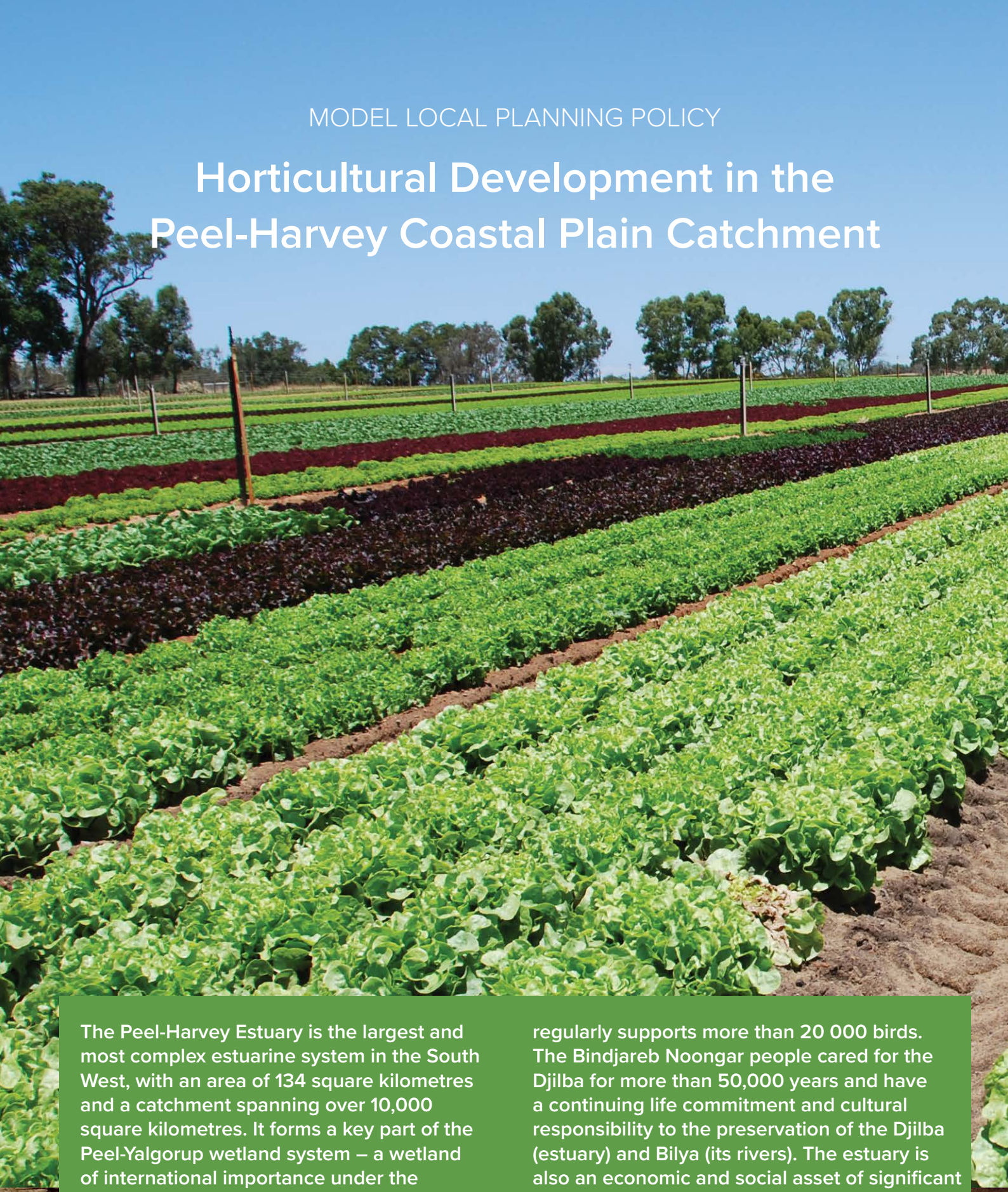
MODEL LOCAL PLANNING POLICY

Horticultural Development in the Peel-Harvey Coastal Plain Catchment



The Peel-Harvey Estuary is the largest and most complex estuarine system in the South West, with an area of 134 square kilometres and a catchment spanning over 10,000 square kilometres. It forms a key part of the Peel-Yalgorup wetland system – a wetland of international importance under the Ramsar Convention. The wetland system is important for waterbirds and waders, and regularly supports more than 20 000 birds. The Bindjareb Noongar people cared for the Djilba for more than 50,000 years and have a continuing life commitment and cultural responsibility to the preservation of the Djilba (estuary) and Bilya (its rivers). The estuary is also an economic and social asset of significant value, supporting a fishery, recreation and thriving tourism industry.

Delivering on the

Bindjareb Djilba Peel-Harvey estuary Protection Plan

The Peel-Harvey Estuary has had a long history of degradation since European settlement primarily due to land clearing and drainage for the purpose of agriculture within its catchment. Soils types within this area are predominately of a poor quality poor for the retention of nutrients from fertiliser. As a result, phosphorus and nitrogen enter groundwater, watercourses, wetlands and reduce water quality in the receiving estuary, causing algal blooms, changing conditions for aquatic fauna and can lead to fish kills.

Agriculture remains an important industry in the Peel Region, and the area is well positioned to contribute to the food and nutrition security of the Perth Metropolitan area, and Western Australia. To realise this opportunity whist navigating the challenges of environmental impacts more intensive production such as horticulture and irrigated agriculture will require changes to established farming practices, alternative ways of managing soil and water and new or different types of farms and production systems.

Recognising the need for a robust and diverse industry, traditional intensive agricultural development should be sited in suitable soils within the catchment, as well as opportunities sought to increase productivity of existing farms through alternate cropping methods and innovation.

In 2015 the Sustainable Agriculture Futures working group, a consortium of local and state government and the Peel Harvey Catchment Council, prepared the Model Local Planning Policy Horticultural development in Local Governments of the Peel-Harvey Coastal Plain Catchment (2016). This instrument was designed for local government to adopt into their respective policy frameworks to inform planning decisions for horticultural development catchment of the Peel-Harvey Estuary.

Since this time, the Peel-Harvey Estuary Protection Plan (Bindjareb Djilba) has been released as a whole-of-government approach to protecting the Peel-Harvey estuary and its internationally recognised values. Additionally, strategic planning for the growing Perth-Peel Region, regional development initiatives into sustainable agriculture and new state policy for the consideration of water resources have also been undertaken by government.

The Model Local Planning Policy - Horticultural development in the Peel-Harvey Coastal Plain Catchment (2023) has been prepared in collaboration with PHCC, Department of Primary Industries and Regional Development, Department of Planning, Lands and Heritage, Department of Water and Environmental Regulation and the Shires of Serpentine-Jarrahdale, Murray, Waroona and Harvey. The model policy is an update to its predecessor, and aligns with the objectives of existing state planning and environmental policies and the intent of the Bindjareb Djilba Protection Plan by providing proponents and decision-makers with an instrument to guide horticultural development for sustainable environmental and industry outcomes.

The Model Local Planning Policy - Horticultural development in the Peel-Harvey Coastal Plain Catchment has been prepared for local governments to suitably modify as considered necessary and adopt within their local policy framework.

Model Local Planning Policy

Horticultural development in the Peel-Harvey Coastal Plain Catchment

1.0 Citation

This is a Local Planning Policy prepared under Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015*. This Policy may be cited as ***Insert Policy Name*** Local Planning Policy.

2.0 Purpose

The Peel-Harvey Estuary system, and its waterways, is a vital natural and cultural asset of significant importance. The Bindjareb Noongar people have looked after the Djilba for more than 50,000 years and have a continuing life commitment and cultural responsibility to the preservation of the Djilba (estuary) and Bilya (its rivers). The estuary is also a Ramsar listed wetland of international importance[1] for migratory birds as well as a fishery, recreation and tourism asset of considerable value.

The Peel-Harvey Estuary has a long history of degradation since European settlement primarily due to clearing and then draining the land to establish farms within its catchments, which mainly consist of poor sandy soils which do not retain nutrients applied in fertilisers. Excess nutrients, mainly phosphorus and nitrogen, enter groundwater, watercourses, wetlands and reduce water quality in the receiving estuary, causing algal blooms, changing conditions for aquatic fauna and can lead to fish kills.

Horticultural production systems such as market gardens, turf farms and irrigated pasture, pose a significant risk to catchment water quality as they require high amounts of fertilisers to grow on the sandy soils of the coastal plain.

Given the sensitivity of the catchment to cumulative impacts of intensive agricultural land uses, planning decisions for horticultural development need to closely align with the capability of the land soils and landforms. Siting horticultural farms in suitable locations enables long term economic viability for proponents, encourages innovation and diversification of production operations, whilst ensuring the appropriate management of impacts to the Peel-Harvey Estuary.

This policy aims to encourage innovative and sustainable horticultural production in the ***insert local government name*** and prevent development in inappropriate locations so as to protect the water quality of the Peel-Harvey Estuary and its tributaries. It fulfils this purpose by providing:

- Information on the suitability of land for methods of horticulture and irrigated agriculture, with consideration to nutrient export risk and land capability, to meet catchment water quality improvement standards and inform decision-making; and
- Guidance on the investigations and information required to support planning proposals.

1. Fisher, S (2022). *Ramsar 482 – our community protecting a Threatened Ecological Community*, Wetlands Australia Issue No. 35.

3.0 Objectives

The objectives of this policy are:

3.1 To ensure new horticultural and irrigated agriculture enterprises pose a low risk to catchment water quality by locating such development on suitable land in the Peel-Harvey coastal plain catchment; and

3.2 To encourage innovative and diverse horticultural and irrigated agriculture enterprises within the Policy Area which are compatible with Catchment Water Quality Improvement Standards.

This policy is consistent with the objectives of the following environmental and planning instruments:

- *Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992*
- *State Planning Policy 2 - Environment and Natural Resources*
- *State Planning Policy 2.1 - Peel-Harvey Coastal Plain Catchment (under review)*
- *State Planning Policy 2.5 - Rural Planning (2016) and the Rural planning guidelines*
- *State Planning Policy 2.9 - Water for Planning (draft)*
- *Peel Region Scheme Priority Agricultural and Rural Land Use Policy (2017)*
- *Greater Bunbury Region Scheme Agricultural and Rural Land Use Policy (2017)*

4.0 Applications subject of this Policy

The policy applies to proposals for new, or expansion of existing, horticulture and irrigated agriculture within the ***insert local government name*** which are located within the Peel-Harvey Coastal Plain Catchment as outlined in *State Planning Policy 2.1 - Peel-Harvey Coastal Plain Catchment* and draft *State Planning Policy 2.9 Water for Planning* and as shown in Figure 1.

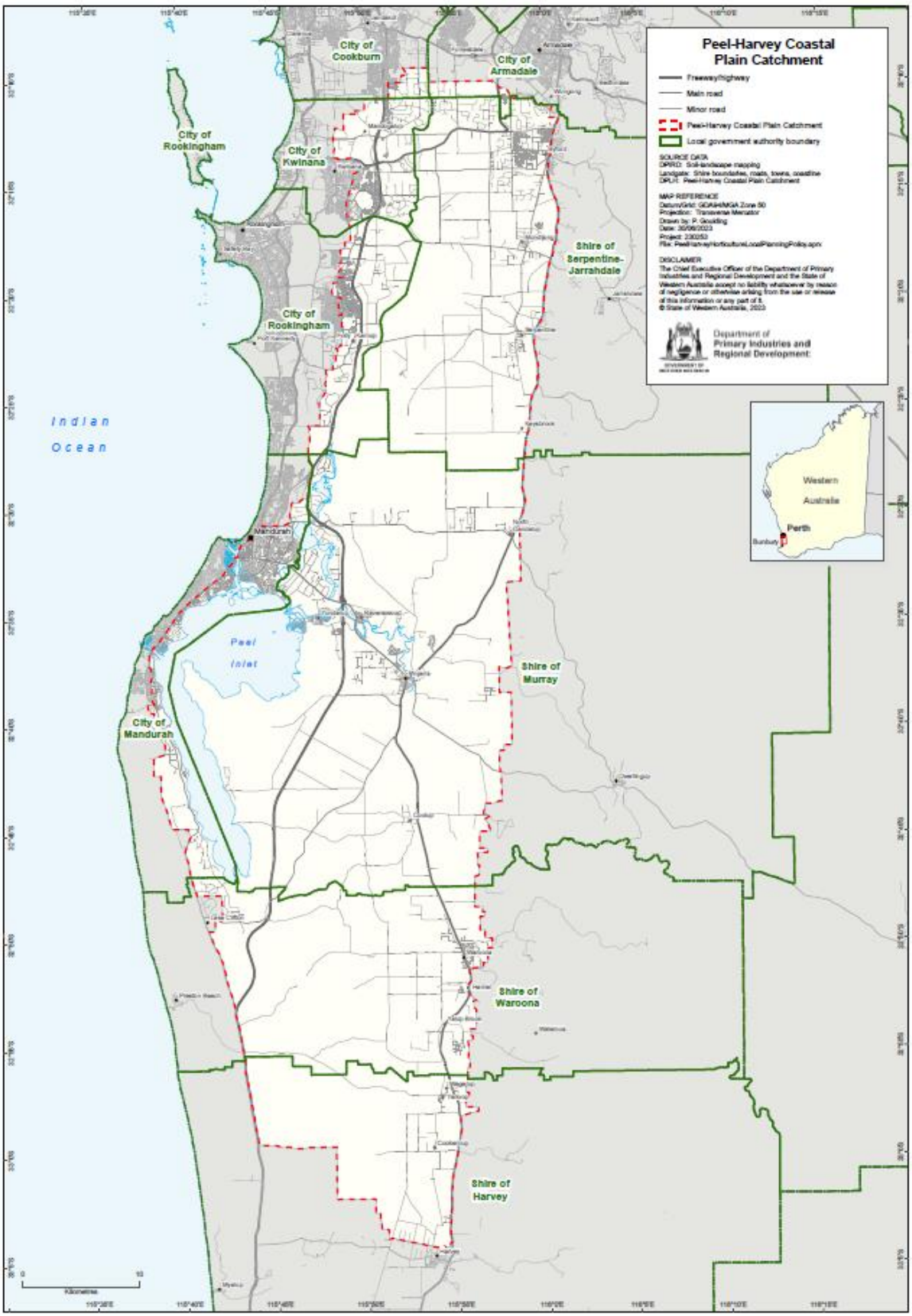


Figure 1: Peel-Harvey Coastal Plain Catchment

5.0 Policy Statement

In determining or providing advice on horticultural and irrigated agriculture proposals, the following provisions shall apply:

5.1 Proposals for horticulture and irrigated agriculture should pose a low risk to catchment water quality, the environment and land resources.

5.2 Proposals for horticulture and irrigated agriculture should be located within areas of appropriate land suitability[2] to manage the specific type of operation proposed, without detrimental impact to water resources. Land suitability for the different soil-landscape mapping units of the Peel-Harvey Catchment is provided in Appendix A.

5.3 There is a general presumption against proposals for in-ground horticulture and irrigated agriculture in the Peel-Harvey Coastal Plain Catchment located on soil-landscape mapping units which are not suitable for the proposed operation due to their high nutrient export risk.

5.4 Proposals for closed production systems such as hydroponics and nurseries, or other innovative methods, may be considered on low suitability land however need to demonstrate any discharges can be managed within catchment water quality targets for nutrients (Section 6.0).

5.5 Proposals to diversify crops or change irrigation and agronomic practices so that water and nutrients are used more efficiently, that is for higher production and reduced water quality impacts, should be encouraged.

5.6 Proposals should avoid impacts to areas of remnant vegetation and wetlands.

5.7 Consideration shall be given to the advice of the relevant government departments, including the Department of Primary Industries and Regional Development and Department of Water and Environmental Regulation, when making determinations on horticultural proposals. For example, such advice may include the:

a) Adequacy of soil testing regimes;
b) Review of results and analysis of soil testing and other site testing;
c) Likely implications of the proposal on catchment water quality;
d) The level of risk posed by the proposal to catchment water quality; and
e) Assessment of groundwater availability to the site.

5.8 When determining proposals, the local government may give consideration to imposing conditions, among others, so as to minimise the ongoing risk that the development may pose to catchment water quality, such as:

a) Conditioning the ongoing operation of the development on the results of surface and groundwater monitoring.
b) Conditioning the ongoing operation of the development on the implementation of contingency measures, as triggered by the results of surface and groundwater monitoring.

5.9 The local government shall consider any other relevant matters, when assessing all proposals for horticulture or irrigated agriculture.

2. Land suitability for soil-landscape units of the Peel-Harvey Catchment is provided in Appendix A. Interactive mapping can be found at https://dpird.maps.arcgis.com/apps/webappviewer/index.html?id=244a530e57d94b5b8569d8e8ee4f2111

6.0 Application requirements

Development applications for horticulture and irrigated agriculture proposals should be supported by a Nutrient and Irrigation Management Plan[3]. Information within the plan may include, but not be limited, to:

- Site conditions:
  - Mapping of soil type(s)
  - Location of vegetation, watercourses and wetlands.
  - Depth to groundwater in winter.
- Site plan of cropping area and infrastructure.
- Confirmation of, or substantial progression towards, access to necessary irrigation supply.
- Evidence of due regard to any relevant state or local planning policy requirements.
- Site-specific soil survey and land capability assessment for the proposed land use.
- Crop, cultivation and irrigation information.
- Fertiliser regimes, nutrient content and distribution methods.
- Analysis of nutrient pathways on the site and areas of greatest risk.
- Soil and water nutrient monitoring regimes.
- Contingency actions to be undertaken by proponent if monitoring reveals site is exporting unacceptable nutrient loads.

Additional to the above, proposals for horticulture or irrigated agriculture in the Peel-Harvey Coastal Plain Catchment located on soil-landscape mapping units of high nutrient export risk, will be required to demonstrate the management of nutrients within Peel-Harvey catchment water quality targets through either:

- A nutrient application rate of 45 kg/ha/year total nitrogen of 6.5 kg/ha/year total phosphorous; or
- A nutrient export rate of 2.4 kg/ha/year total nitrogen and
  - 0.29 kg/ha/year for sites in the Serpentine River sub-catchment;
  - 0.28 kg/ha/year for sites in the Murray River sub-catchment;
  - 0.47 kg/ha/year for sites in the Harvey subcatchment[4].

Proposals in soil-landscape mapping units with low and very low capability for the proposed use, and a lower nutrient export risk, will need to demonstrate that the site limitations can be managed through crop selection, design and operation. A common example is growing summer vegetables to avoid waterlogging during winter.

7.0 Consultation

Advertising of applications for horticulture and irrigated agriculture will be undertaken in line with Councils ***insert name of advertising LPP*** or procedure.

3. *Water Quality Protection Note 33 – Nutrient and Irrigation Management Plans* - https://www.wa.gov.au/government/publications/wqpn-33-nutrient-and-irrigation-management-plans
4. Targets based upon environmental objectives of the *Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992* for phosphorous, and *ANZECC guidelines (ANZECC & ARMCANZ 2000)* for slightly to moderately disturbed systems for total nitrogen, as presented in *Kelsey et al 2021.*

8.0 Definitions

Catchment	Is the area around the wetland or waterway that contributes surface run-off or groundwater to the wetland or waterway.
Catchment water quality	The quality of water in ground and surface waters of the Peel-Harvey Coastal Catchment (Figure 1) including drains, creeks, wetlands, rivers and estuarine areas. Water quality parameters include levels of phosphorus, nitrogen, organics, salinity, acidity and total suspended solids.
Catchment water quality improvement standards	The threshold levels of nutrients applied to land, or exported from land, as set in the Guidelines of this policy.
Closed system (as in closed system hydroponics)	Hydroponics system in which the nutrient solution is recirculated and the nutrient concentrations are monitored and adjusted accordingly. There is zero or minimal discharge of the solution or water to the environment.
Coastal catchment area	Same meaning as for *Peel-Harvey Coastal Plain Catchment*
Horticulture , irrigated agriculture **or** **'agriculture – intensive'**	Consistent with 'agriculture – intensive' in the Model Scheme Text, that being premises used for trade or commercial purposes, including outbuildings and earthworks, associated with the following — a. the production of grapes, vegetables, flowers, exotic or native plants, or fruit or nuts; b. the establishment and operation of plant or fruit nurseries; c. the development of land for irrigated fodder production; d. irrigated pasture (including turf farms); or e. aquaculture. Aquaculture is not covered by this Local Planning Policy.
Hydroponics	The process of growing plants using mineral nutrient solutions, without soil. Although hydroponic systems do not involve soil, they may involve a wide variety of growing media, such as perlite, gravel, peat, sand, rockwool and other.
In-ground horticulture	Horticulture where the plants are grown directly in the soil.
Land capability	Land capability refers to the ability of land to support a type of land use without causing damage. In south west of WA, land capability for agricultural land uses is assessed using DPIRD's published land evaluation standards[5].
Land suitability	Takes **land capability** information and other information (such as rainfall, environmental sensitivity) and determines the overall suitability of a piece of land to accommodate a particular kind of development. It is useful for site

	selection and can also underpin the manner in which a particular type of development is carried out, so that the environmental limitations or constraints are fully recognised. Phosphorus export hazard and proximity to receiving water are elements of land suitability in this policy.
Nutrient and Irrigation Management Plan	The plan prepared by the proponent to document how the production area and site will be managed over the lifespan of the operation to manage nutrient export and other aspects of the operation in relation to the natural resources. Reference?
Peel-Harvey Coastal Plain Catchment	The catchment area defined in *State Planning Policy 2.1 - Peel-Harvey Coastal Plain Catchment* and draft *State Planning Policy 2.9 – Planning for Water*
Production area	The area under crop production (excluding non-production areas on the Lot or Site)
Site	The lot or lots on which the production area is located.
Site specific soil survey	A detailed field-based survey of the soils and landforms at the proposed development site and collection of soil samples for laboratory testing. The results include a report on the soil types, a map of the soils and laboratory results. DPIRD's *A simple guide for describing soils*[6] sets out the minimum expectations for soil descriptions.
Soil-landscape systems of the Peel-Harvey Coastal Plain Catchment	Forrestfield System, Pinjarra System, Bassendean System, Vasse System, Spearwood System and Quindalup System
Viticulture or vines	The growing of grapes for wine or fruit; or growing of low yield olives.
Watercourse	A river, stream, creek or manmade drainage features in which water flows in a channel, whether permanently or intermittently (EPA, 2008b).
Wetland	Areas of seasonally, intermittently or permanently waterlogged soils or inundated land, whether natural or artificial, fresh or saline (EPA, 2008b)

9.0 References

ANZECC & ARMCANZ 2000, *Australian and New Zealand guidelines for fresh and marine water quality*, Australia and New Zealand Environment and Conservation Council & Agriculture and Resource Management Council of Australia and New Zealand.

Environmental Protection Authority 2008, *Environmental Guidance for Planning and Development,* Guidance Statement No. 33.

Environmental Protection Authority 1992, Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992, approved by Minister under section 31(d) of *Environmental Protection Act 1986, Government Gazette,* WA 5969 11 December 1992.

Fisher, S, 2022. *Ramsar 482 – our community protecting a Threatened Ecological Community*, Wetlands Australia Issue No. 35, Department of Climate Change, Energy the Environment and Water.

Hennig, K, Kelsey, P, Hall, J, Gunaratne, GG & Robb, M 2021 *Hydrological and nutrient modelling of the Peel-Harvey catchment*, Water Science Technical Series, report no. 84, Aquatic Science Branch, Department of Water and Environmental Regulation, Perth, Western Australia.

Stuart-Street, A, Short, N, Galloway, P & Schoknecht, N 2020, *A simple guide for describing soils*, Department of Primary Industries and Regional Development, Perth.

van Gool, D, Tille, P J, and Moore, G A. 2005, *Land evaluation standards for land resource mapping : assessing land qualities and determining land capability in south-western Australia*. Department of Primary Industries and Regional Development, Western Australia, Perth. Report 29