

Draft Environmental Protection Policy for Gnangara Mound Private Land Groundwater

**Environmental Protection Authority
Perth, Western Australia
September 1993**

Draft Environmental Protection (Gnangara Mound Private Land Groundwater) Policy 1993

Background and Purpose of this Policy

In late 1992 the Minister for the Environment approved the Environmental Protection (Gnangara Mound Crown Land) Policy. This Policy was developed to protect groundwater and associated ecosystems of the Crown Land portion of the Gnangara Mound.

Public submissions received during the development of the Crown Land Policy included frequent reference to the need for a similar policy to protect public water supply groundwater under the private land portion of the Gnangara Mound.

For this reason, and for the need for comprehensive protection of the Gnangara Mound Groundwater resource a draft policy designed to protect the groundwater of the private land portion of the Gnangara Mound was prepared and released for public comment in November 1992.

As a result of submissions received on that draft policy, substantial redrafting has occurred resulting in a new draft policy incorporating many of the points raised in the submissions, including a significant reduction to the private land area to be affected by the draft Policy.

This new Draft Policy, as did the previous draft, seeks to protect important groundwater supplies of the private land portion of the Gnangara Mound from contamination, and thereby to protect the quality of the resource for ecosystem maintenance and public water supply.

This new Draft Policy is not retrospective (*ie* it is not intended that it apply to existing lawful activities undertaken at the time when the Draft Policy comes into effect), and is intended to underpin appropriate land use planning and decision-making for the protection of the groundwater resource.

The Draft Policy consists of three parts:

- Part 1, defines the terms used and establishes the purpose of the policy;
- Part 2, establishes beneficial uses of the groundwater and the mechanisms to protect that groundwater; and
- Part 3, precludes or controls certain land uses within the policy area. This part also provides a means for development approval where that development is consistent with groundwater objectives.

A principal difference in the new Draft Policy is that provision is made for planning agencies to make appropriate planning decisions as long as the beneficial uses of the groundwater are protected.

The environmental quality objectives of this draft policy are consistent with those of the Gnangara Mound (Crown Land) Policy 1992 and the new revised Jandakot Mound Groundwater Draft Policy.

The Policy area is divided into two areas, Area A and Area B. In the more environmentally sensitive Area A, new urban development and the expansion of intensive agriculture activities or the establishment of new intensive agriculture activities (including intensive stocking and rearing of sheep, deer, cattle, and pigs), cannot take place and there are further controls on the use of groundwater, filling of land with contaminated material, and discharge of contaminants.

In Area B all these activities may take place, but subject to environmental controls.

Existing lawful activities which involve the application of mineral fertiliser, manure, pesticides or contaminant to the soil may continue, however, it is expected that best management practices to minimise groundwater pollution will be voluntarily applied by landowners.

Areas A and B are generally consistent with the Private Land Priority 1 and Priority 2 Public Water Supply areas on the Gnangara Mound.

Environmental Protection Policies

The Environmental Protection Act provides for the establishment of Environmental Protection Policies, which can be prepared to protect any portion of the environment or to control pollution.

The Act requires that firstly a draft policy be prepared and widely advertised, and that submissions be invited, particularly from individuals and agencies which might be affected by the policy. These submissions are considered in further development of the Policy.

Following this, the proposed policy is amended and the then "revised draft policy" is published by the EPA for public inspection and forwarded to the Minister for the Environment. The Minister may then consult with people and agencies the Minister considers likely to be affected by the policy, and when satisfied, may approve that policy by order in the *Gazette*. Unless otherwise specified by the Minister, the approved Policy must be reviewed within seven years of gazettal.

Interested persons and organisations are invited to submit written comments on the Private Land Protection Policy by 12 November 1993 to:

The Chairman
Environmental Protection Authority
8th Floor
Westralia Square
141 St George's Tce
Perth WA 6000

Attention: Mr Ed Russell

Enquiries: call (09) 222 7000

ENVIRONMENTAL PROTECTION ACT 1986

ENVIRONMENTAL PROTECTION (GNANGARA MOUND PRIVATE LAND)
POLICY 1993

PART 1 - PRELIMINARY

Citation

1. This policy may be cited as the *Environmental Protection (Gnangara Mound Private Land) Policy 1993*.

Purpose of Policy

2. The purpose of this policy is to establish -
 - i) the values of groundwater of the policy area; and
 - ii) a programme to protect the values of that groundwater.

Interpretation

3. In this policy -

“contaminant” means any substance that is capable of causing a change in the physical, chemical or biological characteristics of groundwater such that -

- (a) the capacity of the groundwater to support flora and fauna is reduced; or
- (b) the suitability of the groundwater for human consumption is reduced.

“groundwater” means water located on or under the policy area and includes water in a wetland;

“Lakes policy” means the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*;

“native vegetation” means any plant species which is indigenous to the policy area;

“policy area” means the portion of the environment to which this policy applies;

“State Planning Commission” means the State Planning Commission established by section 4 of the *State Planning Commission Act 1985*;

“this policy” means this environmental protection policy;

“wetland” means natural land subject to permanent or seasonal inundation or waterlogging.

Application

4. (1) The portion of the environment to which this policy applies is that land bordered in black on the plan known as Department of Land Administration Miscellaneous Plan ****.

(2) This policy does not apply to existing lawful activities undertaken at the time of approval of this policy.

Lakes policy to prevail in the event of inconsistency

5. In the event of any inconsistency arising between a provision of this policy and a provision of the Lakes policy, the provision of the Lakes policy shall prevail to the extent of the inconsistency.

PART 2 - BASIS ON WHICH GROUNDWATER IS PROTECTED IN POLICY AREA AND PROGRAMME FOR PROTECTION OF GROUNDWATER

Beneficial uses of groundwater

6. The following uses of groundwater on or under the policy area are declared as beneficial uses to be protected under this policy -

- (a) use of the groundwater for public and private water supply and use; and
- (b) use of the groundwater to support native vegetation and wetlands in or adjacent to the policy area.

Basis for protection of groundwater

7. (1) The quality of groundwater is liable to be degraded by land use activities which may contribute contaminants to that groundwater and degrade its declared beneficial uses.

(2) The basis for protection of groundwater is to ensure that land uses which may contribute contaminants to groundwater are prevented so that the risk of groundwater contamination is minimised and the capacity to achieve and maintain environmental quality objectives is maximised.

Environmental quality objectives

8. The environmental quality objectives to be achieved and maintained in respect of groundwater on or under the policy area are those set out in Schedule 1 of this Policy.

Activities which can cause groundwater to be degraded

9. The following activities, amongst others, can cause the quality of groundwater on or under the policy area to be reduced or degraded -

- (a) discharge of contaminants
- (b) urban development;
- (c) filling of land with contaminated material;
- (d) industrial development; and
- (e) intensive agriculture.

Protection of groundwater

10. The achievement and maintenance of the environmental quality objectives referred to in clause 8 and the protection generally of groundwater and its beneficial uses is to be effected by

- (1) in the policy area (Policy Area 1 and Policy Area 2)
 - (a) preventing or controlling activities which can cause the quality of groundwater on or under the policy area to be reduced or degraded;
 - (b) public authorities in exercising their statutory discretion ensuring that decisions and actions are compatible with protection of declared beneficial uses (clause 6);
 - (c) appropriate land management by landholders in the policy area; and
 - (d) the Authority, in certain cases, requiring persons who cause or permit the contamination of groundwater on or under the policy area to take steps to remove those contaminants from that groundwater.

(2) in Policy Area 1

- (a) there being a minimum land parcel size of 4 hectares;
- (b) no development or subdivision being permitted under the *Town Planning and Development Act 1928* that may prejudice identified environmental quality objectives;
- (c) the State Planning Commission having regard for this policy's environmental quality objectives in the exercise of its duties under the *Metropolitan Region Town Planning Scheme Act 1959*; and
- (d) domestic effluent treatment and wastewater disposal systems incorporating non-conventional nutrient and pathogen attenuating devices being included in residential design and development.

PART 3 - CONTROL OF CERTAIN ACTIVITIES IN POLICY AREA

Discharge of contaminants

11. (1) A person shall not discharge contaminants in the policy area unless the person has been authorised to do so under any written law before the day on which this policy is approved, and is acting in accordance with that authorisation.

(2) Nothing in subclause (1) shall be taken as applying to, or in relation to, the reasonable application of a contaminant to land for agricultural, forestry or domestic purposes, or as wastewater disposal from domestic effluent treatment and which enters groundwater by a process of diffusion after having been applied to land for such a purpose.

Filling of land

12. A person shall not cause or permit any material containing waste from domestic, commercial or industrial activity to be placed in such a position that any part of the policy area is filled in unless the person is authorised and is acting in accordance with that authorisation.

Intensive agriculture

13. (1) A person shall not undertake intensive agriculture in Policy Area 1 unless the person has been authorised to do so under any written law before the day on which this policy is approved, and is acting in accordance with that authorisation.

(2) In subclause (1) -

“**intensive agriculture**” means the use of land for the purposes of trade, commercial reward or gain, including such buildings, earthworks or clearing of native vegetation, associated with -

- the production of grapes, vegetables, exotic plants, flowers, fruit and nuts where the soil is a medium for that production and irrigation is employed;
- plant nurseries;
- irrigated pasture, fodder and turf production (excluding the irrigation of cleared land for pasture where that pasture is employed to minimise soil loss by wind erosion);

- dairy milking sheds; and
- the keeping, rearing or fattening of sheep, deer, cattle or pigs in feedlots.

Penalties

14. A person who contravenes clause 11(1), 12 or 13(1) commits an offence and is liable -

- (a) in the case of an individual, to a penalty not exceeding \$5 000 and if the offence is a continuing offence to a daily penalty not exceeding \$1 000; and
- (b) in the case of a body corporate to a penalty not exceeding \$10 000 and if the offence is a continuing offence to a daily penalty not exceeding \$2 000.

SCHEDULE 1 [Clause 8]

ENVIRONMENTAL QUALITY OBJECTIVES FOR GROUNDWATER

Part 1 - Quality

Physical

<i>Parameter</i>	<i>Limit or Range</i>
Colour	*
Turbidity	*
pH	6.4 - 8.5
Temperature (°C)	15 - 25

Chemical Concentration

<i>Chemical (inorganic)</i>	<i>Limit (mg/L)</i>
Aluminium	*
Ammonia	0.01
Arsenic	0.01
Cadmium	*
Chloride	20
Chlorine	*
Chromium	*
Copper	0.02
Cyanide	*
Fluoride	0.1
Hardness (as Calcium Carbonate)	10
Iron	0.03
Lead	0.01
Manganese	0.02
Mercury	0.0001
Nickel	*
Nitrate	0.01
Nitrite	*
Nitrogen	*
Phosphate	*
Phosphorus	0.02
Selenium	*
Silver	*
Sodium	15
Sulphate	1
Dissolved Solids	100
Zinc	0.02

<i>Chemical (organic)</i>	<i>Limit (µg/L)</i>
Aldrin and Dieldrin	0.05
Azinphosmethyl	0.5
Camphechlor	*
Chlordane	0.3
DDT	0.15
Endosulfan	2
Endrin	0.05
Heptachlor and Heptachlor epoxide	0.15
Lindane	5
Maldison	5

Methoxychlor	*
Parathion	1.5
2,4 - Dichlorophenoxyacetic acid	5
Carbon tetrachloride	0.15
Tetrachloroethene	0.5
Trichloroethene	1.5
1,1 - Dichloroethene	0.015
1,2 - Dichloroethene	0.5
Benzo-a-pyrene	0.01
Pentachlorophenol	0.5
2,4,6 - Trichlorophenol	0.5
Phenols	0.5
Benzene	0.5
Trihalomethanes	10
Hydrocarbons (total)	0.5
Aromatic Hydrocarbons	0.5
Polychlorinated Biphenyls	*
Surfactants	10

Microbiological quality

<i>Micro-organism</i>	<i>Limit</i>
Faecal coliforms	not detectable
Coliforms	not detectable
Faecal Streptococci	not detectable
Salmonella	not detectable

Radiological characteristics (Becquerel/L)

	<i>Limit</i>
Gross alpha activity	0.1
Gross beta activity excluding activity by potassium-40	0.1

A reference in this Part to -

- (a) a limit, shall be constructed as a reference to the maximum limit that is permitted in the water;
- (b) a range, shall be constructed as a reference to the range that the water must fall within.

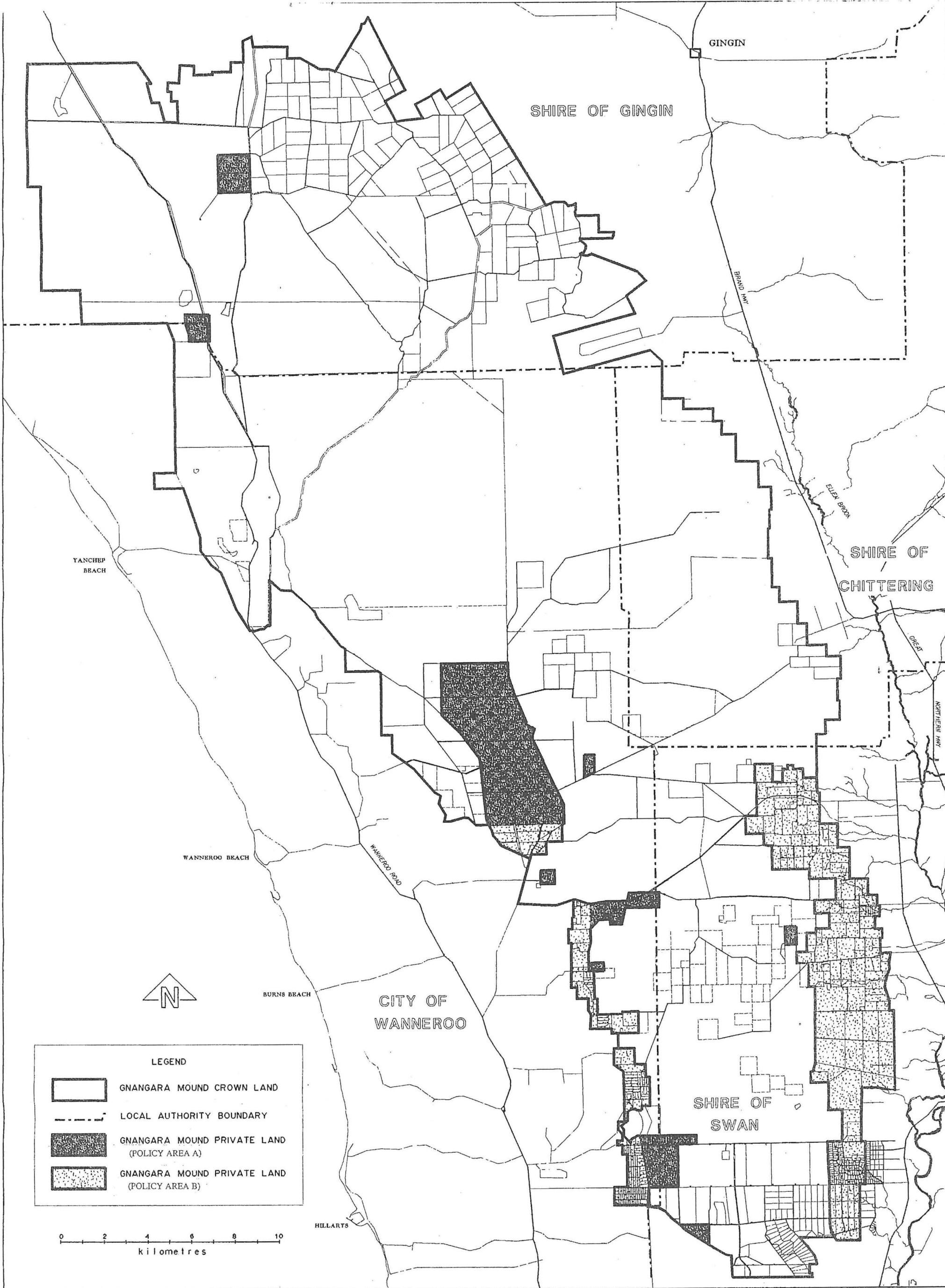
[Note: Where the permissible limit or range is shown as an *, the insitu level is considered to be permissible limit or range.]

Part 2 - Levels

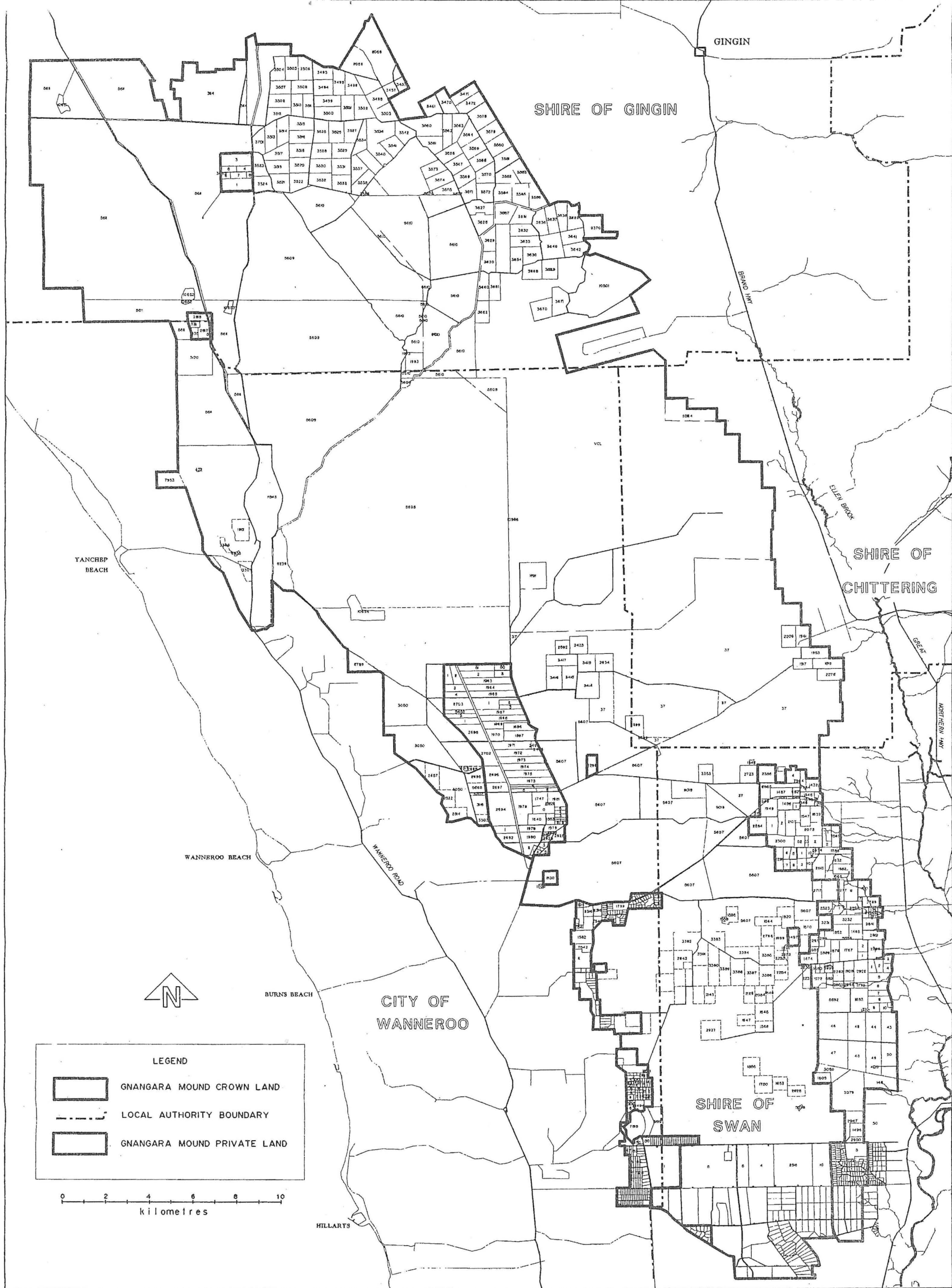
Wetland	Permissible minimum water level* to maintain current values	Consecutive months below permissible minimum summer water level* allowed in any 12 month period	Permissible water level*	Bottom of wetland *
Loch McNess	7.0	n/a	6.90	n/a
Joondalup	16.7	4	16.45	15.4
Yonderup	5.3	n/a	5.15	n/a
Jandabup	44.3	3	44.00	43.8
Nowergup	16.5	3	16.3	13.1
Goollelal	26.4	2	26.25	25.3
Gnangara	41.4	3	41.3	41.1
Mariginiup	40.90	1	40.85	41.0

“n/a” means not available, but that a bottom of the wetland figure applies.

“*” means the figure is in metres AHD.



GNANGARA MOUND PRIVATE LAND POLICY AREA
(AREAS A AND B)



GNANGARA MOUND PRIVATE LAND AND CROWN LAND POLICY AREAS
SHOWING LOT NUMBERS