It is possible to elicit processes through the study of Mediterranean areas (Mooney, 1988). These areas including south-western Australia, are all temperate and many are species-rich. South-western Australia is separated from the forested parts of south-eastern Australia by over 1500 km of arid and semi-arid landscapes and is well known for its regional endemism in vascular plants (Marchant, 1973; Hopkins and Griffin, 1984; Hopper, 1979; Hopper, 1992; Hopper et al., 1992). Similarly, vertebrate groups such as reptiles (e.g. Storr et al., 1981); frogs (Tyler et al., 1994); and freshwater fish (Allen, 1982), also display high levels of regional endemism, and may also indicate high levels of local endemism.

This conspicuous endemism has prompted many attempts at characterising the biota regionally, commencing with Mueller, von (1867) who drew attention to the special character of the plant life of south-western Australia. Regional approaches to understanding the south-western biota have been reviewed by Beard (1980), Gentilli (1979) and Hopkins et al. (1995). Hopper (1992) advocated a division of the south-west into three broad rainfall zones, the High Rainfall (800–1500 mm), the Transitional Rainfall (300–800 mm) and the Arid Zone (less than 300 mm). The High Rainfall Zone (HRZ) encompasses a mosaic of vegetation from tall open-forests to coastal heath and is within Beard's (Beard, 1980; Beard, 1981) Darling Botanical District. Three regions, which include the HRZ, were proposed in a recent Interim Biogeographic Regionalisation for Australia (IBRA-Thackway and Cresswell, 1994). These (the Jarrah Forest, Swan Coastal Plain and Warren IBRA regions) coincide with Beard's Subdistricts within his Darling District (see Fig. 1, Fig. 2).

Several maps depicting the distribution of Jarrah (*Eucalyptus marginata*) forest have been produced commencing in 1880. Although the maps vary because of different criteria selected in mapping (Abbott and Loneragan, 1986), they reflected a perception of homogeneity of the area as forests of limited variation. This has been largely due to the dominance of Jarrah in much of the forest of the northern and central parts of the area, and Karri in the southern part. There has been increasing sophistication in vegetation mapping in the latter part of this century, and further floristic study (e.g. Havel, 1975a; Havel,

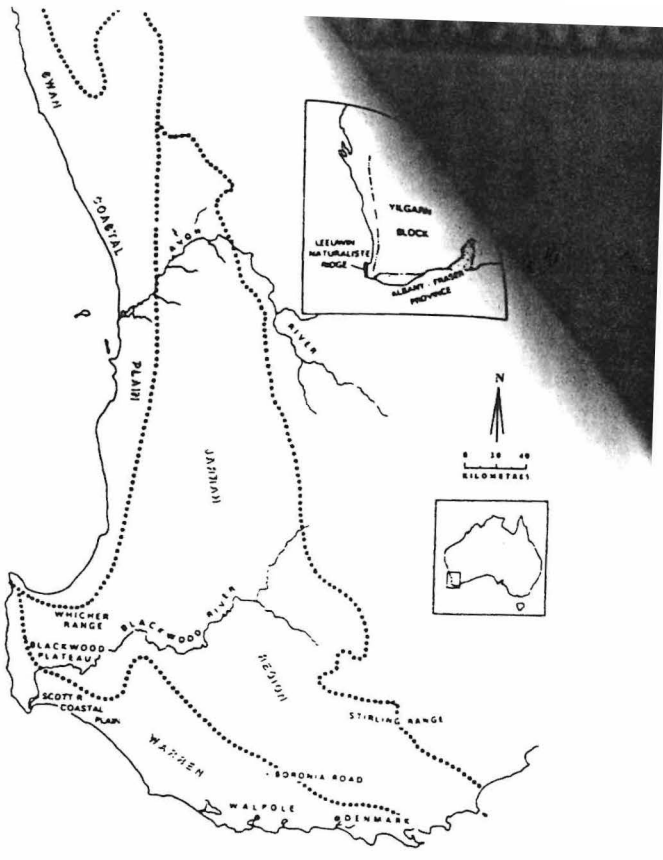

Fig. 1. Map of south-western Australia showing Interim Biogeographic Regionalisation of Australia (IBRA Regions), the locations of place names mentioned in the text, and major geological features (inset).

1975b; Strelein, 1988; Wardell-Johnson et al., 1989; Inions et al., 1990) in the HRZ. Nevertheless, the ubiquitous presence of merchantable timber in the landscape over much of the HRZ has led to an emphasis on broadscale management prescriptions which persist to this day (Wardell-Johnson and Nichols, 1991).

Hopper (1992) emphasised the high diversity of rare, locally endemic species in the Transitional Rainfall Zone (TRZ) flora. He postulated an evolutionary process consequent on climatic flux/pulses in dynamic environments subject to recurrent and unpredictable change (Main, 1982; Pate and Hopper, 1993). Although there has not been a serious attempt to compare the two areas, the HRZ has not been

Darling Rang
Regional Par
Map 2

LEGEND

- Land in Commonwealth,State or Local Government ownership
- Land to be further investigated for reservation fc Parks and Recreation or land already reserved,
- Other - Including National Parks, Nature Reserves, Crown Land and State Forest
- Land currently reserved for Parks and Recreatic
- Potential Regional Park Boundary

M16 System 6 categories

Ministry for

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Kilometres

Produced by Project Mapping Sect
Land Information Branch, Ministry f
Perth, Western Australia October

Digital cadastral data supplied by D
of Land Administration, Western Au

M16

Avon Valley
nal Park

BULLSBROOK

GREAT NORTHERN HIGHWAY

WARBROOK

ELLEN BROOK

Avon River Valley

Walyunga
National Park

M18

BRIGADOON

UPPER SWAN

M19

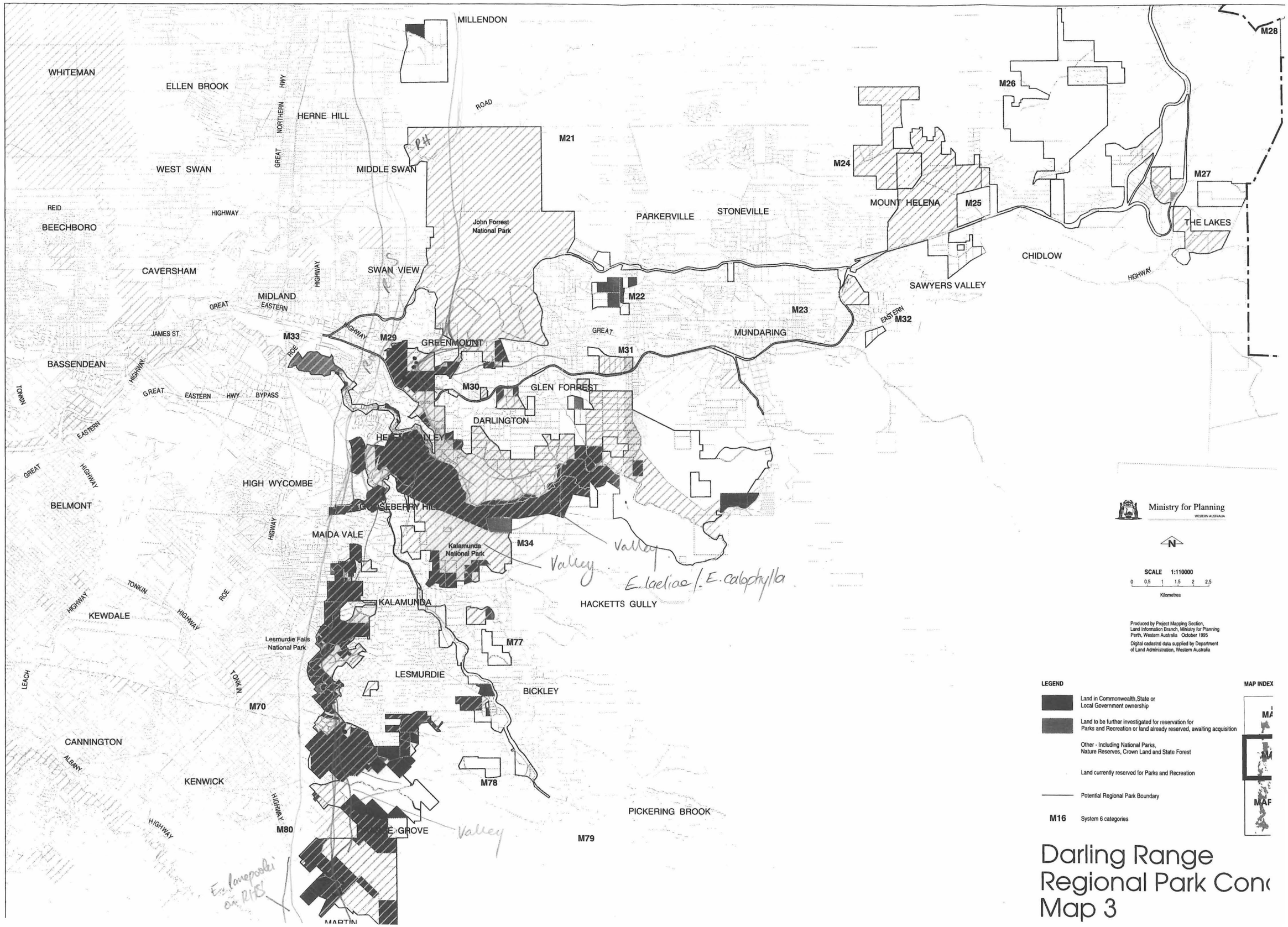
MILLENDON

GIDGEGANNUP

TOODYAY ROAD

TOODYAY

WOOROLOO



Ministry for Planning
WESTERN AUSTRALIA

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Kilometres

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Perth, Western Australia October 1995

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LEGEND

- Land in Commonwealth,State or Local Government ownership
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MAP INDEX

Darling Range Regional Park Con
Map 3

mid-lower scarp slopes

upper Wandoo

GOSNELLS

MARTIN

KELMSCOTT

KARRAGULLEN

CANNINGVALE

SOUTHERN RIVER

M81

ILLAWARRA

BROOKTON

WESTFIELD

ALBANY HIGHWAY

Valley

ROLEYSTONE

ARMADALE

ARMADALE ROAD

FORRESTDALE

E. rudis grazed, cleared Housing

Churchmans Brook & associated valley
* Wetsonia occluding riverine community
M. rhaphiophylla - E. rudis.

HIGHWAY

M83

ALBANY HIGHWAY

BEDFORDALE

WUNGONG

Wungong Gorge

Bungendore Park

no scarpface remaining intact

HIGHWAY

Wungong Valley
E. rudis woodland
Grazed. No understorey

THOMAS ROAD

BYFORD

GRAZED

OAKFORD

WESTERN

Wandoo woodland
Melaleuca viridula Thicket
Intact.
Grazed. * Wetsonia

CARDUP

no scarp as yet

Jarrah

SOUTH

EEL ESTATE

WHITBY

Not seen
Difficult access

upper

MUNDIJONG

MUNDIJONG ROAD

WATKINS ROAD

upperslope Wandoo

Patch of Wandoo in State forest to Jarrah Forest

No lower-midslope scarp vegetation remaining.
Canopy remains
Grazed

M84

no scarp

JARRAHDALE

M85

Euc. rudis woodland at base of the scarp - along Falls Road
U/storey grazed.
Weedy.

RHS

Serpentine National Park

M87

SERPENTINE

HIGHWAY

Not seen
appears grazed.

WESTERN

M86

no scarp
Grazed.

KEYSBROOK

SOUTH

Ministry for Planning
WESTERN AUSTRALIA

N

SCALE 1:110000

0 0.5 1 1.5 2 2.5

Kilometres

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MAP 2

MAP 3

MAP 4

Darling Range Regional Park Concept Map 4