksia sceptrum* (Sceptre banksia), *Actinostrobilus arenarius* (Sandplain cypress) and *Xylomelum angustifolium* (woody pear) over low scrub *Melaleuca depressa*, *Melaleuca seriata*, *Colothamnus blepharospermus* and small myrt sp.

#### LOCATION (18)

Open tree mallee *Eucalyptus oldfieldii* (Oldfields mallee) and *Eucalypt* sp., over scrub of *Acacia tetragonophylla* (Kurara), *Acacia ramulosa* (Bowgada), *Persoonia* sp., *Lamarchea hakeifolia*, over spinifex, *Leschenaultia linarioides* (Yellow leschenaultia) and small myrts.

To the east of the corner occurs *Callitris columellaris* (Cypress pine) and open tree mallee *Eucalypt* sp., over thicket *Acacia acuminata* (Jar wattle), *Grevillea integrifolia* (Entire-leaved grevillea), *Grevillea eriostachya* (Flame grevillea) and *Casuarina acutivalvis* ("Sheoke") over *Pileanthus peduncularis* (Copper-cups) and small myrt sp.

The flora along the road in this vicinity changes rapidly between four main dominants. These are *Eucalyptus*, *Sedge*, *Acacia lineolata* and *acuminata* and *Casuarina acutivalvis* ("Sheoke") with some *Acacia ramulosa* (Bowgada) and *Acacia tetragonophylla* (kurara) throughout.

LOCATION (19)

Thicket of *Casuarina acutivalvis* ("Sheoke"), *Acacia acuminata* (Jam wattle) and *Melaleuca eucalyptostachya* over *Waitsia* sp. This changes to open tree *Eucalyptus* sp., over open scrub *Persoonia* sp. *Casuarina acutivalvis* ("Sheoke") and *Grevillea gordoniana* over open tall sedge.

LOCATION (20)

Thicket of *Casuarina acutivalvis* ("Sheoke"), *Lamarchea hakeifolia*, *Beaufortia dampiera*, *Bremaea pauciflora*, *Grevillea integrifolia* (Entire-leaved grevillea), *Grevillea gordoniana*, *Santalum acuminatum* (Sweet quandong), *Hakea bucculenta* (Red poker), *Acacia acuminata* (Jam wattle), *Persoonia* sp., *Acacia tetragonophylla* (Kurara), *Grevillea eriostachya* (Flame grevillea), *Eucalyptus jucunda* and *Acacia longispinea* with emergent *Banksia sceptrum* (Sceptre banksia) and *Banksia ashbyi* (Ashby's banksia) over *Comesperma* (Milkwort) and small myrt sp.



The Yardi-Cooloolalaya Road running through Location Twenty.

LOCATION (21)

Heat A species rich with some areas of open tall sedge and emergent Mallee *Eucalypt* sp.

The list of species identified in this corner area are as follows:

- Anthotroche myoporoides* (Myoporum like *Anthotroche*)
- Melaleuca nematophylla* (Wiry honey-myrtle)
- Eremaea pauciflora*
- Calothamnus blepharanthus*
- Melaleuca depressa*
- Verticordia spicata* (Spiked featherflower)
- Dampiera* sp.
- Acacia lineolata*
- Verticordia mullerana* ("Featherflowers")
- Beaufortia dampiera*
- Verticordia polytricha* (Northern cauliflower)
- Darwinia diosmoides*
- Verticordia etheliana*
- Verticordia monodelpha* (Pink woolly featherflower)
- Lamarchea hakeifolia* var. *brevifolia*
- Small myrt sp.
- Actinostrobos arenarius* (Sandplain cypress)
- Calothamnus chrysantherus*
- Grevillea integrifolia* var. *incurva*
- Keraudrinia hermanniaefolia* (Crinkle-leafed firebush)
- Melaleuca scabra* (Rough honey-myrtle)
- Beaufortia squarrosa* (Sand bottlebrush)
- Grevillea eriostachya* (Flame grevillea)
- Pityrodia verbascina*
- Casuarina campestris* (Tamma)
- Melaleuca seriata*
- Melaleuca cordata*
- Hakea bucculenta* (Red poker)
- Hakea invaginata*
- Petrophile* sp.
- Calothamnus blepharospermus*
- Calothamnus gilesii*
- Sedge-*Ecdeicolia monostachya*
- Waitsia* sp.
- Conospermum stoechadis* (Smoke bush)
- Fileanthus peduncularis* (Copper-cups)
- Lobelia* sp.
- Comasperma* sp. (Milkwort)
- Hibbertia conspicua* (Leafless hibbertia)
- Thysanotis* sp. (Fringed lily)
- Santalum acuminatum* (Sweet quandong)
- Hakea recurva*



*Grevillea candicans*  
*Melaleuca eleutherostachya*  
*Calystrix brevifolia* ("Fringe myrtle")  
*Acacia ramulosa* (Bowgada)  
*Eulingia densiflora*  
*Leptomera preissiana* ("Currant bush")  
*Acacia* ? *merrickae*  
*Acacia* ? *ligulata*



Location Twenty One. This location yielded a wide variety of flora species. This is the northern end of Square Road.

#### LOCATION (22)

Thicket of *Casuarina acutivalvis* ("Sheoke") and *Casuarina campestris* (Tanna). *Acacia lineolata* and *Melaleuca uncinata* (Broom honey-myrtle) over open tall sedge with some areas of *Acacia tetragonophylla* (Kurara) and *Melaleuca cordata*.

Moving south this changes to thicker *Melaleuca eleutherostachya* and *Melaleuca uncinata* (Broom honey-myrtle), *Casuarina acutivalvis* ("Sheoke"), *Persoonia* sp., and some mallee *Eucalypt* sp., over low scrub & *Hakea recurva*, *Bremophila clarkei* (Poverty bush), *Acacia tetragonophylla* (Kurara) and *Acacia acuminata* (Jam wattle) with emergent *Santalum acuminatum* (Sweet quandong).

Still south again the dominants change to tree Mallee *Eucalyptus* sp., over scrub *Casuarina acutivalvis* ("Sheoke"), *Acacia acuminata* over *Bremophila*, *Ptilotus* and *Waitsia*.

Further south the plant formation is similar but with the inclusion into the thicket of *Lamarchea hakeifolia* and *Persoonia* sp., over *Melaleuca cordata*, *Pileanthus peduncularis* (Copper-cups), *Comasperma* (Milkwort), *Thysanotis* (Fringed lily), and small myrt sp.

This then changes to over tree Mallee of three species of *Eucalypt* with some *Actinostrobus arenarius* (Sandplain cypress) over scrub of *Bremaea pauciflora*, *Melaleuca depressa*, *Melaleuca scabra* (Rough honey-myrtle), *Melaleuca seriata*, *Hakea bucculenta* (Red poker), *Calothamnus blepharosperrnus*, *Casuarina campestris* (Tamma), *Anthotroche myoporoides* (Myoporum like anthotroche) and *Verticordia mullerana* ("Featherflowers").



This specimen of *Melaleuca uncinata* grows with *Melaleuca eleutherostachya* and Mallee at Location Twenty Two.

LOCATION (23)

Scrub of *Actinostrobilus arenarius* (Sandplain cypress) over low shrub *A. Grevillea eriostachya* (Flame grevillea), *Grevillea integrifolia* (Entire-leaved grevillea) and *Beaufortia squarrosa* (Sand bottle-brush) with emergent *Xylomelum angustifolium* (Woody pear) over *Conospermum stoechadis* (Smoke bush), *Fileanthus peduncularis* (Copper-cups), small myrt sp., *Hakea bucculenta* (Red poker), *Verticordia lepidophylla* and *Verticordia polytricha* (Northern cauliflower).

LOCATION (24)

*Actinostrobilus arenarius* (Sandplain cypress), *Xylomelum angustifolium* (Woody pear), *Banksia prionotes* (Orange banksia) and *Eucalyptus oldfieldii* (Oldfields mallee) emerge over a scrub of *Calothamnus blepharospermus*, *Banksia lindleyana* (Porcupine banksia), *Melaleuca scabra* (Rough honey-myrtle), *Melaleuca seriata*, *Beaufortia dampiera*, *Beaufortia squarrosa* (Sand bottlebrush), *Casuarina campestris* (Tamma) and *Hakea bucculenta* (Red poker) over *Verticordia oculata*, small myrt sp., *Fileanthus peduncularis* (Copper-cups), *Verticordia mullerana* ("Featherflowers") and *Verticordia lepidophylla* with some sedge.

LOCATION (25)

Open tree mallee of *Eucalyptus oldfieldii* (Oldfields mallee) over thicket of *Acacia lineolata*, *Perseonia* sp., *Actinostrobilus arenarius* (Sandplain cypress), *Calothamnus blepharospermus* and *Beaufortia dampiera* over *Verticordia monodelpha* (Pink wolly featherflower), *Verticordia polytricha* (Northern cauliflower), *Verticordia spicata* (Spiked featherflower), *Verticordia lepidophylla*, *Petrophile* sp., *Hibbertia conspicua* (Leafless hibbertia) and *Fileanthus peduncularis* (Copper-cups).

A list of flora identified during the survey is as follows. Three genera are difficult to distinguish and therefore I have used the term small myrts to cover *Baekea*, *Sholtzia* and *Thryptomene*. Several of the *Eucalypt* species were not identified as they did not possess flowers or buds at the time of the survey. However, the plants characteristics and fruit distinguished them from each other.

The list below also displays the various common names where they occur.

Actinostrobilus arenarius	Sandplain cypress
Anthotroche myoporoides	Myoporum like Anthotroche
Acacia lineolata	Acacias generally are known as wattles
Acacia tetragonophylla	Kurara
Acacia acuminata	Jam wattle
Acacia ramulosa	Bowgada
Acacia cyclops	
Acacia tamminensis	
Acacia longispinea	
Acacia ? merrickae	
Acacia ? ligulata	
Alyogyne pinonianus	Sand hibiscus
Banksia sceptrum	Sceptre banksia
Banksia lindleyana	Porcupine banksia
Banksia prionotes	Orange banksia
Banksia ashbyi	Ashby's banksia
Baekea sp.	
Beaufortia squarrosa	Sand bottlebrush
Beaufortia dampiera	
Calothamnus blepharospermus	Calothamnus generally are known as one sided bottlebrush or claw flowers
Calothamnus blepharatherus	
Calothamnus gilesii	
Calothamnus homalophyllus	Murchison claw flower
Calothamnus chrysantherus	
Conospermum stoechadis	Smoke bush
Comasperma sp.	Milkwort
Casuarina campestris	Tamma
Casuarina acutivalvis	"Sheoke"
Calytrix brevifolia	"Fringe myrtle"
Callitris columellaris	Cypress pine

Codonocarpus cotonifolius	Native poplar
Cassia sp.	Cassia
Duboisia hopwoodi	Fituri
Darwinia diosmoides	
Dicrastylis fulva	
Dampiera sp.	
Ecdeicola monostachya	Sedge
Eremaea pauciflora	
Eucalyptus oldfieldii	Oldfields mallee
Eucalyptus loxophleba	York gum
Eucalyptus jucunda	
Eucalyptus sp. (Four species)	Mallees
Eremophila clarkei	Poverty bush
Grevillea eriostachya	Flame grevillea
Grevillea integrifolia	Entire-leaved grevillea
Grevillea candicans	
Grevillea gordoniana	
Grevillea annulifera	Trichly plume grevillea
Goodenia sericostachya	Silky-spiked goodenia
Hibbertia conspicua	Leafless hibbertia
Hakea bucculenta	Red poker
Hakea invaginata	
Hakea recurva	
Jacksonia sp.	
Keraudrinia hermanniaefolia	Crinkle-leaved firebush
Lamarchea hakeifolia var. brevifolia	
Leschenaultia linarioides	Yellow leschenaultia
Lechnostachys eriobotria	"Lambtails"
Leptomera preissiana	"Currant bush"
Lobelia sp.	
Melaleuca depressa	Some Melaleucas can be known generally as Bottle- brushes or honey-myrtles
Melaleuca uncinata	Broom honey-myrtle
Melaleuca leiocarpa	

<i>Melaleuca eleutherostachya</i>	
<i>Melaleuca nematophylla</i>	Wirry honey-myrtle
<i>Melaleuca cordata</i>	
<i>Melaleuca seriata</i>	
<i>Melaleuca scabra</i>	Rough honey-myrtle
<i>Petrophile</i> sp.	
<i>Pileanthus peduncularis</i>	Copper-cups
<i>Ptilotus</i> sp.	Mulla mulla
<i>Phyllota dasyphylla</i>	Nop bushpea
<i>Pityrodia oldfieldii</i>	Oldfields foxglove
<i>Pityrodia verbascina</i>	
<i>Persoonia</i> sp.	
<i>Rulingia densiflora</i>	
<i>Sholtsia involucrata</i>	
<i>Stylidium</i> sp.	
<i>Stackhousia dielsii</i>	Yellow stackhousia
<i>Solanum orbiculatum</i>	Round leafed solanum
<i>Santalum acuminatum</i>	Sweet quandong
<i>Scaevola</i> sp.	
<i>Thysanotis</i>	Trinced lily
<i>Thryptomene</i> sp.	
<i>Triodia</i> sp.	Spinifex
<i>Verticordia polytricha</i>	Northern cauliflower
<i>Verticordia spicata</i>	Spiked featherflower
<i>Verticordia monodelpha</i>	Pink wooly featherflower
<i>Verticordia mullerana</i>	"Featherflowers"
<i>Verticordia lepidophylla</i>	
<i>Verticordia oculata</i>	
<i>Verticordia etheliana</i>	
<i>Verauxia</i> sp.	
<i>Wehlia thryptomenoides</i>	
<i>Waitsia</i> sp.	
<i>Xylomelum angustifolium</i>	Woody pear

NEST HOLLOW:

Some nesting hollows exist in the York Gum at the south of the block, the east of the block and also amongst some of the tree Mallee and Callitris (Cypress pine) which can be used by some small parrots.

WINDS:

No infestations.

FIRE HISTORY:

This country does not carry a fire frequently. The majority of the block has not been burnt for many years. This is possibly supported by the fact that several giant species of plant exist throughout.

In 1978 a fire burnt an area from east of Coolcalalya homestead, south to the northern end of the Balla - Whellarra Road and east to Mallee Station.

MAMMALS:

- Grey Kangaroos.
- Red Kangaroos (uncommon).
- Foxes.
- Rabbits.
- Goats (scarce).

Only very few of the introduced species above, were observed during the survey. I believe a pit trap survey would result in a good number of small marsupials and native rodents being captured and subsequently identified.

BIRDS:

PASSENERINES

- Chrimson Chats.
- Black-faced Cuckoo Shrike.
- Masked Woodswallows.
- Redthroats.
- Willy Wagtail.

NON PASSENERINES

- Owlet-nightjar.
- Little Eagle.
- Crested pigeons.
- Monsfield Bronze Cuckoo.
- Emus.

Continue....

BIRDS

Black-faced Woodswallows.  
 White winged Troller.  
 Pipits.  
 Western Shrike-thrush.  
 Singing Honeyeaters.  
 White fronted Honeyeaters.  
 Spiny cheeked Honeyeaters.  
 Brown Honeyeaters.  
 Yellow plumed Honeyeaters.  
 Variegated Wren.  
 Broad-tailed Thornbills.  
 Chestnut-tailed Thornbills.  
 Yellow rumped Thornbills.  
 Splendid Wren.  
 White-winged Wren.  
 Tree Martin.  
 White backed swallows.  
 Crows.  
 Crested Bellbird.  
 White-browed Rabblers.  
 Red capped Robins.  
 Brown Songlark.  
 Magpies.  
 Pied Butcherbirds.

NOE BIRDS

Port Lincoln Parrots.  
 Red-tailed Black Cockatoos.  
 Galahs.  
 Rainbow birds.  
 Nankeen Kestrel.  
 Budyterians.  
 Bulga Parrots.  
 Weeros.  
 Bourke Parrots.  
 Common Bronzewing Liseons.  
 Red-backed Kingfisher.

REPTILES AND FROGS:

No frogs recorded.

Varanus caudolineatus  
 Pseudonaja nuchalis  
 Holoch horridus  
 Amphibolurus maculatus  
 Amphibolurus nuchalis  
 Amphibolurus minimus

Goanna.  
 Owarda.  
 Fountain Devil.  
 Spotted Dragon.  
 Central netted Dragon.  
 Western Bearded Dragon.

These reptiles were observed while undertaking foot and vehicle patrols. I believe this block will prove to be rich in reptiles if a pit trap survey is carried out.



SUMMARY:

I believe this block to be one of the most interesting areas to be surveyed in the Geraldton District. In a few short visits by one officer it has yielded forty five bird species, six reptiles and ninety five plant species. These figures, particularly those of the reptiles and mammals would improve if a survey was to undertaken by a Wildlife Research team.

The reasons influencing my decision to recommend that this area be set aside as a Nature Reserve are as follows:

This block has experienced virtually no interference or degradation due to human influence. It is a large area of land in a dry region, where ever the fauna require large territories to survive. We have the opportunity to preserve the flora and fauna representative of this area and the block will be large enough to support the fauna and flora without relying on adjoining land, or becoming degraded because of the lack of surrounding or adjoining bush.

Some of the block lies within the 250mm and over rainfall area which is known as Dry Warm Mediterranean. The remainder lies within the 250mm and under bracket known as Hot Semi-desert Mediterranean (Bagnouls and Gaussen). This region is dry for over eight months, therefore the growing season is short and unreliable.

Opening this area up, particularly the red loam country on the east side of the block, may see stock grazing the understory thus destroying habitat and plant associations that are not reserved elsewhere in this District. The introduction of pests may also follow. It is important to preserve not only species of plants, such as Mallee or York Gum, but also the flora that is associated with it, thus forming that particular environment or ecosystem.

Any over grazing by stock or clearing could result in a serious erosion problem. Many of the sand ridges are being held only because of the somewhat sparse plant formations on them.

This block is surrounded by exploited land. Stations exist to the north and east, while developed land carrying crops and stock are found to the west and south.

This block consists of several interesting plant associations. They include the Callitris/Bowgada dominant areas and others where Casuarina thickets, Melaleuca thickets, Acacia thickets, Mallee and the Actinostrobilus/Conospermum association dominate. In addition is the area on the west boundary which consists of a great variety of plant species, the York Gum areas and the particularly interesting giant species of Calothamnus, Bremaea and Melaleuca.

There is very little undisturbed Callitris, Mallee or York Gum country in this District, which has been reserved. Much of it has been opened up to pastoralists or cleared for agricultural development.

No adjoining landholder has ever had use or needed to make use of this block of bush. Therefore, no rights will be denied if the area is set aside as a Nature Reserve.

Overall, much of the vegetation is too unpalatable for stock. The rainfall is unreliable and sandy soils make it unsatisfactory for agricultural development. In several cases the thickets are too dense to promote any amount of understory, particularly grasses. There is no water on this block.

The owner of Mallee Station has applied, or is about to apply to the Lands Department for the lease of the land between his northern boundary and the new Vermin fence. He advised that this would be easier to fence than having to fence his surveyed boundary as directed by the Lands Department. It would appear therefore that this is the prime reason for requesting the land, not to provide more grazing for stock or to make Mallee Station more viable. Mr. Reimers admits that his 80,000 acre property has very few sheep on it at the present time.

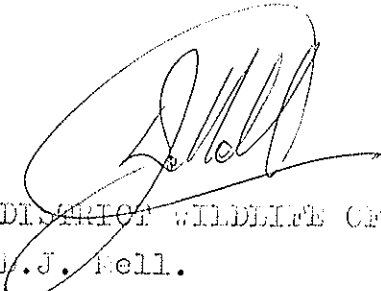
The area for which Mr. Reimers is applying consists of red sandy loam soil with areas of York Gum, Callitris, tree Mallee, Bowgada and the giant species of Melaleuca leiocarpa. Much of this type of country has already been opened up to pastoralists, and to my knowledge, none is reserved. In addition to stock grazing on pastoral leases, it is common practice to cut Callitris (Cypress pine) for strainers and fence posts. Because of this and for the fact that this area contains the Melaleuca leiocarpa giant form, I would object that Mr. Reimers be granted a lease over this area.

Looking at the block overall, it can be seen that it contains York Gum, Callitris and Bowgada on red loam along the east side, diverse flora on the west side and sandplain cypress, smoke bush and sedge with areas of Ballee through the central regions.

Combined, it provides a variety of habitats which produces a particular type of environment and this would make an ideal reserve.

I am concerned that this area may be opened up to pastoralists for grazing and to farmers for development. Apparently it is expected that the Lands Department will make available land in this area soon by opening up the region 'inside' the new Vermin fence. This is fringe area land and I believe not suited to agriculture.

For these reasons I am prepared to recommend that the area surveyed be set aside as a Nature Reserve and vested in the Western Australia Wildlife Authority. I request that a W.A. Wildlife Research team undertake a survey of the area to provide further information in support of that recommendation.



DISTRICT WILDLIFE OFFICER,  
J.J. Bell.  
GERALDTON.  
18th February, 1981.