



WQPN 54, JUNE 2009

Rezoning and subdivision of land in public drinking water source areas

Purpose

The Department of Water is a stakeholder in decisions made by state and local government planners about the rezoning and subdivision of land in public drinking water source areas (PDWSA). This is because rezoning and subdivision often results in land-use intensification, which can lead to an increased contamination risk to raw water used for public drinking water supplies. Risks from land-use intensification can include:

- pathogens, nutrients and chemicals from additional domestic wastewater systems
- nutrients and pesticides from crops and gardens
- chemical and solid waste disposal – linked to increased storage and use
- land degradation, nutrients and pathogens from the keeping of stock and domestic animals
- soil acidification, turbidity, oil and grease, hydrocarbons, chemicals and litter during construction and earthworks
- metals, oil and grease, chemicals and hydrocarbons from industrial and commercial developments
- hydrocarbons, metals and turbidity related to increased vehicle numbers
- adverse changes to stormwater management regimes
- vegetation removal resulting in reduced filtering of contaminants.

The department is also responsible for managing and protecting the state's water resources and is a lead agency for water conservation and reuse.

This note offers:

- our views on minimising impacts from land rezoning and subdivision on water resources
- guidance on acceptable practices employed to protect the quality of water resources

- a basis for developing a multi-agency code or guideline designed to balance the views of industry, government and the community, while sustaining a healthy environment.

The recommendations made in this note do not override any statutory obligation or government policy statement. Alternative practical environmental solutions suited to local conditions may be considered. This note should not be used as the department's policy position on a specific matter unless confirmed in writing, because it may be amended from time to time as new data becomes available.

Regulatory agencies should not use the information in this note in place of site-specific assessments and conditions that have considered the values of the surrounding environment and any safeguards that are in place. The final outcome should not result in a greater risk to water quality than if the department's recommended protection measures were used.

Scope

This note applies within PDWSA to the rezoning and subdivision of land.

Rezoning of land allows for other land uses and development by changing the classification of land in the local planning scheme. Subdivision, i.e. the division of land into lots, occurs once land has been zoned appropriately.

PDWSA is the collective name given to any area proclaimed for the management and protection of a water source used for public (scheme) drinking water supplies. PDWSA include underground water pollution control areas, water reserves and catchment areas administered under the provisions of the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* (Reference 5d) or the *Country Areas Water Supply Act 1947* (Reference 5a). For online information on the location of PDWSA see www.water.wa.gov.au select *tools > maps and atlases > geographic data atlas > environment > public drinking water source areas*. For summary details on relevant statutes and associated regulatory measures, see [Appendix A](#).

This note does not apply to rezoning or subdivision of land outside PDWSA, but may offer some useful guidance on potential risks to sensitive water resources outside PDWSA.

Land management and land-use planning in PDWSA

For land planning and development purposes within any PDWSA, three priority classification areas (P1, P2 and P3) have been defined based on the zoning, present land use, tenure and the vulnerability of the water body to harm (contamination). These priority areas are each managed in a different way to provide for effective protection of water resource quality. Priority areas are assigned in specific drinking water source protection plans or land use and water management strategies prepared in consultation with government agencies, landowners, industry and community stakeholders.

In addition to the three priority areas described above, two types of protection zones are defined around the location of drinking water production bores and reservoirs. These

zones identify land close to the abstraction point of raw water that is then treated, stored and distributed to consumers to meet their water supply needs. Additional legislative or policy constraints may be applied to land uses or activities in protection zones to maximise the safety of the drinking water supply. These zones are described as wellhead protection zones (WHPZ) and reservoir protection zones (RPZ).

For additional explanatory information on PDWSA, see this department's water quality protection note 36 *Protecting public drinking water source areas* or note 25 *Land-use compatibility in public drinking water source areas* ([Reference 3b](#)).

Local government planning decisions

The Western Australian Planning Commission's *State planning policy 2.7 (2003) Public drinking water source policy* and 2.9 (2006) *Water resources* ([Reference 6d](#)) are managed in accordance with the *Planning and Development Act 2005* ([Reference 5e](#)). These policies require local governments to identify PDWSA in their local planning schemes and have due regard for their protection in the assessment of planning applications.

Advice and recommendations

Rezoning or subdivision of land often results in an intensification of land uses and activities in PDWSA. This intensification increases the risks of contamination to the water source. Contamination of the water source is an issue for treatment processes and the safety of the public drinking water supply. For this reason, the department does not recommend significant rezoning or subdivision of land within PDWSA. However, the department recognises that state and local government planning decision-makers will consider all relevant factors in making rezoning and subdivision decisions. If, however, a planning decision is made that is not consistent with this department's water quality protection advice, additional conditions of approval should be considered to avoid or minimise potential water quality contamination risks.

Rezoning of land in a PDWSA

- 1 Any rezoning decisions should be:
 - a guided by Western Australian Planning Commission policies ([Reference 6d](#)):
 - 2.5 *Agricultural and rural land-use planning 2002*
 - 2.7 *Public drinking water policy 2003*
 - 2.9 *Water resources 2006* (see also *Better urban water management*; [Reference 6a](#))
 - b compatible with the management objectives for the relevant priority area classifications (P1, P2 or P3) and protection zones (WHPZ or RPZ), detailed in the drinking water source protection plan for each PDWSA.

- 2 The department's water quality protection note *25 Land-use compatibility in public drinking water source areas* ([Reference 3b](#)) provides advice on acceptable land uses for existing land zonings. This advice must not be applied to support the rezoning of land to provide for more intensive land uses in PDWSA (see our water quality protection note *76 Land-use planning in PDWSA*; [Reference 6d](#)).
- 3 The department may also recommend conditions to be applied to planning approvals in relation to lot sizes; building envelopes; clearing restrictions; private water supplies; and types of land uses or activities, to reduce the risk of contamination to the water source.

Subdivision of land in PDWSA

- 4 Any subdivision decisions should be:
 - a guided by Western Australian Planning Commission policies ([Reference 6d](#)):
 - *2.5 Agricultural and rural land-use planning 2002*
 - *2.7 Public drinking water policy 2003*
 - *2.9 Water resources 2006* (see also *Better urban water management*; [Reference 6a](#))
 - b compatible with the management objectives and lot size advice for the relevant priority areas and protection zones, as detailed in our water quality protection note *25 Land-use compatibility in public drinking water source areas* ([Reference 3b](#))
 - c managed to avoid or minimise water quality impacts
 - d in accordance with the recommendations made in the *Stormwater management manual for Western Australia* ([Reference 3d](#)).

Subdivision lot sizes in PDWSA

- 5 The recommended minimum lot size for subdivisions in PDWSA should be:
 - a in the first instance, the lot size set for the existing zoning in the local planning scheme, or
 - b a lot size supported in our water quality protection note *25 Land-use compatibility in public drinking water source areas* ([Reference 3b](#)), for each subdivision type and priority area (see extract below), where the local planning scheme permits more intensive lot sizes.
- 6 The minimum lot sizes recommended in our water quality note *25 Land-use compatibility in public drinking water source areas* ([Reference 3b](#)) must not be applied to support lot sizes more intensive than as provided for in the local planning scheme.

Subdivision of land within PDWSA

The following table is an extract from the department's water quality protection note 25: *Land-use compatibility in public drinking water source areas* (Reference 3b).

Table 2 – Compatibility of land subdivision within PDWSA

Note This table recommends on subdivision and subdivided lot size based on the existing zoning of land. Town planning scheme provisions for specific zones and reserves take precedence over the following recommendations.

Form of subdivision (specific to current zoning)	P1 areas	P2 areas	P3 areas
Rural subdivision			
– to a lot size of four hectares or greater	Incompatible	Acceptable	Acceptable
– to a lot size less than four hectares	Incompatible	Incompatible	Incompatible
Special rural subdivision			
– to a lot size of two hectares or greater	Incompatible	Compatible with conditions (7, 8)	Compatible with conditions (8)
– to a lot size between one and two hectares	Incompatible	Incompatible	Compatible with conditions (7, 8)
– to a lot size less than one hectare	Incompatible	Incompatible	Compatible with conditions (7)
Urban subdivision	Incompatible	Incompatible	Acceptable (1)
Industrial subdivision	Incompatible	Incompatible	Acceptable (1)

1 – Lots must be connected to deep sewerage, except where exemptions apply under the state government sewerage policy. This policy recognises that sewer connection may be impractical in some areas. Under these circumstances, an assessment of the wastewater loadings from a proposal would be required to ensure it does not exceed the capacity of the land (see example calculation in WQPN no. 88).

7 – An average, rather than minimum lot size may be accepted if the proponent can demonstrate that the water quality objectives of the source protection area are met, and caveats or memorials are placed on titles of oversized blocks stating that further subdivision shall not occur.

8 – Lots should be created only where land capability assessment shows that effective on-site soakage of treated wastewater can be achieved. Conditions will apply to siting of wastewater disposal systems in areas with poor land drainage or a shallow depth to groundwater, where animals are held or fertiliser is applied. Alternative wastewater treatment systems, where approved by the Department of Health, may be accepted with ongoing maintenance requirements.

Determining priority classification areas in PDWSA

- 7 Where priority classification areas within a PDWSA are not presently assigned because a drinking water source protection plan is not available, diagram 1 in our water quality protection note 25 *Land-use compatibility in public drinking water source areas* (Reference 3b) should be used to determine appropriate priority areas and protection zones (and therefore an appropriate lot size or land use). For further information, contact this department's nearest regional office, see <www.water.wa.gov.au> select *water regions* or email <drinkingwater@water.wa.gov.au>.

Wellhead and reservoir protection zones within PDWSA

The department is considering appropriate conditions for development proposals within these protection zones in the drafting of new water resource management legislation. Currently, the following applies:

- 8 Special conditions may apply under the *Metropolitan Water Supply, Sewerage and Drainage Act* by-laws (Reference 5d) within wellhead protection zones and reservoir protection zones.
- 9 Wellhead protection zones are normally defined by a 500-metre radius around production bores in P1 areas, and a 300-metre radius in P2 and P3 areas. Reservoir protection zones provide a two-kilometre buffer around metropolitan drinking water storage reservoirs; see our water quality protection note 36 *Protecting PDWSA* (Reference 3b). The same legislative provisions available for metropolitan drinking water reservoirs are also proposed for country drinking water reservoirs.

Other useful land-use planning documents for PDWSA

- 10 In some locations in the state, the protection of a PDWSA is described in a land use and water management strategy (LUWMS), not a drinking water source protection plan. LUWMS also guide land-use planners for rezoning or subdivision proposals.
 - a Gnamagara UWPCA: *State planning policy 2.2 Gnamagara groundwater protection policy* (2005) (Reference 6d) and *Gnamagara land use and water management strategy* (2001) (Reference 6c)
 - b Gnamagara UWPCA: *The future of East Wanneroo* (land use and water management strategy) (2007) (Reference 6c)
 - c Jandakot UWPCA: *State planning policy 2.3 Jandakot groundwater protection policy* (1998) (Reference 6d) and the *Jandakot land use and water management strategy* (1995) (Reference 6c)
 - d Lower Helena pipehead dam catchment area: *Middle Helena catchment area land use and water management strategy, draft* (2003) (Reference 6c).

Regional offices

11 The Department of Water's local regional office should be contacted where any rezoning or subdivision proposals inconsistent with this note are under consideration (see <www.water.wa.gov.au> select *contact us* or email <drinkingwater@water.wa.gov.au>).

More information

We welcome your views on this note. All feedback is retained on our file **12312**.

To comment on this note or for more information, please contact our water source protection branch as shown below, citing the note topic and version.

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This note will be updated periodically as new information is received or industry/activity standards change. Updated versions are placed online at <www.water.wa.gov.au> select *publications > find a publication > series browse > water quality protection notes*.

References and further reading

1 Australian Department of Environment, Water, Heritage and the Arts:

national water quality management strategy papers are available online at <www.environment.gov.au> select *water > water quality > national water quality management strategy > national guidelines*:

- a *Australian and New Zealand guidelines for fresh and marine water quality, paper 4, 2000*
- b *Australian drinking water guidelines 6, 2004*
- c *Australian guidelines for water quality monitoring and reporting 7, 2000*
- d *Policies and principles 2, 1994*
- e *Implementation guidelines 3, 1998*
- f *Rural land uses and water quality - a community resource 9, 2000*

To obtain copies of paper 9, see internet site <www.awa.asn.au>, request by email at <bookshop@awa.asn.au> or obtain from a library service.

2 Department of Environment and Conservation (WA):

- a Wetlands policy and guidelines available at <www.dec.wa.gov.au> select *management and protection > wetlands > publications > wetlands position statement*

Position statement: Wetlands, WRC 2001.

- b Waste management papers available online at <www.dec.wa.gov.au> select *pollution prevention > waste management > publications > guidelines*

Landfill waste classification and waste definitions as amended

or see website <www.zerowastewa.com.au>

- c Contaminated sites - guidance series available online at <www.dec.wa.gov.au> select *Pollution prevention > contaminated sites.*

3 Department of Water (WA):

- a Water resource management policies

– Foreshore policy 1 – *Identifying the foreshore area, WRC 2002* available online at <www.water.wa.gov.au> select *publications > find a publication > a–z browse*

– *Protecting public drinking water source areas in Western Australia, September 2005* (policy) available online at <www.water.wa.gov.au> select *publications > find a publication > a–z browse*

– State-wide policy 2 - *Pesticide use in public drinking water source areas, WRC 2000* available online at <www.water.wa.gov.au> select *publications > find a publication > series browse > statewide policy*

- b Water quality protection notes available online at <www.water.wa.gov.au> select *publications > find a publication > series browse > water quality protection notes.*

– WQPN 6 *Vegetation buffers to sensitive water resources*

– WQPN 25 *Land-use compatibility in public drinking water source areas*

– WQPN 36 *Protecting PDWSA*

– WQPN 44 *Roads near sensitive resources*

– WQPN 70 *Wastewater treatment – onsite domestic systems*

– WQPN 76 *Land-use planning in PDWSA*

- WQPN 92 *Managing PDWSA without a source protection plan*
 - WQPN 108 *PDWSA of Western Australia – A register of drinking water catchments within each local government*
- c Waterways – water notes available online at <www.water.wa.gov.au> select *publications > find a publication > series browse > water notes*
- WN 10 *Protecting riparian vegetation*
 - WN 11 *Identifying the riparian zone*
 - WN 23 *Determining foreshore reserves*
- d *Stormwater management manual for Western Australia, 2004*
- available at <www.water.wa.gov.au> select *publications > find a publication > series browse > stormwater management manual.*
- 4 Environmental Protection Authority (WA) publications available online at <www.epa.wa.gov.au> select *guidance statements*
- Guidance statement 3 *Industrial-residential buffer guidelines*
 - Guidance statement 33 *Environmental guidance for planning and development.*
- 5 Government of Western Australia:
- a *Country Areas Water Supply Act 1947* and by-laws 1957 available online at <www.slp.wa.gov.au>
- b *Draft country sewerage policy, 2007*
- c *Government sewerage policy – Perth metropolitan region, 1996* available online at <www.public.health.wa.gov.au> select *policies and plans > environmental health policies*
- d *Metropolitan Water Supply, Sewerage and Drainage Act 1909* and by-laws 1981 available online at <www.slp.wa.gov.au>
- e *Planning and Development Act 2005* available online at <www.slp.wa.gov.au>
- 6 Western Australian Planning Commission publications available online at <www.wapc.wa.gov.au> select *publications*
- a *Better urban water management, 2008*
- b Development control policies and guidelines
- DC 2.2 *Residential subdivision, 2003*
 - DC 2.5 *Special residential zones, 1998*

- DC 3.4 *Subdivision of rural land*, 2008
 - *Rural-residential development in the Perth Metropolitan region*, 1992
 - *Preparation of a local rural strategy*, 1989
- c Land use and water management strategies
- *East Wanneroo, the future of*, 2007
 - *Gnangara land use and water management strategy*, 2001
 - *Jandakot land use and water management strategy*, 1995
 - *Middle Helena catchment area land use and water management strategy, draft*, 2003
- d State planning policies
- SPP 2.2 *Gnangara groundwater protection*, 2005
 - SPP 2.3 *Jandakot groundwater protection*, 1998
 - SPP 2.5 *Agricultural and rural land-use planning*, 2002
 - SPP 2.7 *Public drinking water policy*, 2003
 - SPP 2.9 *Water resources*, 2006
 - SPP 4.1 *State industrial buffer policy, draft*, 2004.

Appendix A – Statutory requirements and approvals relevant to this note include:

What's regulated?	Statute	Regulatory office
Subdivision of land Land zoning and development approval	<i>Planning and Development Act 2005</i>	Western Australian Planning Commission < www.wapc.wa.gov.au > Department for Planning and Infrastructure < www.dpi.wa.gov.au > Local governments
Statutory policies covering wetlands, drinking water catchments and estuaries	<i>Environmental Protection Act 1986, Part III Environmental Protection Policies</i>	Minister for the Environment, advised by the Environmental Protection Authority < www.epa.wa.gov.au >
Impact of significant development proposals on the values and ecology of land or natural waters	<i>Environmental Protection Act 1986, Part IV Environmental Impact Assessment</i>	
Regulation of prescribed premises that could pollute	<i>Environmental Protection Act 1986, Part V Environmental Regulation</i>	Department of Environment and Conservation - regional office < www.dec.wa.gov.au >
Prohibited discharge of specified contaminants	Environmental Protection (Unauthorised Discharges) Regulations 2004	
Licence to take surface water, groundwater or disturb waterways	<i>Rights in Water and Irrigation Act 1914</i>	Department of Water - regional office < www.water.wa.gov.au >
Discharge of waters to managed waterways	<i>Waterways Conservation Act 1976</i>	
Industrial sites in proclaimed public drinking water source areas	<i>Metropolitan Water Supply, Sewerage and Drainage Act 1909</i> <i>Country Areas Water Supply Act 1947</i>	
Discharges into the Swan–Canning estuary	<i>Swan and Canning Rivers Management Act 2006</i>	Swan River Trust < www.swanrivertrust.wa.gov.au >
Storage of fuels, solvent, explosive and dangerous goods	<i>Dangerous Goods Safety Act 2004</i> Dangerous Goods Safety Regulations 2007	Department of Mines and Petroleum < www.dmp.wa.gov.au >
Management of human wastes Community health issues	<i>Health Act 1911</i>	Local governments Department of Health < www.health.wa.gov.au >
Emergency response planning	<i>Fire and Emergency Services Authority of WA Act 1998</i>	Fire and Emergency Services Authority < www.fesa.wa.gov.au >
Discharge to sewer (industrial waste permit) or to main drain	<i>Metropolitan Water Supply, Sewerage and Drainage Act 1909</i> <i>Country Towns Sewerage Act 1948</i>	Water Corporation < www.watercorporation.com.au > Designated water services provider

Relevant statutes are available from the State Law Publisher at <www.slp.wa.gov.au>.