

# Water-Affecting Activities

## Control Policy





South Australian Arid Lands  
Landscape Board

# Water-Affecting Activities Control Policy

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Effective from 15 March 2021



Government of South Australia  
South Australian Arid Lands  
Landscape Board

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## List of Abbreviations

ML	Megalitres
MOU	Memorandum of Understanding
NRM	Natural resources management
SAAL	South Australian Arid Lands
WAA	Water Affecting Activity
WAP	Water Allocation Plan

# 1 Introduction

The landscapes and ecosystems of the SA Arid Lands Landscape region are relatively intact compared with other regions of the State. The region's semi-arid to arid climate and highly variable rainfall means water resources, and their management, are critical to maintaining the health and integrity of plants, animals, ecosystems and people that rely on them. There are a range of activities undertaken within the SA Arid Lands Landscape boundary that have the potential to affect the condition, persistence and connectivity of water resources.

There are a number of mechanisms available to the SA Arid Lands Landscape Board (the Board) to assist in preventing impacts to water resources. One of the mechanisms is through the *Landscape South Australia Act 2019* (the Act) as it provides for regulatory control of activities that affect water resources. The primary instrument for this regulation is the Water Affecting Activity (WAA) Control Policy (the Policy) including a permit assessment process, education and support.

The Policy aims to regulate water-affecting activities to ensure the sustainable use of water resources and protection of natural ecosystems, cultural and social values, and provide balanced support for the development of community and economic activities. The objectives and principles outlined in this policy are intended to inform and guide those who may need to apply for a WAA Permit, and the relevant authority when determining whether to grant or refuse a WAA permit.

## 2 Regional water planning framework

The Board and the Minister have clearly delineated responsibilities for managing activities that may impact water resources and ensuring the protection of those resources under Part 8 of the Act. The process around how water resources are managed in the SA Arid Lands Region is shown in the water policy and planning framework (Figure 1).

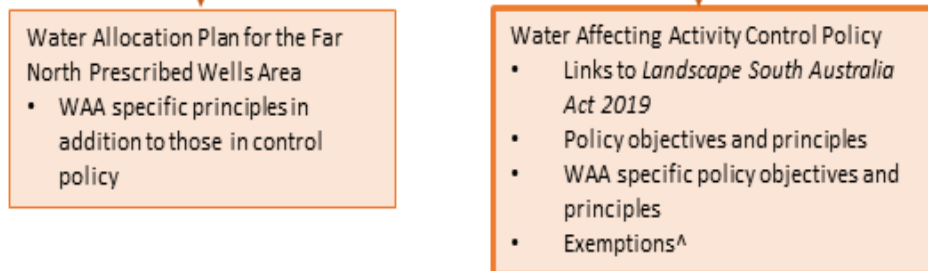
The framework guides the implementation of Part 8 Division 2 of the Act for SA Arid Lands. The Policy sets out the matters that the relevant authority will take into account when exercising its power to grant or refuse a permit under Part 8 Division 2 Subdivision 1 and the conditions under which the relevant authority will grant or refuse a permit. A control policy should not overlap with the provisions of a water allocation plan that is in operation in relation to a prescribed water resource or prescribed wells. Matters relating to the take of groundwater for the Far North Prescribed Wells Area are set out in the Far North Prescribed Wells Area Water Allocation Plan (WAP).

The WAA control policies outlined in this document set out the activities that will require a permit in the SA Arid Lands Region. The objectives and principles or rules apply for the whole SA Arid Lands Region, except where specifically identified within a management zone or exempted. The rules outlined in this Policy are substantially the same as the provisions made previously under the *Natural Resources Management (NRM) Act 2004* and contained within the Regional NRM Plans. The rules in the former NRM plans no longer apply when they are replaced by the rules in the WAA Control Policy, pursuant to Section 102 of the Act.

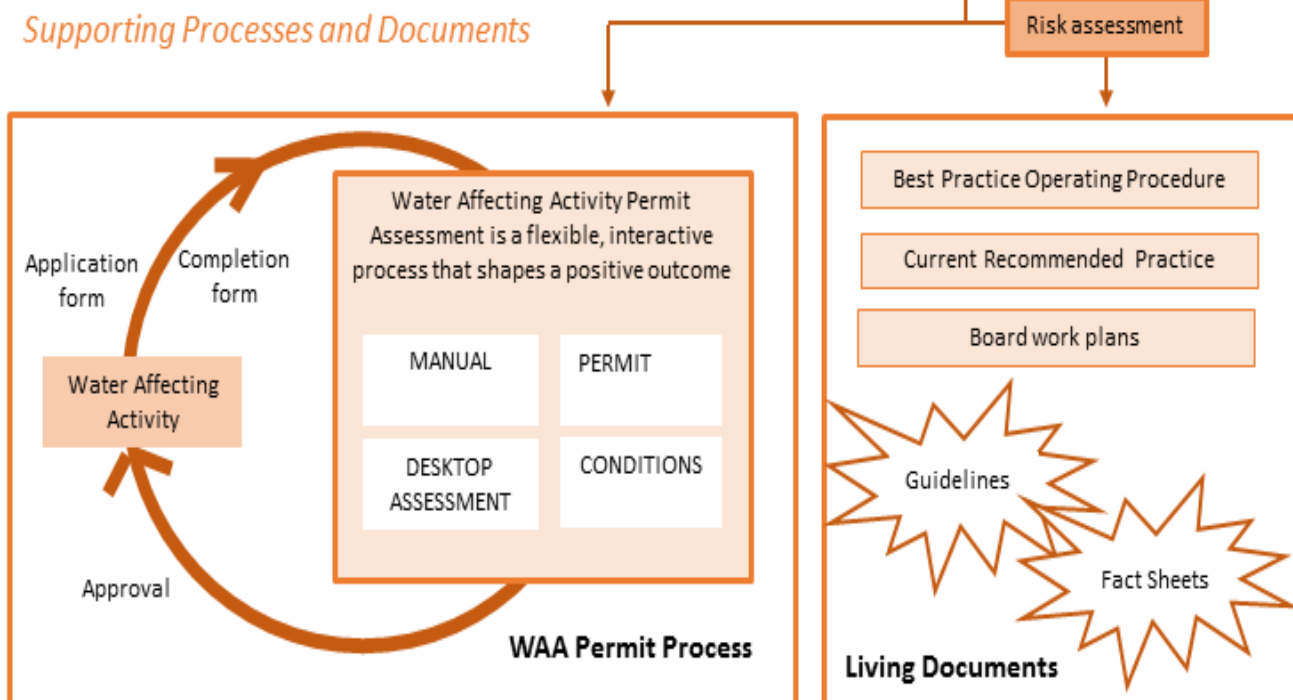
## Informing Regulations



## Framework



## Supporting Processes and Documents



^Exemptions, include general exemptions sourced from the Act and WAA-specific exemptions specified by the Board policy (general), including CRPs.

**Figure 1 Summary WAA Policy and Planning framework and supporting documents**

## 2.1 Water Affecting Activity Control Policy

Water-affecting activities are activities that may impact the condition of a water resource, water dependent ecosystems or water users and include constructing dams, building road crossings and drilling wells. A WAA permit is used to manage the potential impacts from these and other activities. A permit assessment process is in place to determine if a permit will be issued and the permit provides permission for an activity to be undertaken with or without conditions and may include ongoing maintenance requirements.

To meet its obligation, the Board manages and protects water resources through the Policy, supporting processes (e.g. Best Practice Operating Procedures) and a mechanism established to assess activities for which a permit is required under section 104(4) that are identified in the Policy in accordance with Section 104(3)(e).

The Board has determined that a number of activities require additional controls in order to protect and better manage the region's water resources by: ensuring sustainable use of water resources; ensuring equity among existing water users; maintaining existing heritage and cultural value; and ensuring long-term integrity of ecological functions and water dependent ecosystems. The Board is of the view that it is not necessary or practicable to require a permit for all activities under section 104(4) of the Act and acknowledges that some activities are managed under other legislation (e.g. *Planning, Development and Infrastructure Act 2016*).

The water-affecting activities covered by this Policy in the SAAL region are shown in Table 1, together with the relevant approval authority. Under this Policy, a person may only undertake the activities listed in Table 1 if the relevant authority shown in Table 1 has granted a permit or approval to authorise the activities.

**Table 1: Water-affecting activities and relevant authorities**

<b>Water-affecting activities</b>	<b>Relevant authority</b>
<b>Managing water take:</b> <i>Taking water from a watercourse or lake that is not prescribed</i>	SAAL Landscape Board
<b>Managing diversions:</b> <i>Water diversion and storage - erection, construction, modification, enlargement, or removal of a dam, wall or other structure</i>	SAAL Landscape Board
<b>Managing infrastructure:</b> <i>Building a structure in a watercourse, lake or floodplain</i>	SAAL Landscape Board
<b>Managing discharge:</b> <i>Drainage or discharge of water into a watercourse or lake</i>	SAAL Landscape Board
<b>Managing obstructions:</b> <i>Depositing objects or solid material in a watercourse or lake or on the floodplain of watercourse or near the bank or shore of a lake. Obstructing a watercourse or lake in any other manner</i>	SAAL Landscape Board
<b>Removing rock, sand or soil:</b> <i>Excavation or removal of rock, sand or soil</i>	SAAL Landscape Board
<b>Managing vegetation:</b> <i>Destroying vegetation growing in a watercourse or lake, or growing on the floodplain of a watercourse</i>	SAAL Landscape Board
<b>Managing wells:</b> <i>Well construction and repair - drilling, plugging, backfilling, sealing, replacing, repairing or altering a well, drilling a monitoring well</i>	Minister
<b>Draining or discharging wells:</b> <i>Draining or discharge of water directly or indirectly into a well</i>	Minister
<b>Using imported water:</b> <i>Using water (including effluent) in the course of carrying on a business in an Landscape region</i>	Minister

The SA Arid Lands Region contains one prescribed resource and two management zones as shown in Figure 2.

## 2.2 Water Allocation Plan

The SA Arid Lands Landscape Board is required to prepare and maintain a Water Allocation Plan for any prescribed resources in the region (Part 4 Division 2). A water allocation plan (WAP) is a legal document that sets out the rules for managing the take and use of prescribed water resources to ensure sustainability. The WAP ensures environmental needs are accounted for when determining the water available for consumptive purposes, how the water will be allocated and what activities are permitted with that water.

Within the SA Arid Lands, there is only one prescribed area (Figure 2), the Far North Prescribed Wells Area. The WAP for the Far North Prescribed Wells Area is designed to achieve responsible use of groundwater; provide security of access to water for current and future users; eliminate wasteful practices; support Aboriginal interests; avoid damage, disturbance or interference with sites of cultural significance; ensure ecosystem health; and clarify the rights and responsibilities of users of the Great Artesian Basin and other groundwater resources in the Prescribed Wells Area.

WAA rules that are part of the Far North Prescribed Wells Area WAP are found in section 7 of the WAP. The WAA rules within the WAP are for the management of wells and the draining or discharging of wells where the Minister is the relevant authority. WAA rules for the management of wells or the draining or discharging of wells not within the Far North Prescribed Wells Area are located in Section 4 of this policy.

Further information on the Far North Prescribed Wells Area WAP can be obtained from the Board's [website: https://landscape.sa.gov.au/saal/home](https://landscape.sa.gov.au/saal/home).

## 2.3 Murray-Darling Basin Management Zone

In 2007 the Australian Government passed the *Water Act 2007* (Water Act) to make provision for the management of the water resources of the Murray-Darling Basin and to make provision for other matters of national interest in relation to water. The Murray-Darling Basin Authority (MDBA) subsequently prepared the *Basin Plan 2012* to manage the water resources of the Basin including setting sustainable diversion limits on the amount of water that can be used for consumptive purposes for both groundwater and surface water for each water resource in the Basin.

The Basin Plan is a legislative instrument designed to provide a coordinated approach to water use across the Murray-Darling Basin's four states and the Australian Capital Territory. It aims to achieve a balance between the environmental, social and economic considerations by limiting water use to sustainable levels. The Water Act defines the extent of the Murray-Darling Basin area and divides the Basin into Water Resource Plan (WRP) areas. Each of the water resources within the WRP area has a defined sustainable diversion limit (SDL) that requires management to ensure ongoing sustainability of the Basin.

The SA Murray Region WRP includes part of the SA Arid Lands NRM Region and the water resources in this area are included as part of the SA Murray groundwater SDL unit (GS6) and the South Australian Non-prescribed Areas surface water SDL unit (SS10). The area of the SA Arid Lands NRM region that forms part of the SA Murray Region WRP will be defined as the "Murray-Darling Basin Management Zone" (Figure 2). All Water Affecting Activities within the Murray-Darling Basin Management Zone are required to be consistent with the Basin Plan.



The spare development capacity within the South Australian non-prescribed areas surface water SDL unit (SS10) was apportioned by agreement between the three relevant NRM regions prior to boundary changes made as part of reforms associated with the *Landscape South Australia Act 2019*. The agreed apportionment for the former SA Arid Lands NRM Board region will continue to apply as the boundary for the Murray-Darling Basin Management Zone has not changed with the enactment of the *Landscape South Australia Act 2019*.

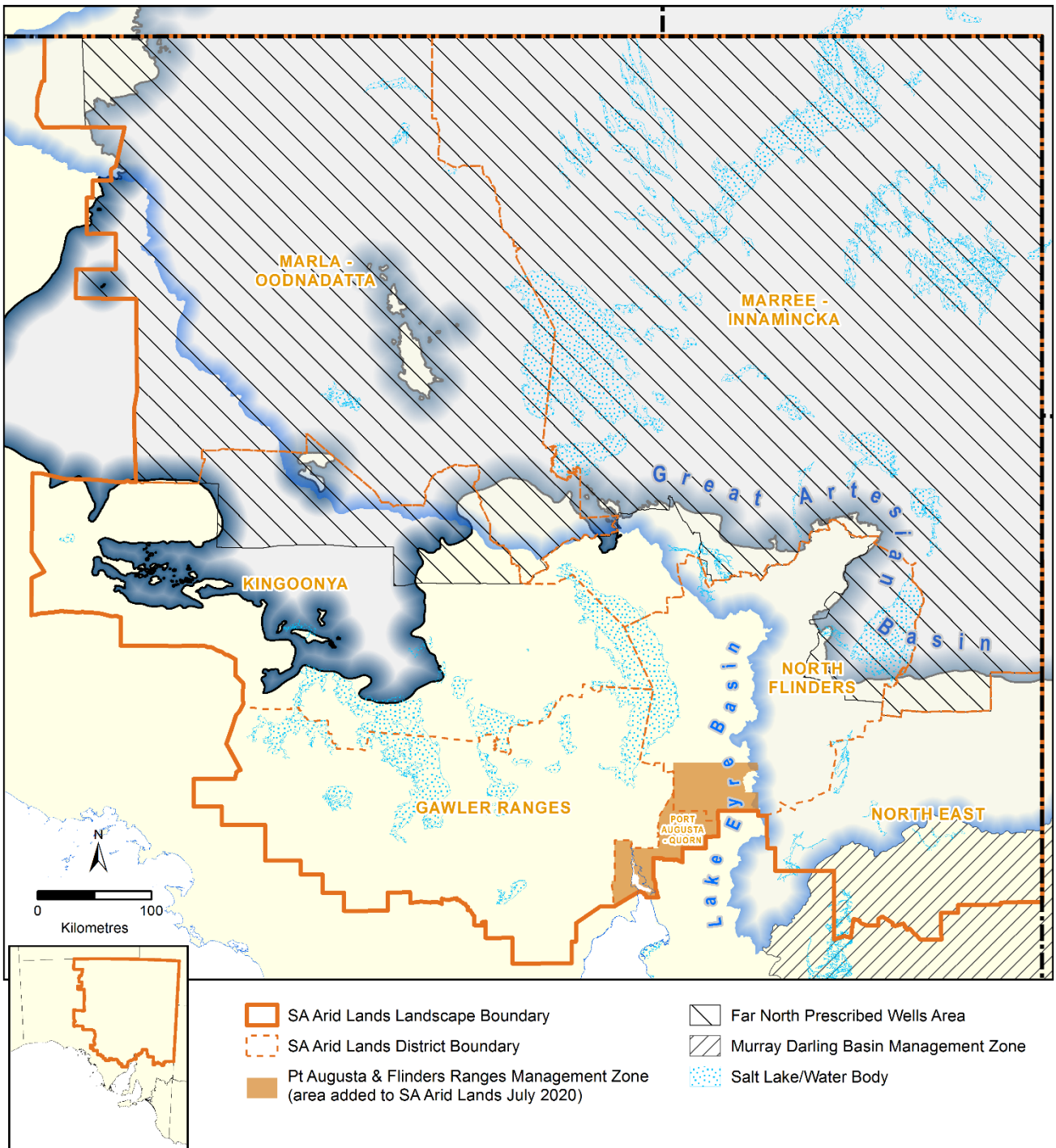
## 2.4 Port Augusta and Flinders Ranges Management Zone

With the enacting of the *Landscape South Australia Act 2019*, the SA Arid Landscape region has extended from the boundary under the previous *Natural Resources Management Act 2004*. The boundary change has seen the inclusion of the Port Augusta and Flinders Ranges council areas, which were previously part of the Northern and Yorke NRM region.

The inclusion of the Port Augusta and Flinders Ranges councils has necessitated defining a management zone to ensure that the provisions made under the previous NRM Act and the Regional NRM Plans are substantially the same. The zone will be defined as the “Port Augusta and Flinders Ranges Management Zone” (Figure 2).

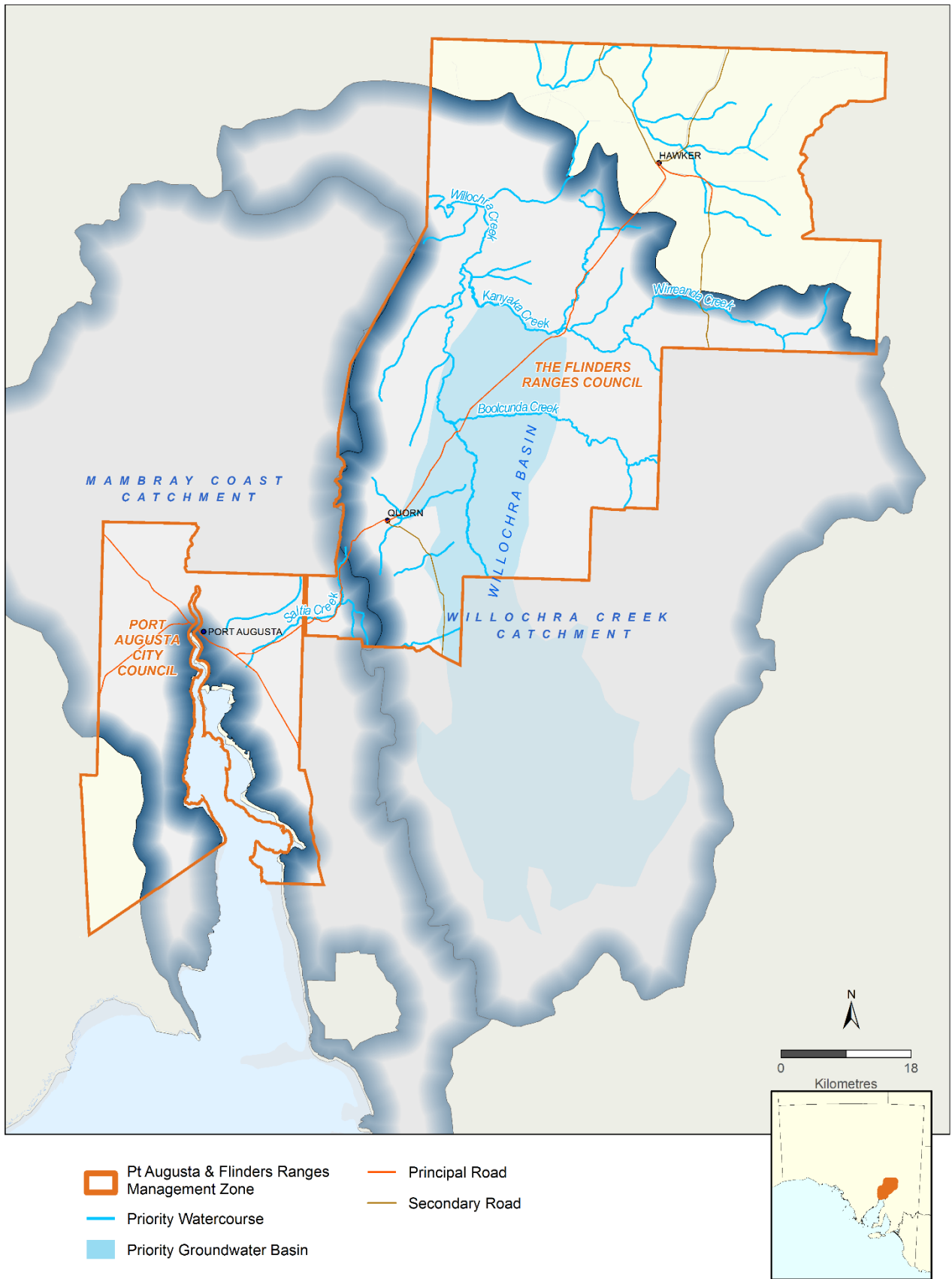
Within the zone priority groundwater areas, priority surface water areas and priority watercourses (Figure 3) have been defined to ensure consistency with the provisions from the Northern and Yorke Regional NRM Plan.

## South Australian Arid Lands Landscape Region Water Resources and Management Zones



**Figure 2** The SA Arid Lands Landscape Region showing the extent of the Lake Eyre Basin, Great Artesian Basin, Far North Prescribed Wells Area, Murray-Darling Basin Management Zone and the Port Augusta and Flinders Ranges Management Zone.

# Port Augusta and Flinders Ranges Management Zone Priority Water Resources



**Figure 3** The Port Augusta and Flinders Ranges Management Zone showing priority areas for water-affecting activities for groundwater, surface water and watercourses

## 3 Whole-of-region Water Affecting Activity objectives and principles

The whole-of-region objectives and principles support the management of the region's water resources by establishing the framework for the implementation of the Policy, providing guidance for decision-making for all permit applications.

All permit application assessment will take into account these general objectives and principles as the basic requirements that must be met before a permit is granted subject to any activity specific requirements.

It is important to be aware that, in addition to requiring a permit for the activities set out in Table 1, a person must act reasonably in relation to the management of natural resources within the region (Part 1 Division 2(8) of the Act) to ensure that water resources are protected and managed. The Board will work with the community to raise awareness and improve people's understanding of water resources in the region, as well as monitor the effect of activities that do not require a permit on the water resources of the region.

The following objectives and principles apply to all water-affecting activities throughout the SA Arid Lands region.

### 3.1 Objectives

- i. Preserve or enhance water quality across the region.
- ii. Promote water use within sustainable limits to support users and water dependent ecosystems.
- iii. Preserve water dependent species, communities and ecosystems.
- iv. Preserve ecological processes and services (e.g. ability of natural systems to restore or maintain water quality) at local and regional levels.
- v. Protect water resources that support important cultural, heritage and social values in the landscape.
- vi. Ensure infrastructure and activities do not impact water resources.
- vii. Maintain persistence and connectivity of natural flow regimes.

### 3.2 Principles

Based on a risk management approach, a permit may be granted by the relevant authority where the activity can be demonstrated to:

- a. Not compromise the quality of water resources.
- b. Promote the sustainable use of water.
- c. Avoid impacting or disturbing areas of high ecological value and avoid unacceptable levels of risk to aquatic ecosystems.
- d. Minimise the impact of activities on the geomorphic characteristics, natural flow regime and function of

hydraulic processes. In particular avoid changes to persistence, connectivity and water quality.

- e. Support the equitable use of and access to water.
- f. Avoid or protect areas identified to be priority or significant cultural, heritage or social value.
- g. Incorporate monitoring of potential impacts from the activities undertaken (where appropriate).
- h. Protect authorised devices or activities designed for scientific purposes.
- i. Design activity to account for natural changes in flow, rainfall and evaporation and potential changes into the future.
- j. Ensure that water-related infrastructure is fit for purpose and does not cause any adverse impacts.

## 4 Water Affecting Activity-specific objectives and principles

In addition to the whole-of-region objectives and principles, the relevant authority will consider the following objectives and principles specific to managing water-affecting activities when determining whether to approve or refuse a permit. Permit applications will be assessed on their merit, in collaboration with the applicant, and in light of best practice operating procedures and current recommended practices.

### 4.1 Managing wells

Wells, or bores as they are more commonly referred to, are used to access all groundwater resources. A permit is required for the drilling, plugging, backfilling or sealing of a well and the repairing, replacing or altering the casing, lining or screen of a well, pursuant to Section 104(3)(a) and (b) of the Act.

The relevant authority for the activities referred to in sections 104(3)(a) and (b) is the Minister for Environment and Water. This means that an application to undertake any of these activities will need to be made to the Minister or their delegate.

The following objectives and principles apply to all activities relating to managing wells in the SA Arid Lands region, with the exception of those managed through the Water Allocation Plan for the Far North Prescribed Wells Area.

#### Objectives

- To protect the quality of underground water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect the quantity of underground water resources by minimising undue depletion and wastage.
- To ensure wells are constructed to the appropriate well construction standards to ensure they access the target aquifer or aquifers.
- To protect sensitive aquatic biota and water-dependent ecosystems and protect their natural resilience.
- To protect the integrity of underground water resources and the interactions of connected water resources.
- To protect sites of cultural, heritage and social amenity value.
- To ensure the structure is constructed and maintained for the purpose it was intended.

## Principles

The following matters should be taken into account by the Minister when determining whether to grant or refuse a permit for an activity under section 104(3)(a) and (b) of the Act:

1. The siting of non-intensive stock or domestic wells must have no detrimental effect on any other operational well or permanent or semi-permanent pool, spring or flowing stream.
2. The construction, maintenance and management of wells must not adversely affect the hydrological processes between aquifers or connected surface water resources.
3. The construction and maintenance of wells must not degrade naturally occurring water dependent ecosystems.
4. The construction and maintenance of wells must not adversely impact processes dependent on system connectedness (e.g. the migration of aquatic biota).
5. The equipment, materials and methods used to drill, repair, replace, alter or maintain a well shall not adversely affect the groundwater quality or introduce contaminants.
6. Activities shall not have an unacceptable detrimental impact on cultural, heritage or social values.
7. Well construction must be in accordance with the specifications or related policy as provided by the Relevant Authority.
8. Where a well will intersect multiple aquifers, an impervious seal must be installed and maintained to prevent leakage between the aquifers.
9. Wells shall be fitted with headworks, suited to the underground water temperature and pressure, and equipped in such a way to control flow and monitor the natural flow of water over the lifetime of the well except in the Port Augusta and Flinders Ranges Management Zone where the headworks of a well from which water is taken, other than for domestic purposes or watering stock (other than stock subject to intensive farming), must be constructed so that the extraction of water from the well can be metered without interference. Groundwater extracted during the installation of a well (including to test the integrity of materials) shall be minimised to ensure water is not wasted.
10. Wells and headworks must be maintained in an appropriate condition to perform their intended function without wastage or leakage.
11. Wells that are no longer operational, or new wells not intended to be operational, shall be decommissioned and back-filled in accordance with well specifications with minimal impact on the environment.
12. Mineral wells can be converted into water wells in accordance with approved water well construction standards.

In addition to principles 1-12 the following principles apply for the Port Augusta and Flinders Ranges Management Zone:

13. In the Port Augusta and Flinders Ranges Management Zone permits for new wells other than replacement wells will not be granted in the priority underground water basins and priority underground water areas shown in Figure 3 unless it can be shown that the purpose of the well is for stock (other than stock subject to intensive farming) or domestic extraction.

14. In the Port Augusta and Flinders Ranges Management Zone a permit application to convert an existing well that previously did not take underground water to a well that takes underground water will be assessed as a new well and is subject to the principles contained in this section, and the applicant is required to:
  - a. demonstrate that they are the asset owner of the existing well, or have permission in writing from the asset owner to use the well; and
  - b. write to the Minister or their delegate about changing the purpose of the well, and obtain permission to change the purpose of the well.
15. In the Port Augusta and Flinders Ranges Management Zone where an existing operational well needs to be replaced the applicant needs to:
  - a. obtain a permit under the *Landscape SA Act 2019* to backfill the existing well and demonstrate that an appropriately licensed well driller has or is to decommission the existing well; and
  - b. apply for a permit under the *Landscape SA Act 2019* to drill a new well, and the applicant is required to agree to construct the replacement well within 50 meters of the original well and within the same aquifer.
16. In the Port Augusta and Flinders Ranges Management Zone drilling of a well for domestic use and/or for watering stock other than intensively farmed stock shall only occur if the location of that well is:
  - a. at least 200 metres from the nearest existing well that has supplied water for irrigation, stock, domestic or commercial use in the last 10 years; or 100 metres from the nearest existing well that has supplied water for irrigation, stock, domestic or commercial use in the last 10 years if the proponent's property is too small to enable a minimum distance of 200 metres between wells and the well is purely for domestic use; and
  - b. at least 500 metres from a pipeline supplying reticulated water under the *Water Industry Act 2012* if the land between the proposed well and the pipeline is owned by the proponent or the proponent has legal access to this land.
17. In the Port Augusta and Flinders Ranges Management Zone the Minister may impose conditions in relation to the construction or operation of a well for the purpose of supplying water other than for domestic purposes or watering stock (other than stock subject to intensive farming) to avoid an unacceptable risk to any other operational well, permanent or semi-permanent pool, lake, wetland, spring, or permanent or semi-permanent flowing stream, including the following conditions:
  - a. The extraction must be controlled so that it only takes place in accordance with the specified parameter(s) relating to:
    - i. Minimum water levels in the well; and/or
    - ii. Water salinity.
  - b. The applicant to install and maintain a meter in accordance with the South Australian Water Use Meter Specifications and provide regular meter readings.
  - c. Any other matter deemed relevant by the Minister.
18. In the Port Augusta and Flinders Ranges Management Zone wells for the purpose of aquifer recharge operations must be constructed so that the headworks allow both recharge and discharge operations to be metered without interference.
19. In the Port Augusta and Flinders Ranges Management Zone a well must not be drilled within 300 metres of

a well ('the existing well') into which water is drained or discharged pursuant to a permit granted under Section 104(3)(c) of the Act for the purpose of aquifer storage and recharge, unless:

- a. the aquifer into which the proposed well will be drilled is not directly hydraulically connected with the existing well; or
- b. the proposed well is part of an ASR scheme that includes the existing well.

20. In the Port Augusta and Flinders Ranges Management Zone for the purposes of principle 19, "ASR scheme" means a scheme for the drainage or discharge of water ('recharged water') to an aquifer by one or more persons using one or more wells and the recovery of the recharged water (or other water in lieu of the recharged water) from the aquifer by the same or other persons using the same or other wells.
21. In the Port Augusta and Flinders Ranges Management Zone the headworks for the draining or discharge of water shall be constructed so that the extraction and draining or discharge operations can be metered without interference.
22. Deepening of a well or repairing, replacing or altering the casing, lining or screen of a well must only occur where:
  - a. The equipment, materials and method used in the drilling, plugging, backfilling or sealing of a well do not adversely affect the quality of the underground water resource; and
  - b. The aquifers are protected during the repair, replacement or alteration of the casing, lining or screen of a well to avoid contamination of the underground water resource and prevent adverse impacts upon the integrity of the aquifer.

## 4.2 Draining or discharging into wells

A permit is required to drain or discharge water directly or indirectly into a well, pursuant to Section 104(3) (c) of the Act.

The relevant authority for the activities referred to in sections 104(3) (c) is the Minister for Environment and Water. This means that an application to undertake any of these activities will need to be made to the Minister or their delegate. The Minister will grant or refuse the application and take into account the provisions of this plan when considering any application.

The following objectives and principles apply to all activities relating to draining or discharging into wells in the SA Arid Lands Landscape region, with the exception of those managed through the Water Allocation Plan for the Far North Prescribed Wells Area.

### Objectives

- To protect the quality of underground water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect sensitive aquatic biota and water-dependent ecosystems and avoid changes to persistence, connectivity and water quality.



- To protect the integrity of underground water resources and the interactions of connected water resources.
- To avoid adversely affecting the capacity of natural systems to recover.

## Principles

The following matters should be taken into account by the Minister when determining whether to grant or refuse a permit for an activity under section 104(3)(c) of the Act.

23. A permit is required for the draining or discharging of water directly or indirectly into a well and water that is drained or discharged into a well must comply with the *Environmental Protection Act 1993* and any associated policy, including the Environment Protection (Water Quality) Policy 2015.
24. A permit to drain or discharge water into a well will not be issued unless a risk assessment is undertaken to the satisfaction of the Minister. This risk assessment must be consistent with the National Water Quality Management Strategy – Australian Guidelines for Water Recycling: Managing Health & Environmental Risks, Phase 2, 2009 and other related documents current at the time, and include:
  - a. an investigation into the suitability of the draining or discharging site, including but not limited to tests for transmissivity, maximum injection pressures and calculated likely impacts on the integrity of the well and confining layers, and impacts of potentiometric head changes to other underground water users.
  - b. an appropriate operation or management plan demonstrating that operational procedures and a monitoring regime are in place to protect the integrity of the aquifer, minimise the wastage of water and protect the discharge site on an ongoing basis.
  - c. a water quality assessment which identifies hazards in the source water.
  - d. a report on the consequences and impacts to the native underground water resource where the water quality characteristics (salinity and chemistry composition) of the water to be discharged differs to that of the native underground water.
25. For the purposes of Principle 24, the relevant concentrations, levels or amounts shall be measured in sufficient representative samples from the water to be drained or discharged, and obtained from, or as near as possible, to the proposed point of injection.
26. Further to Principle 24b, continuation of draining and discharge is dependent on an annual report that addresses the impacts to the native underground water at the draining or discharge site.
27. The draining or discharging of water directly or indirectly into a well shall not adversely affect the groundwater quality or introduce contaminants.
28. The draining or discharging of water directly or indirectly into a well must not degrade dependent ecosystems.
29. The draining or discharging of water directly or indirectly into a well must not impact processes dependent on system connectedness (e.g. the migration of aquatic biota).
30. Draining or discharging water directly or indirectly into a well must not adversely affect the hydrological processes between aquifers or connected surface water resources.
31. The draining or discharging of water directly or indirectly into a well must not detrimentally affect the ability of other persons to lawfully take groundwater.

## Exemptions

Exemptions relevant to this Water Affecting Activity are as follows:

- Water that is drained or discharged into a well only by means of gravity is exempt from meeting the requirements of Principle 24a.
- Roof run-off (surface water) captured in a closed system and then drained or discharged into a well is exempt from Principle 24b except for the Port Augusta and Flinders Ranges Management Zone where roof runoff (surface water) that is drained or discharged into a well via a closed system of capture and transport is exempt from meeting the requirements of principles 24a, b & c, provided that the system is equipped with a mechanism to divert first flush water.

### 4.3 Managing diversions

A permit is required for the erection, construction, modification enlargement or removal of a dam, wall or other structure or the use of a pump that will collect or divert, or collects or diverts, water flowing in a watercourse that is not prescribed or flowing over any other land that is not in a surface water prescribed area pursuant to Section 104(4)(a).

Water-affecting activities generally refer to dams and structures that capture or store water. These structures are often constructed across watercourses or drainage paths where they inhibit all flow until the dam is filled before water spills over and can flow further downstream (on-stream dams). Off-streams dams use different mechanisms to extract from a watercourse and allow the capture of water a different times or flows rates, unlike on-stream dams that capture all flow until full.

The relevant authority for the activities referred to in section 104(4)(a) is the Board. This means that an application to undertake any of these activities may need to be made to the Board and the Board will take into account the provisions of this policy when considering to grant or refuse a permit.

For more information on exemptions relevant to this water-affecting activity, refer to the end of the Section or for other exemptions refer to Section 5.2 of this policy. In addition a dam where the capacity exceeds 5 megalitres or a dam that has a finished height greater than 3 metres above the natural surface of the ground is generally considered development. An approval is required under the *Planning, Development and Infrastructure Act 2016* and a development application must be submitted to the relevant authority, usually local government, for assessment. In addition the development of new dams in previously un-watered areas may require approval under the *Native Vegetation Act 1991* and the *Pastoral Land Management and Conservation Act 1989* for native vegetation removal by grazing.

The following objectives and principles apply to all activities relating to managing dams in the SA Arid Lands Landscape region.

## Objectives

The following objectives apply to the erection, construction, modification, enlargement or removal of a dam, wall or other structure that will collect or divert, or collects or diverts, water flowing in a watercourse that is not prescribed or flowing over any other land that is not in a surface water prescribed area, pursuant to Section 104(4)(a).

- To protect surface water flows.
- To protect the quality of water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect the quantity of water resources by minimising undue depletion and wastage.
- To protect sensitive aquatic biota and water-dependent ecosystems.
- To protect the habitat and refugial value provided by native riparian vegetation and manage potential threats posed by weeds.
- To protect the localised ecological processes supported by water-dependent species, communities and ecosystems.
- To protect interactions between connected water resources at the regional-scale, including by ensuring the system has the capacity to deliver environmental water requirements.
- To avoid adversely affecting the capacity of natural systems to recover.
- To prevent the destruction of watercourses and lake bed, banks or habitat.
- To support equitable access to water and protect the needs of downstream users.
- To protect sites of cultural, heritage and social amenity value.
- To ensure the structure will be constructed and maintained for the purpose it was intended.

## Principles

32. A permit is required to construct, enlarge, modify or remove a dam capable of storing more than 10 ML of water, excluding in the Murray-Darling Basin Management Zone where a permit is required to construct, enlarge, modify or remove a dam of any size and the Port Augusta and Flinders Ranges Management Zone where principles 47 to 55 apply.
33. Dams, walls or other structures shall be designed and constructed to avoid having a detrimental impact on water quality or introduce contaminants.
34. Dams, walls or other structures shall be designed and constructed to minimise evaporation, water loss and prevent seepage to groundwater.
35. The siting, construction or removal of dams, walls or other structures should not adversely degrade dependent ecosystems.
36. The siting, construction or removal of dams, walls or other structures should not impact processes dependent on system connectedness (e.g. the migration of aquatic biota).
37. Dams, walls or other structures must not be located in, or immediately upstream or downstream, of areas that are ecologically sensitive or known to provide critical refuge to aquatic biota (e.g. permanent waterholes).
38. The construction and maintenance of dams, walls or other structures shall minimise the destruction of riparian vegetation, including vegetation providing significant habitat for wildlife.

39. The siting, construction or removal of dams, walls or other structures should minimise the risk of erosion (including bed or bank instability, or sedimentation).
40. Dams, walls or other structures must not have a detrimental effect on the natural state and function of watercourses, lakes or floodplains.
41. The siting, construction or removal of dams, walls or other structures should not adversely affect the ability of other persons to lawfully take surface water.
42. Activities shall not have a detrimental impact on cultural, heritage or social value.
43. A dam, wall or other structure must not be constructed or enlarged in the Murray-Darling Basin Management Zone if that activity would cause the total volume of dam capacity in that zone to exceed the Murray-Darling Basin Management Zone limit ('allowable limit') of 10200 ML.
44. For the purposes of principle 43 the dams and their capacities in the Murray-Darling Basin Management Zone considered to exist prior to 30 June 2009 are given in Topography Water Bodies dataset Number 902 archived by the Department for Environment and Water for the purposes of Basin Plan compliance.
45. Construction should not commence when there is water present within the watercourse.
46. The removal of a dam, wall or other structure requires the natural ground level to be reinstated and the topsoil and vegetation stabilised to limit impacts on the downstream environment.

In addition to principles 32-46 the following principles apply for the Port Augusta and Flinders Ranges Management Zone:

47. Principles 48 to 55 in this sub-section apply only to the management of dams in the priority surface water areas shown in Figure 3 within the Port Augusta and Flinders Ranges Management Zone.
48. Subject to principle 50 a permit shall not be granted to erect, construct, modify or enlarge a dam where the total volume captured will exceed 25% of the median adjusted annual flow in the relevant catchment as determined by:
  - a. gauging stations; or
  - b. an assessment using a model approved by the Board.
49. Subject to principle 50, a permit to erect, construct, modify or enlarge a dam shall not be granted where the total volume of water captured on the allotment on which the dam is proposed to be erected, constructed, modified or enlarged would exceed a figure calculated by 25% of the median adjusted annual flow calculated for the total catchment divided by the total catchment area (ML/ha), multiplied by the allotment area (ha).
50. In the Port Augusta and Flinders Ranges Management Zone priority surface water areas a permit for the construction of a new dam or enlargement of an existing dam may be granted where there has been an equivalent prior reduction in dam capacity and a significant environmental benefit can be demonstrated, e.g. rationalisation of existing dams or significant evaporation reduction.
51. In the Port Augusta and Flinders Ranges Management Zone priority surface water areas, watercourse water may only be diverted to or collected in a dam where the area of the catchment that contributes runoff to the watercourse is less than 300 hectares.

52. In the Port Augusta and Flinders Ranges Management Zone priority surface water areas dams for stock or domestic purposes may only be constructed if there is insufficient or inadequate water available on the property, such that:
  - a. there is no capacity to connect to SA Water supply; and
  - b. the flow rate of water from wells is less than 0.1 litre/sec; or
  - c. the salinity of the water from the wells is greater than: 1,500 mg/L for general domestic purposes; 1,000 mg/L if the water is used for drinking purposes; or 3,000 mg/L for stock purposes.
53. In the Port Augusta and Flinders Ranges Management Zone priority surface water areas, despite principles 48 and 49, a permit may be granted to erect or construct a dam, wall or other structure for the purpose of erosion control or flood mitigation, provided that the dam is fitted with a controlled flow release device.
54. In the Port Augusta and Flinders Ranges Management Zone priority surface water areas for the purposes of principle 53, a controlled flow release device shall consist of a pipe with a minimum diameter of 50 millimetres and of sufficient size to completely drain the dam in no more than 48 hours after filling. The pipe shall be sited so as to drain the entire contents of the dam.
55. In the Port Augusta and Flinders Ranges Management Zone a dam or other structure must not contribute to dryland salinity or intrusions of saline groundwater into watercourse.

## Exemptions

A permit is not required for the following diversion activities:

- Structures authorised for the specific purpose of measuring streamflow.
- If a dam that has been washed away or received damage and the sole purpose is to repair or reinstate the original dam to the same capacity.
- If the replacement dam is constructed in the same location as the original dam or on part of the same property that is hydrologically continuous with the original dam on the property.
- Desilting of a dam where:
  - The process of desilting involves only the removal of unconsolidated material deposited since construction of the dam or material deposited since the dam was previously desilted.
  - The desilting does not increase the maximum holding capacity of the dam by deepening or enlarging the dam.
  - Reasonable measures are taken to prevent erosion and damage to any watercourse, lakes or floodplains.
  - Any material excavated from the dam is not deposited within a watercourse, lake or floodplain of a watercourse.
  - Appropriate measures are taken to minimize impacts to water quality from the desilting.
- If removal is for an off-stream dam providing there is no adverse effect on the hydrological connectivity of the watercourse and the dam to be removed is not located within the Murray-Darling Basin Management Zone or the Port Augusta and Flinders Ranges Management Zone.
- Constructing or enlarging a contour bank provided the activity is in accordance with section 106(1)(b) of the Act.

Guidelines for constructing or enlarging a contour bank can be obtained from the Board.

## 4.4 Managing infrastructure

A permit is required for the erection, construction or placement of any buildings or structures, pursuant to Section 104(4)(b) of the Act.

Infrastructure generally refers to built or man-made structures placed in a watercourse, lake or floodplain, which may direct water, including creek crossings, bridges, culverts, gabions and levee banks.

The relevant authority for the activities referred to in section 104(4)(b) is the Board. This means that an application to undertake any of these activities will need to be made to the Board and the Board will take into account the provisions of this policy when considering to grant or refuse a permit.

For more information on exemptions relevant to this Water Affecting Activity, refer to the end of the Section or for other exemptions refer to Section 5.2 of this policy.

The following objectives and principles apply to all activities relating to managing infrastructure placed in a watercourse, lake or floodplain in the SA Arid Lands Landscape region.

### Objectives

- To protect surface water flows.
- To protect the quality of water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect the quantity of water resources by minimising undue depletion and wastage.
- To protect sensitive aquatic biota and water-dependent ecosystems.
- To protect the habitat and refugial value provided by native riparian vegetation and manage potential threats posed by weeds.
- To protect the localised ecological processes supported by water-dependent species, communities and ecosystems.
- To protect the integrity of surface water resources and the interactions of connected water resources.
- To protect interactions between connected water resources at the regional-scale, including by ensuring the system has the capacity to deliver environmental water requirements.
- To avoid adversely affecting the capacity of natural systems to recover.
- To prevent the destruction of watercourses and lake bed, banks or habitat.
- To support equitable access to water and protect the needs of downstream users.
- To protect sites of cultural, heritage and social amenity value.
- To ensure the structure will be constructed and maintained for the purpose it was intended.

## Principles

56. A permit is required if the activity prevents the passage of low flow in a watercourse, for all situations in a lake, and in a floodplain of a water course if the activity could lead to a diversion of >10ML during one flow event, except in the Port Augusta and Flinders Ranges Management Zone
57. A structure must not be located in, or immediately upstream or downstream, of areas that are ecologically sensitive or known to provide critical refuge to aquatic biota (e.g. permanent waterholes).
58. The erection, construction or placement of a structure shall avoid having a detrimental impact on water quality or introduce contaminants.
59. The erection, construction or placement of a structure shall maintain the geomorphic and hydrological characteristics of the drainage line, including the natural timing and duration of flows and connectivity between persistent pools of water.
60. The erection, construction or placement of any structure in a watercourse or floodplain should not adversely degrade dependent ecosystems.
61. The erection, construction or placement of any structure in a watercourse or floodplain should not impact processes dependent on system connectedness (e.g. the migration of aquatic biota).
62. The erection, construction or placement of any structure in a watercourse or floodplain shall minimise the destruction of riparian vegetation, including vegetation providing significant habitat for wildlife.
63. A structure must ensure a low level of risk to the natural state and function of watercourses, lakes or floodplains.
64. The erection, construction or placement of any structure in a watercourse or floodplain should minimise the risk of erosion (including bed or bank instability, or sedimentation).
65. The erection, construction or placement of any structure in a watercourse or floodplain must not detrimentally affect the ability of other persons to lawfully take surface water.
66. The erection, construction or placement of any structure must not have a detrimental impact on cultural, historical or social values and amenities.
67. A structure must ensure a low level of risk to the natural state and function of watercourses, lakes or floodplains.
68. A permit is required in the Murray-Darling Basin Management Zone if the erection, construction or placement of any structure will divert any water away from the watercourse or lake and prevent that water from returning.
69. For the purposes of principle 68, where the erection, construction or placement of a structure prevents water from returning to the watercourse or lake, the structure will be considered to be a dam and assessed against the principles in section 4.3.
70. The erection, construction or placement of any structure in a watercourse or on a floodplain must incorporate a low flow bypass to ensure the provision of environmental water requirements to areas downstream, excluding those authorised structures for the specific purpose of measuring stream flow.
71. To accommodate increased variability of rainfall and flow events, a one-in-200-year flood level shall be taken into account when designing and selecting suitable locations for structures, except for the Port Augusta and Flinders Ranges Management Zone where a one-in-100-year flood level shall be taken into account when assessing for permits under this section of the control policy.

72. Activities should avoid being undertaken when there is water present in the watercourse, lake or floodplain.
73. Structures must be maintained in an appropriate condition to perform their intended function.
74. Upon completion of the subject works, the bed and banks of the watercourse must be restored to their natural level and geomorphology.

In addition to principles 56-74 the following principles apply for the Port Augusta and Flinders Ranges Management Zone:

75. In the Port Augusta and Flinders Ranges Management Zone the erection, construction or placement of any building or structure in a watercourse or lake or on the floodplains of a watercourse must not adversely affect the provision of environmental water requirements of those areas, including exacerbation of salinity.
76. In the Port Augusta and Flinders Ranges Management Zone the construction or placement of a building or structure on the floodplain of a watercourse or near the bank or shore of a lake to control flooding from the watercourse or lake must not increase the risk of flooding (including upstream or downstream).

## Exemptions

A permit is not required where:

- The building or structure will be erected, constructed or placed no less than 40 metres from the edge of a watercourse and the building or structure does not take water or is not associated with the taking of water.
- In the Port Augusta and Flinders Ranges Management Zone if the building or structure will be erected, constructed or placed in a watercourse or the floodplain of a watercourse not delineated as a priority watercourse in Figure 3.
- The structure is authorised for the specific purpose of measuring stream flow, or for managing water flow to assist with maintenance, rehabilitation or restoration of locally indigenous water-dependent ecosystems, habitats, communities or species.
- Levees or channels will divert water directly from rock faces, and there is no significant downstream catchment, water use or users that would otherwise be affected by the diversion, except in the Murray-Darling Basin Management Zone where a permit is required.
- Contour banks which are designed to slow water across the landscape to protect soils from erosion, as long as:
  - Water is not unnecessarily diverted away from a watercourse.
  - Water is not permanently collected.
  - Contour banks are not likely to have an adverse impact on water dependent ecosystems.
  - Contours are constructed according to best practice.
  - The natural geomorphology is reinstated and top soil is compacted and graded to match existing adjacent surface levels after erosion mitigation activities.

Emergency repairs to a culvert, floodways or crossings shall be notified to the Board but do not require a permit.



## 4.5 Managing discharge

A permit is required to drain or discharge water directly or indirectly into a watercourse or lake, pursuant to Section 104(4)(c) of the Act.

Activities for drainage and discharge of water include managing storm water through redirecting, detaining or retaining water in a watercourse or lake or by pumping water from a well or pipe-system to a watercourse or lake. The drainage or discharge of water may also require an approval under the *Environment Protection Act 1993*.

The relevant authority for the activities referred to in sections 104(4)(c) is the Board. This means that an application to undertake any of these activities will need to be made to the Board and the Board will take into account the provisions of this policy when considering to grant or refuse a permit.

For more information on exemptions relevant to this Water Affecting Activity, refer to the end of the Section or for other exemptions refer to Section 5.2 of this policy.

The following objectives and principles apply to all activities relating to managing drainage or discharge into a watercourse or lake in the SA Arid Lands Landscape region. In addition, requirements under the Environment Protection (Water Quality) Policy 2015 should be considered.

### Objectives

- To protect the quality of water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect the quantity of water resources by minimising undue depletion and wastage.
- To protect sensitive aquatic biota and water-dependent ecosystems.
- To protect the localised ecological processes supported by water-dependent species, communities and ecosystems.
- To protect the integrity of surface water resources and the interactions of connected water resources.
- To avoid adversely affecting the capacity of natural systems to recover.
- To prevent the destruction of watercourses and lake bed, banks or habitat.
- To protect sites of cultural, heritage and social amenity value.
- To ensure the structure is constructed and maintained for the purpose it was intended.

### Principles

77. A permit is required if the volume discharged or drained exceeds 1ML in total, except in the Port Augusta and Flinders Ranges Management Zone where a permit is required to discharge or drain.
78. The quality of water that is drained or discharged into a watercourse or lake must not have a detrimental impact on aquatic biota or introduce contaminants.
79. Water discharged or drained into a watercourse or lake must be done at an appropriate location and rate to protect the natural geomorphology and hydrology of the watercourse.

80. The draining and discharge of water into a watercourse or lake must not degrade dependent ecosystems.
81. The draining and discharge of water into a watercourse or lake must not impact processes dependent on system connectedness (e.g. the migration of aquatic biota).
82. The draining and discharge of water must not have a detrimental effect on the natural state and function of watercourses, lakes or floodplains.
83. The draining and discharge of water must not occur in, or immediately upstream or downstream, of areas that are ecologically sensitive or known to provide critical refuge to aquatic biota (e.g. permanent waterholes).
84. Draining or discharging water directly or indirectly into a watercourse or lake shall minimise the destruction of riparian vegetation, including vegetation providing significant habitat for wildlife.
85. Water may only be drained or discharged into a watercourse or lake where protective measures have been provided to minimise erosion (e.g. installation of a detention basins to allow sediments to settle before water is discharged) or degradation in the quality of the receiving water.
86. For the purpose of principle 85, protective measures include, but are not limited to the following:
  - a. advanced detention (AdvDetention) basins to regulate the rate, volume and quality of water discharged;
  - b. reuse of drainage or discharge water under conditions that would not present a risk to public or environmental health;
  - c. litter traps;
  - d. treating the water to be drained or discharged into the watercourse or lake;
  - e. draining or discharging water into a watercourse at times of naturally high flow.
87. Detention basins shall be designed and constructed to allow sediments to settle before water in the basin is drained or discharged into a watercourse of lake.
88. Draining or discharging water directly or indirectly into a watercourse or lake must not have a detrimental impact on cultural, historical or social values and amenities.
89. Any structures or measures for managing erosion must be maintained according to their design and function.
90. In the Port Augusta and Flinders Ranges Management zone the impacts of storm water pollutants shall be minimised by planting indigenous plant species along watercourses and replacing exotic plants that contribute to storm water pollution with indigenous.

## Exemptions

A permit is not required where:

- The activity occurs outside of the Port Augusta and Flinders Ranges Management Zone and where the volume of water drained is less than 1ML per year.
- The activity is within the Port Augusta and Flinders Management Zone where:
  - the draining or discharging of water is into a watercourse not delineated as a priority watercourse in Figure 3; or
  - involves draining or discharging water of better quality than the receiving waters and the volume of the

water drained or discharged does not exceed a volume of 0.5 ML.

- Draining or discharging rainwater collected from a structure or building does not require a permit provided:
  - rainwater was transported via closed pipe system, and is equipped with a mechanism to divert the first flush of rainwater away from the watercourse or lake; and
  - point of drainage into a watercourse or lake has measures to prevent erosion.

## 4.6 Managing obstructions

A permit is required to deposit or place an object or solid material, obstruct a watercourse or lake in any other manner, or deposit or place an object or solid material to control flooding pursuant to Section 104(4)(d), (e) and (f) of the Act.

Obstructions include activities such as plantings, dumping material (i.e. rubbish, plant debris), depositing soil, temporary access channels or erosion mitigation activities (i.e. rock rip rap). Some of the activities listed may also require approval under other Acts or maybe in breach of that Act; please refer to relevant authority before undertaking any activity.

The relevant authority for the activities referred to in sections 104(4)(d), (e) and (f) is the Board. This means that an application to undertake any of these activities will need to be made to the Board and the Board will take into account the provisions of this policy when considering to grant or refuse a permit.

For more information on exemptions relevant to this Water Affecting Activity, refer to the end of the Section or for other exemptions refer to Section 5.2 of this policy.

The following objectives and principles apply to all activities relating to managing obstructions on a floodplain or near the bank of a watercourse or shore of a lake or depositing or placing an object or solid material in a watercourse or lake in the SA Arid Lands landscape region.

### Objectives

- To protect surface water flows.
- To protect the quality of water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect the quantity of water resources by minimising undue depletion and wastage.
- To protect sensitive aquatic biota and water-dependent ecosystems.
- To protect the habitat and refugial value provided by native riparian vegetation and manage potential threats posed by weeds.
- To protect the localised ecological processes supported by water-dependent species, communities and ecosystems.
- To protect the integrity of surface water resources and the interactions of connected water resources.
- To protect interactions between connected water resources at the regional-scale, including by ensuring the system has the capacity to deliver environmental water requirements.

- To avoid adversely affecting the capacity of natural systems to recover.
- To prevent the destruction of watercourses and lake bed, banks or habitat.
- To protect sites of cultural, heritage and social amenity value.
- To ensure the structure will be constructed and maintained for the purpose it was intended.

## Principles

91. A permit is required to deposit or place an object or solid material (Including the construction of roads, tacks, or levee banks), to control flooding on the floodplain of a watercourse near the bank or shore of a lake, if it will divert greater than 10ML of water from its natural course during one flow event.
92. A permit is required for the depositing or placing of an object or solid material in a watercourse or any other obstruction in a watercourse if the depositing, placing of an object, solid material or any other obstruction prevents the passage of low flow.
93. A permit is required for the depositing or placing an object or solid material in a lake or any other obstruction in lake.
94. A permit may only be granted to deposit or place an object or solid material in a watercourse or lake where the activity involves the following:
  - a. the construction of an erosion control structure (for example a rock chute or rip rap);
  - b. a device or structure used to extract or regulate water flowing in a watercourse, for example a diversion weir; or
  - c. an activity required for scientific purposes, for example flow measuring devices.
95. In the Port Augusta and Flinders Ranges Management Zone the depositing or placing an object or solid material on the floodplain of a watercourse or near the bank or shore of a lake to control flooding from the watercourse or lake shall:
  - a. provide for the needs of ecosystem processes (including the migration of aquatic biota); and
  - b. minimise the impact or risk of flooding on human communities.
96. A permit is required in the Murray-Darling Basin Management Zone if the structure will divert any water away from the watercourse or lake and prevent that water from returning.
97. For the purposes of principle 96, where a structure prevents water from returning to the watercourse or lake, the structure will be considered to be creating a dam and assessed against principle 43.
98. Depositing or placing an object or solid material shall not adversely affect the water quality or introduce contaminants and must comply with the *Environmental Protection Act 1993* and any associated policy, including the Environment Protection (Water Quality) Policy 2015.
99. Depositing or placing an object or solid material must maintain the geomorphic and hydrological characteristics of the drainage line, including the natural timing and duration of flows and connectivity between persistent pools of water.
100. Depositing or placing an object or solid material in a watercourse or lake that may obstruct surface water flow should take account of historical information in relation to surface water flow.
101. Depositing or placing an object or solid material must not degrade dependent ecosystems.
102. Depositing or placing an object or solid material must not impact processes dependent on system

connectedness (e.g. the migration of aquatic biota).

103. Objects or solid material must not be deposited or placed in, or immediately upstream or downstream, of areas that are ecologically sensitive or known to provide critical refuge to aquatic biota (e.g. permanent waterholes).
104. Objects or solid material must not have a detrimental effect on the natural state and function of watercourses, lakes or floodplains.
105. Any object or solid material to be used in the control or prevention of erosion must be designed with consideration of minimising the risk of erosion across the local- and catchment-scale hydrological processes.
106. In the Port Augusta and Flinders Ranges Management Zone any object or solid material used in the control or prevention of watercourse erosion shall be designed on a reach basis and shall not cause increased erosion up or down stream of the point where the object or solid material is deposited or placed.
107. Depositing or placing an object or solid material in a watercourse or lake shall not cause erosion.
108. Structures placed in a watercourse, including to mitigate erosion, should minimise the destruction of riparian vegetation, including vegetation providing significant habitat for wildlife.
109. Activities shall not have a detrimental impact on cultural, heritage or social value.
110. Activities should avoid being undertaken when there is water present in the watercourse, lake or floodplain.
111. Depositing or placing an object must incorporate design features or include a device that returns or bypasses water up to the appropriate threshold flow rate to ensure the provision of environmental water requirements to areas downstream.
112. Structures must be maintained in an appropriate condition to perform their intended function.

## Exemptions

A permit is not required where:

- Where the proposed activity involves a non-polluting object or solid material that occupies less than 5 percent of the cross section of a watercourse.
- Where the obstruction is authorised for the specific purpose of measuring stream flow, or for managing water flow to assist with maintenance, rehabilitation or restoration of locally indigenous water-dependent ecosystems, habitats, communities or species.
- Where the depositing or placing an object or solid material to control flooding on the floodplain of a watercourse or near the bank or shore of a lake will divert less than 10 ML of water from its natural course during one flow event except for the Port Augusta and Flinders Ranges Management Zone where
  - a) the depositing or placing an object or solid material in a watercourse or lake is to be undertaken on a watercourse or drainage line not delineated as a priority watercourse in Figure 3.
  - b) the depositing or place an object or solid material on the floodplain of a watercourse to control flooding from the watercourse or lake is not on a watercourse delineated as a priority watercourse in Figure 3.
- Where appropriate measures are used to mitigate erosion when depositing or placing an object or solid material to control flooding.
- Emergency repairs are undertaken to a levee bank and are notified to the Board.

## 4.7 Managing vegetation

Approval is required to destroy vegetation growing in a watercourse or lake or growing on the floodplain of a watercourse pursuant to Section 104(4)(g) of the Act.

Activities involving the destruction of vegetation include removal plants, both native and introduced species, including reeds from a watercourse, lake or floodplain.

The relevant authority for the activities referred to in section 104(4)(g) is the Board. This means that an application to undertake any of these activities will need to be made to the Board and the Board will take into account the provisions of this policy when considering to grant or refuse a permit. For more information on exemptions relevant to this Water Affecting Activity, refer to the end of the Section or for other exemptions refer to Section 5.2 of this policy.

The following objectives and principles apply to all activities relating to the destruction of vegetation growing in a watercourse or lake or growing on the floodplain of a watercourse in the Port Augusta and Flinders Ranges Management Zone within the SA Arid Lands Landscape region.

Note: Destruction, damage to and removal of native vegetation requires approval under the South Australian *Native Vegetation Act 1991*.

### Objectives

- Protection of watercourses, lakes and floodplains from any adverse impacts from the management of vegetation.
- Preservation of the geomorphic characteristics of a watercourse, lake or floodplain.
- Control of in-stream vegetation be undertaken to minimize the impact on the watercourse ecology.

### Principles

113. Destruction of vegetation shall only occur where it is for the protection of existing development and infrastructure or rehabilitation of a watercourse and does not result in any of the following:
- a. increased erosion;
  - b. increased flooding;
  - c. bed and bank instability;
  - d. downstream sedimentation;
  - e. decline in water quality;
  - f. alteration to the natural flow regime of a watercourse; or
  - g. destruction of valuable habitat for native fauna.

Note: Destruction, damage to and removal of native vegetation requires approval under the South Australian *Native Vegetation Act 1991*.

## Exemptions

A permit is not required under this sub-section where:

- the destruction of vegetation growing in a watercourse or lake or growing on the floodplain of a watercourse is undertaken no less than 40 metres from the banks of a watercourse;
- the proposed vegetation to be destroyed is growing in a watercourse or lake or growing on the floodplain of a watercourse not delineated as a priority watercourse in Figure 3 and where the activity is for the purpose of controlling a declared pest plant or in accordance with a consent granted under the *Native Vegetation act 1991*;  
or
- it involves either proclaimed plants or other vegetation that does not involve the physical removal of the plants.

## 4.8 Removing rock, sand or soil

Approval is required to excavate or remove rock, sand or soil, pursuant to Section 104(4)(h) of the Act.

Activities involving the removal of sand, soil or rocks include uses for road construction, brickmaking or commercial or home garden developments.

The relevant authority for the activities referred to in section 104(4)(h) is the Board. This means that an application to undertake any of these activities will need to be made to the Board and the Board will take into account the provisions of this policy when considering to grant or refuse a permit.

For more information on exemptions relevant to this Water Affecting Activity, refer to the end of the Section or for other exemptions refer to Section 5.2 of this policy.

The following objectives and principles apply to all activities relating to managing rock, sand or soil in a floodplain, watercourse, lake, waterhole or rockhole in the SA Arid Lands Landscape region.

### Objectives

- To protect the quality of water resources by preventing or minimising impacts from pollution and other contaminants.
- To protect the quantity of water resources by minimising undue depletion and wastage.
- To protect sensitive aquatic biota and water-dependent ecosystems.
- To protect the habitat and refugial value provided by native riparian vegetation and manage potential threats posed by weeds.
- To protect the localised ecological processes supported by water-dependent species, communities and ecosystems.
- To protect the integrity of surface water resources and the interactions of connected water resources.
- To avoid adversely affecting the capacity of natural systems to recover.

- To prevent the destruction of watercourses and lake bed, banks or habitat.
- To support equitable access to water and protect the needs of downstream users.
- To protect sites of cultural, heritage and social amenity value.

## Principles

114. A permit is required if rock, sand or soil is excavated or removed from the floodplain of a watercourse and greater than 10 megalitres of water is diverted from its natural watercourse in one flow event, except for the Murray- Darling Basin Management Zone and the Port Augusta and Flinders Ranges Management Zone.
115. A permit is required in the Murray-Darling Basin Management Zone if any water is impeded or diverted away from a watercourse or lake and the excavation or removal of rock, sand and soil prevents the water from returning to the natural watercourse or lake.
116. In the Port Augusta and Flinders Ranges Management Zone alteration to the alignment of a watercourse shall only occur where it is for the protection of existing development and infrastructure or rehabilitation of a watercourse, and the realignment does not result in any of the following:
  - a. increased erosion;
  - b. increased flooding;
  - c. bed and bank instability;
  - d. downstream sedimentation;
  - e. loss of riparian vegetation;
  - f. decline in water quality; or
  - g. alteration to the natural flow regime of a watercourse.
117. A permit is required to excavate or remove rock, sand or soil from a watercourse or lake if the activity significantly alters the geomorphology of the area from which the material is taken.
118. Excavating or removing rock, sand or soil shall not adversely affect the water quality or introduce contaminants.
119. Rock, sand or soil must not be excavated from in, or immediately upstream or downstream, areas that are ecologically sensitive or known to provide critical refuge to aquatic biota (e.g. permanent waterholes, rockholes).
120. Excavating or removing rock, sand or soil from a watercourse or lake or the floodplain must maintain the geomorphic and hydrological characteristics of the drainage line, including the natural timing and duration of flows and connectivity between persistent pools of water.
121. Excavating or removing rock, sand or soil must not have a detrimental effect on the natural state and function of watercourses, lakes or floodplains.
122. Excavating or removing rock, sand or soil must not alter the natural capacity of the watercourse, lake or floodplain to capture water.
123. Excavating or removing rock, sand or soil should minimise the destruction of riparian vegetation, including vegetation providing significant habitat for wildlife.
124. Excavating or removing rock, sand or soil must not degrade dependent ecosystems.
125. Excavating or removing rock, sand or soil must not impact processes dependent on system connectedness (e.g. the migration of aquatic biota).



126. Excavating or removing rock, sand or soil should minimise the risk of erosion (including bed or bank instability, or sedimentation).
127. Excavating or removing rock, sand or soil from a watercourse or lake or the floodplain must not affect the ability of other persons to lawfully take surface water.
128. Excavating or removing rock, sand or soil from a watercourse, lake or floodplain must not have a detrimental impact on cultural, historical or social values and amenities.
129. Activities should avoid being undertaken when there is water present in the watercourse, lake or floodplain.
130. In the Port Augusta and Flinders Ranges Management Zone excavation of material ("de-silting") from a dam to maintain the capacity of the dam shall require a permit, except where that excavation is only of unconsolidated material deposited since the construction of the dam or material deposited since the dam was previously desilted.
131. Excavation of material ("de-silting") from a "turkey nest" dam is exempted from principle 130.

## Exemptions

A permit is not required where:

- Less than 2 cubic metres of material is removed in any 1 year period from a watercourse except in the Port Augusta and Flinders Ranges Management Zone where it involves the removal of less than 2 cubic metres of material in any 5 year period.
- The excavation or removal of rock, sand or soil from a watercourse or the floodplain of a watercourse is undertaken no less than 40 metres from the banks of a watercourse.
- If it diverts or impedes under 10ML from its natural watercourse from one flood event except for the Murray-Darling Basin Management Zone and the Port Augusta and Flinders Ranges Management Zone.
- In the Port Augusta and Flinders Ranges Management Zone the excavation or removal of rock, sand or soil from a watercourse or the floodplain of a watercourse relates to a watercourse not delineated as a priority watercourse in Figure 3.
- It involves the cleaning of rock holes in accordance with Aboriginal tradition.
- The material removed is unconsolidated and does not cause damage to the bed or banks of the watercourse.

## 4.9 Using imported water

Approval is required to use imported water in the course of carrying on a business pursuant to Section 104(4)(i) of the Act.

The relevant authority for the activities, involving the use of imported water by a pipe, channel or other means, referred to in section 104(4) (i) is the Minister. This means that an application to undertake any of these activities will need to be made to the Minister or their delegate and the Minister will take into account the provisions of this policy when considering to grant or refuse a permit.

The following objectives and principles apply to all activities relating to use of imported water in the Port Augusta and Flinders Ranges Management Zone within the SA Arid Lands Landscape region:

## Principles

132. A permit for the use of imported water is required where
  - a. the water is used at a rate that exceeds 1 ML/water use year, where the rate is based on the total volume of imported water used on contiguous land parcels owned or leased by the applicant; and
  - b. the imported water is applied to land for irrigation purposes, either directly or following use in another process (e.g. in a winery process or intensive animal production).
133. A permit should not be granted unless the relevant authority is satisfied that the use of the imported water will not:
  - a. cause, or be likely to cause, a rise in the underground water level resulting in detrimental effects to structures or ecosystems;
  - b. result, or be likely to result, in adverse effects on the natural flow or quality of another water resource;
  - c. result, or be likely to result, in adverse effects to the productive capacity of the land including but not limited to, increases in land salinisation, waterlogging, or perched water tables; or
  - d. adversely affect water dependent ecosystems.
134. The total volume of water that the permit applicant would be authorised under the Act to apply to the relevant land should not exceed 1 megalitre per hectare of the relevant land per annum (where the relevant land is the aggregate of all contiguous land parcels owned or leased by the applicant), unless the relevant authority is satisfied that the application of more than 1 megalitre of water per hectare in any specified area of the land will not result in any of the adverse effects referred to in principle 133.
135. Imported water containing residual chlorine or other treatment chemicals must not be discharged into surface water or watercourses or on land adjacent to surface water or watercourses.
136. Imported water must not be transported in a watercourse or along a drainage path.
137. If imported water is to be stored, the storage facilities must be constructed and operated in a manner that prevents any detrimental impact on the quality of underground water or the health of water dependent ecosystems.
138. If imported water is to be stored in a dam, the dam must have no natural catchment (in order to prevent imported water entering the environment) unless either the proponent can demonstrate to the satisfaction of the relevant authority that the dam is constructed in such a way as to prevent any unauthorised discharge of imported water to the environment.
139. A permit for use of imported water must specify a maximum volume for use per water use year irrespective of the method of use, the type of crops irrigated, frequency of irrigation or any other factor.
140. A permit for the use of imported water should be granted for a fixed period and will expire on the date specified on the permit.

## 4.10 Managing water take in the SA Arid Lands region

Subject to Section 104(2) of the Act a person must not take water from a watercourse, lake or well that is not prescribed or take surface water from land that is not in a surface water prescribed area in contravention of an Water Affecting Activity Control Policy that applies in relation the that water.

This section of the policy is aimed at protecting the non-prescribed surface water resources of the SA Arid Lands Region.

For information on the requirements for prescribed water resources, refer to current Water Allocation Plan for the Far North Prescribed Wells Area.

The Board has determined that all new water take for the region's non-prescribed water resources requires additional controls and the following objectives and principles apply to all activities relating to all new water take in the SA Arid Lands Landscape region, except for the Port Augusta and Flinders Ranges Management Zone where this provision does not apply.

### Objectives

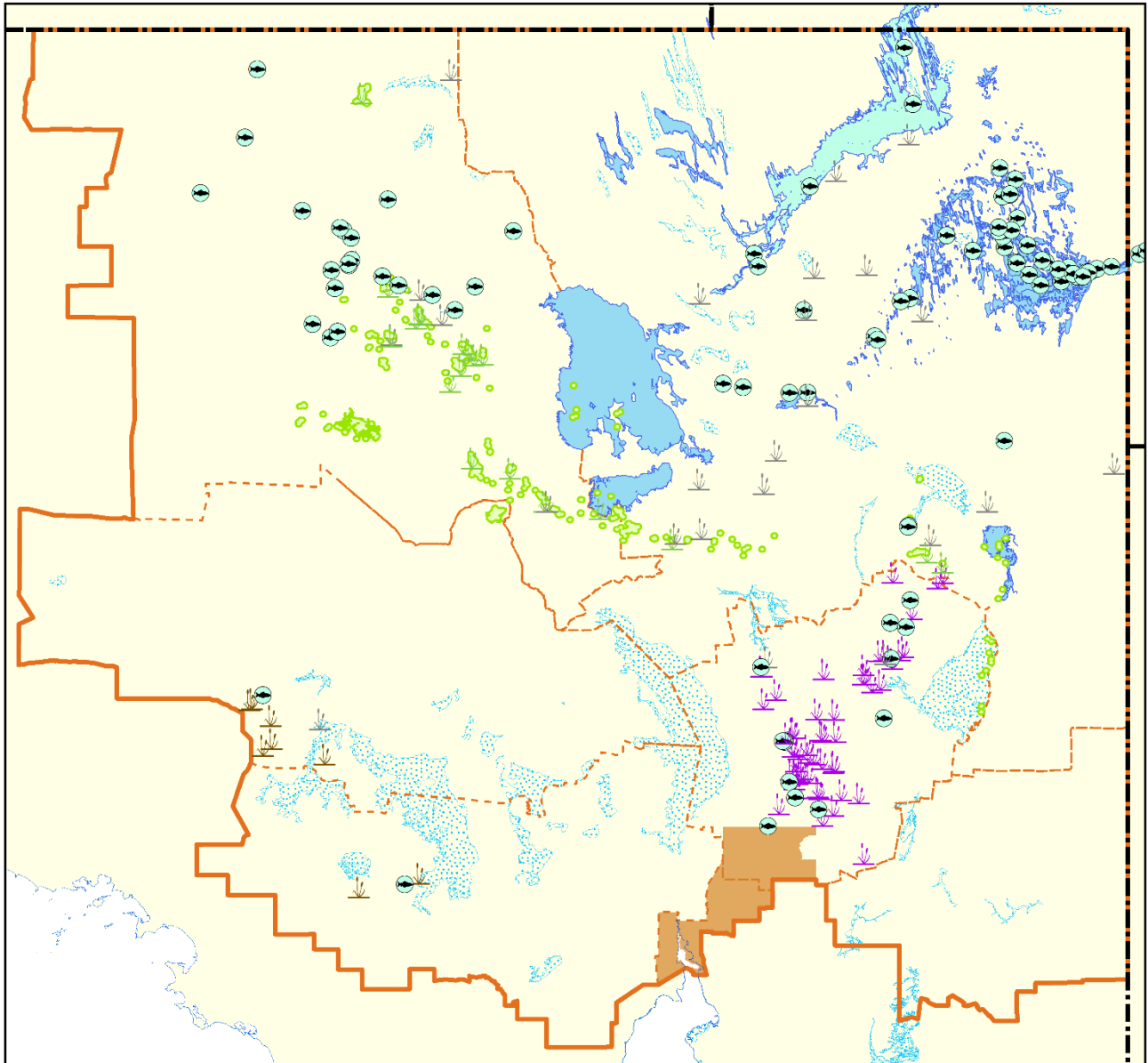
- To ensure that the volume of water taken from the surface water resources of the region does not exceed the sustainability of the resources.
- To manage the risk of water take to water dependent ecosystems, species and processes (services) and water quality.
- To ensure the extent and duration of flooding and connectivity of the system, especially during low flows is maintained.
- To avoid negative impacts on existing users.
- To monitor water take within the region.
- To ensure unplanned or incremental impacts from multiple activities located along or within the same watercourse, water body or catchment does no impact the system in the long-term.
- To protect the social, cultural and amenity values across the region.

### Principles

141. Water take from a watercourse or lake shall not adversely impact any of the following:
  - a. Naturally occurring quality of the water resource, including shallow ground water supplies.
  - b. Water dependent ecosystems and their environmental water requirements.
  - c. The ability of downstream or neighboring water users to access and use the resource.
  - d. Beneficial groundwater recharge.
  - e. Low flows.
142. Surface water and watercourse water, whether permanent or ephemeral, may only be taken where:
  - a. the proponent can demonstrate that alternative water sources are not available or are not suitable for

the intended purpose;

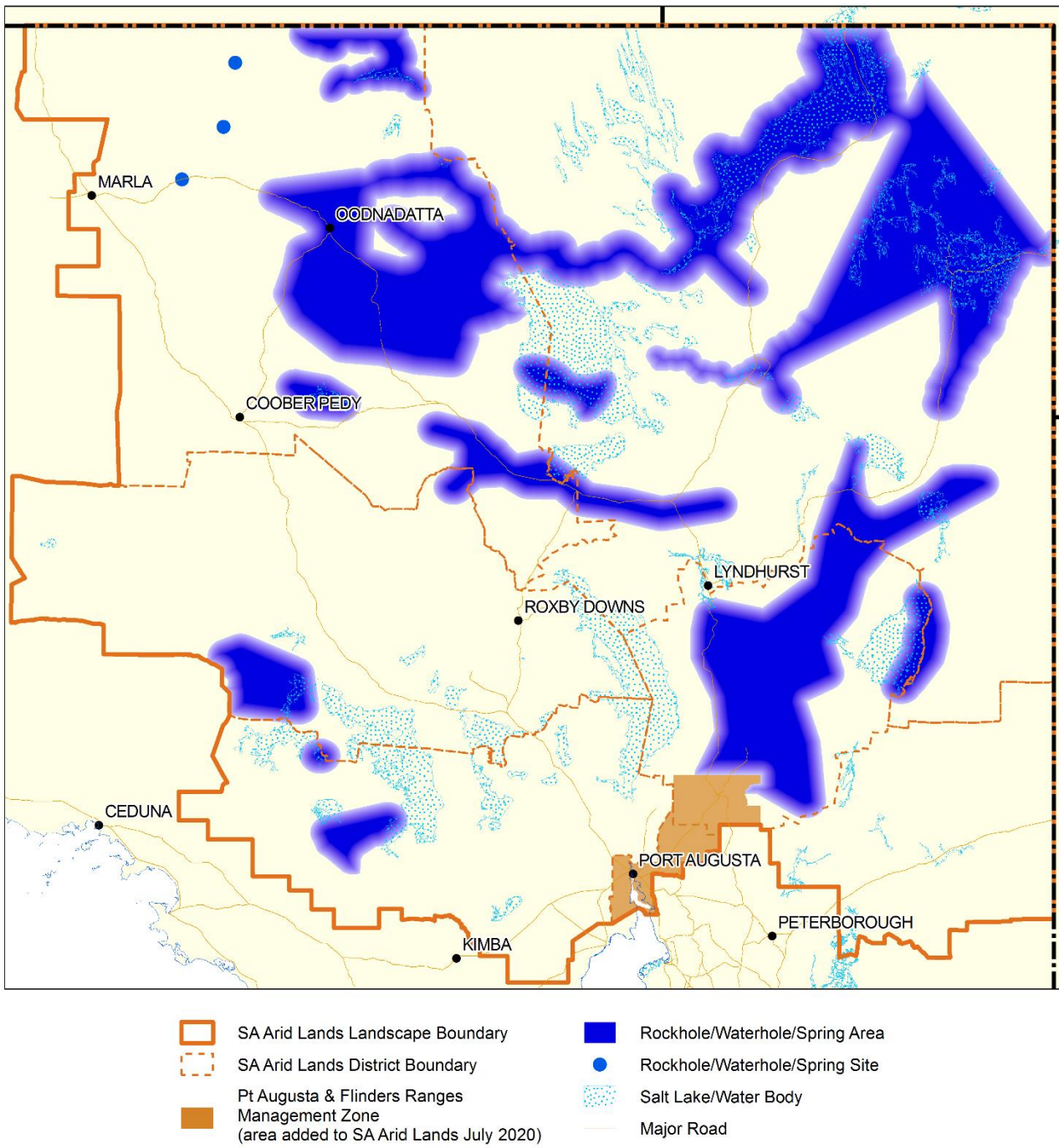
- b. extraction occurs on a rising flow where the rate exceeds flood level of 1 in 25 year ARI or where flows have reached critical refugia and key wetland sites identified in the water take restrictions map (Figure 4);
  - c. the maximum daily extraction rate does not exceed 1 megalitre per day and the total take does not exceed 15 megalitres per year; and
  - d. Water has not ceased to flow between connected water bodies.
143. The proponent may be required to develop and maintain a monitoring and reporting plan approved by the Board that will include a record of water take from the approved site (volume, timing and cumulative volume) and daily discharge/flow rate at an approved site near the point of extraction.
144. Activities shall not have a detrimental impact on cultural, heritage or social value.



- |                                   |                           |                            |
|-----------------------------------|---------------------------|----------------------------|
| Significant Water Resource        | GAB Complex/group/spring  | GAB Complex/group/spring   |
| Bore, bore fed wetland, dam, pool | Lagoon, waterhole, stream | Waterhole, lagoon          |
| Rockhole                          | Lake                      | Lake                       |
| Fractured rock spring             |                           | Other Salt Lake/Water Body |

**Figure 4 Water resources recorded from within the SA Arid Lands Landscape region excluding the Port Augusta and Flinders Ranges Management Zone.**

**For the location of current water resources, contact SA Arid Lands Landscape Board.**



**Figure 5 Water take Restriction Areas for the SA Arid Lands Landscape Region excluding the Port Augusta and Flinders Ranges Management Zone.**

## 5 WAA permit application and assessment process

The principle instrument/tool used to implement the Water Affecting Activity Control Policy for the SA Arid Lands Landscape Board is the WAA permit application and assessment process. This process is guided by the whole-of-region and WAA-specific objective and principles, is flexible, and is designed to engage with the applicant in order to tailor a positive outcome for both parties.

Permits are required to undertake certain Water Affecting Activities identified in the SA Arid Lands Water Affecting Activities Control Policy (summarised in Table 2). Any Water Affecting Activity undertaken before this policy was adopted still does not require a permit. However, a WAA permit is required for a new activity or to modify an existing activity.

The permit application system and assessment process has been established to ensure permit applications are assessed consistently and objectively and based on merit whilst considering the relevant requirements specified in legislation, policies, agreements and guidelines.

To ensure South Australia meets its responsibilities under the Commonwealth Basin Plan 2012, all WAA permits for the Murray-Darling Basin Management Zone, in particular those for dam development, will be tracked against the sustainable diversion limit (SDL) for the South Australian Murray Region. The SDL places a restriction on the amount of water that can be taken from each SDL resource unit identified by the Basin Plan. If development in the SA Arid Lands Landscape region is nearing capacity, the Board will seek spare capacity from other regions (Murraylands and Riverland; Limestone Coast; Hills and Fleurieu; and Northern and Yorke) that share the South Australian non-prescribed areas surface water SDL unit spare capacity, prior to making a determination.

To assist new Landscape Boards with boundary changes under the *Landscape South Australia Act 2019* to transition WAA policies a Port Augusta and Flinders Ranges Management Zone has been established to incorporate the WAA policies from the former Northern and Yorke region under the *Natural Resources Management Act 2004*.

The permit assessment process will have regard to the cultural, social and spiritual values and uses of waters resources and the potential risk to these values and uses by the proposed activity or activities. The process is supported by appropriate procedures to enable any comments received from *Native Title Act 1993* notifications to be fully considered and where relevant accounted for before a permit determination is made.

To determine whether a water affecting activity requires a permit, see Figure 6. Any person who is unsure of whether an activity that they are undertaking is considered a "Water Affecting Activity" under the Act should contact the Board or Department for Environment and Water for further advice. More information regarding permits is provided in Part 8 Division 2 Subdivision 4 of the Act and public notification is not required for any water affecting activity permit application.

## 5.1 Principles for permit assessment and determination

This section sets out the matters that the SA Arid Lands Landscape Board will consider when granting or refusing a Water Affecting Activity permit.

To determine a Water Affecting Activities Permit, applications will:

- Be assessed against the whole-of-region and Water Affecting Activity-specific objective and principles for the entire SA Arid Lands Landscape Region as defined in Figure 2, unless a principle specifically defines an area for its application.
- Be assessed following a transparent and equitable process based on the merit of the application and supplementary information provided.
- Involve a risk-based assessment approach.
- Request an applicant to undertake an investigation or further investigations if in the opinion of the relevant authority the applicant has provided insufficient information to assess the permit application.
- Figure 6 sets out the assessment process in more detail.

Once granted:

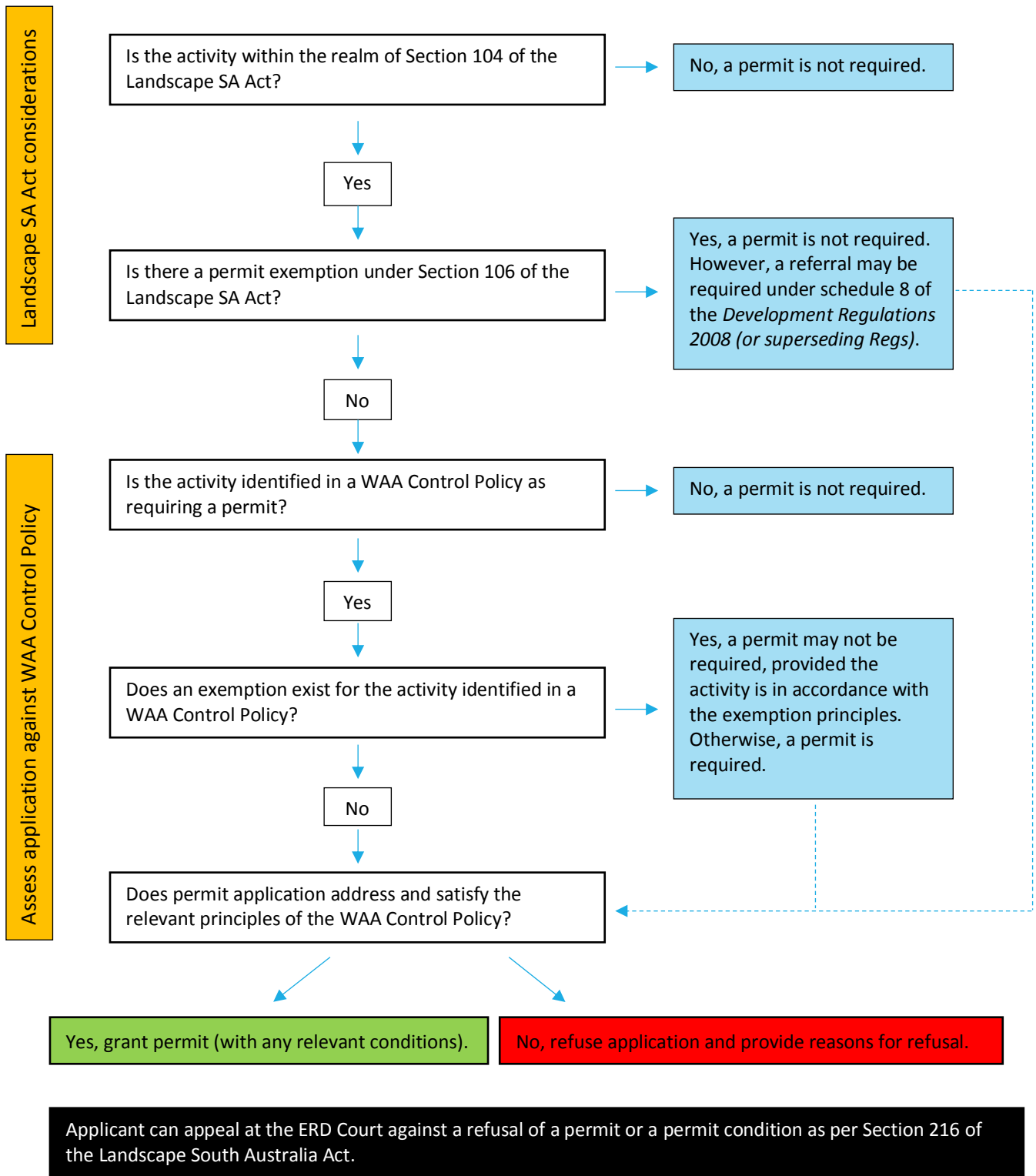
- The works are required to be carried out within 12 months from the date of approval, unless the permit states otherwise, and in accordance with the application submitted and if there are any alterations to the proposed activities the Board must be notified and permission obtained in writing prior to commencement of the activity.
- The relevant authority may change or extend the expiry date of a permit if the proponent requests in writing for a change or extension of the expiry date.
- Permits are not transferable between activities or parties.
- The relevant authority may request the permit holder to apply for a new permit if in the opinion of the Board or delegate the change or extension of the expiry date will have an adverse impact to water users, water dependent ecosystems or water resources as deemed by the relevant authority.
- A Water Affecting Activity permit may be varied or revoked by the relevant authority where the permit holder has failed to comply with conditions specified on the permit.

Conditions on the permit may include:

- Monitoring the activity for a period of time and in the form specified by the permit.
- Notification of the completion of the Water Affecting Activity to the SA Arid Lands Landscape Board.
- Specific conditions determined by the assessment process to ensure the activity meets the objectives and principles outlined in the Water Affecting Activity Control Policy.

Public notification is not required for any WAA permit applications under the Act.





**Figure 6 Water Affecting Activities permit decision-making process**

## 5.2 Activities that do not require a permit or are exempt

A permit is not required to undertake the activities set out in Section 106 of the *Landscape South Australia Act 2019*. This includes certain activities which are required or authorised under the *Planning Development and Infrastructure Act 2016*, *Environment Protection Act 1993*, *Native Vegetation Act 1991*, and the *Pastoral Land Management and Conservation Act 1989*. For example, dams that are approved under the *Planning Development and Infrastructure Act 2016* or watering points approved in a Water Point Development Plan under the *Pastoral Land Management and Conservation Act 1989* do not require a water affecting activity permit.

An applicant may also be exempt from obtaining a permit where they follow Current Recommended Practices (CRPs).

### Best Practice Operating Procedure (BPOP)

The Board has determined a process for granting a single WAA permit that allows a person to undertake a range of specified WAAs at multiple locations using the same operating procedure. A BPOP permit may be granted when the named person follows the process presented below:

1. The person provides a BPOP in relation to a proposed range of WAAs to the Board that contains the following:
  - a) A risk assessment that allows the objective self-assessment of whether the BPOP permit applies or if a separate WAA permit or permits are required.
  - b) A procedure or procedures that will be followed when undertaking a specified WAA.
2. The Board grants a BPOP permit that includes the following conditions:
  - a) The applicant must provide to the Board sufficient details about the nature of the WAA, the location of the WAA, the risk assessment score and what procedures will be followed.
  - b) The Board must issue written approval on whether each of the described WAAs can be undertaken under the BPOP permit or if a separate WAA Permit or permits will be required.
  - c) The WAA must be undertaken in accordance with the BPOP permit.

A BPOP permit streamlines the assessment and administration processes for a specified range of WAAs. A BPOP permit is valid from the date of issue until this control policy is amended or replaced, or for a shorter period of time as specified by the Board.

The agreement may be cancelled by the Board, where the applicant no longer complies with the BPOP endorsed by the Board, or for any other reason or circumstance the Board thinks fit.

The Board may refuse to approve an agreement to an applicant who is perceived to have contravened or failed to comply with a BPOPs or for any other reason the Board thinks fit.

## Current Recommended Practice (CRP)

In addition to Best Practice Operating Procedures (BPOPs), the Board may define minimum standards in Current Recommended Practice (CRP) for activities found to have a low risk of affecting the condition, persistence and connectivity of water resources. CRPs are approved procedures endorsed by the Board that exempt a person from requiring a WAA permit for an activity that would otherwise require a permit.

A Current Recommended Practice (CRP) sets out what the Board considers to be the most appropriate approach, methodology and/or design for undertaking a particular Water Affecting Activities pursuant to Section 104 of the Act. In addition, a CRP may clarify the standards required to fulfill the specific duty pursuant to Section 110 of the Act.

Prior to commencing a Water Affecting Activity, a person is required to ensure that the Water Affecting Activity they are planning to undertake does not require a permit and will be undertaken in accordance with a CRP.

A list of approved CRPs will be published on the Board's website as they become available.

## Provision of financial or other assistance by the Board

Applicants are exempt from requiring a Water Affecting Activity permit where the Board is the relevant authority for that activity and where the proposed activities are supported by the Board, through financial assistance or any other form of significant assistance, pursuant to Section 30 and 27 or Section 104(8) of the Act. In addition applicants are exempt if the activity is required as part of an approved work plan under the Act or as a requirement under Part 10 Division 2 or Section 106(1) (d) of the Act.

## 5.3 Compliance

Section 104(7)(a) of the *Landscape South Australia Act 2004* provides that it is an offence to undertake activities listed under Section 104(1), (2), (3), (4) or (5) without a permit.

If a Water Affecting Activity is undertaken without a permit and there is a requirement for a permit or an activity is conducted in breach of the permit conditions, the relevant authority can issue a notice to rectify the works. The relevant authority will seek voluntary compliance, where appropriate, with the relevant parties involved to rectify the works. If voluntary compliance is not successful the issue may become a compliance matter involving legal proceedings and penalties. Where the Board is the relevant authority please refer to the SA Arid Lands Landscape Board's Compliance Policy and Procedure.

**Table 2. Summary of Water Affecting Activities and relevant authority for the SA Arid Lands Landscape Region**

<i>Landscape South Australia Act 2019</i> Reference & Water Affecting Activity	Location in Region	Permit Required if:	Exclusions (refer to relevant section or also policy Section 5.2)	Relevant Authority
Section 104(3)(a) Drilling, plugging, backfilling or sealing of a well	Everywhere	All situations	None - all applications assessed on merit	Minister
Section 104(3)(b) Repairing, replacing or altering the casing, lining or screen of a well	Everywhere	All situations	None - all applications assessed on merit	Minister
Section 104(3)(c) Draining or discharging water directly or indirectly into a well	Everywhere	All situations	None - all applications assessed on merit	Minister
Section 104(4)(a) The erection, construction or enlargement of a dam, wall or other structure that will collect or divert, or collects or diverts, water flowing in a watercourse that is not prescribed or flowing over any other land that is not in a surface water prescribed area	a) Everywhere (excluding Murray-Darling Basin Management Zone and Port Augusta Flinders Ranges Management Zone) b) Murray-Darling Basin Management Zone c) Port Augusta and Flinders Ranges Management Zone	a) Dam capacity exceeds 10 ML  b) Any dam, wall or other structure that will collect or divert, or collects or diverts water flowing in a watercourse or across land, regardless of the volume of water collected or diverted or the removal of a dam, wall or other structure that collects or diverts water.  c) Activity is to be undertaken in a priority surface water area in Figure 3	Structures authorized for the specific purpose of measuring stream flow. Repairing or replacing a damaged or wash away dam as per Section 4.3 Desilting a dam in some circumstances, provided it is carried out in accordance with the Principles in 5.2. Removal of an off-stream dam, provided it is carried out in accordance with the Principles in 5.2 and does not occur in the Murray Darling Basin Management Zone Contour banks refer to Board for further information In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.	The Board

<i>Landscape South Australia Act 2019</i> Reference & Water Affecting Activity	Location in Region	Permit Required if:	Exclusions (refer to relevant section or also policy Section 5.2)	Relevant Authority
Section 104(4)(b) The erection, construction or placement of any buildings or structures	<ul style="list-style-type: none"> <li>a) In a watercourse</li> <li>b) In a lake</li> <li>c) In the floodplain of a watercourse</li> <li>d) Port Augusta and Flinders Ranges Management Zone</li> </ul>	<ul style="list-style-type: none"> <li>a) Activity prevents the passage of low flow</li> <li>b) In all situations except for a floodplain of a watercourse outside of the Murray-Darling Basin Management Zone (see(c) below)</li> <li>c) Activity could lead to diversion of greater than 10 ML during one flow event</li> <li>d) Activity is to be undertaken in a priority surface water area Figure 3</li> </ul>	<p>Levees or channels will not require a permit if water is to be diverted directly from rock faces, and there is no significant downstream catchment, water use or users that would otherwise be affected by the diversion, except in the Murray-Darling Basin Management Zone.</p> <p>Contours designed to slow water across the landscape provided the activity is carried out in accordance with the Principles in 5.2.</p> <p>Activity that is proposed occurs at a distance of more than 40m from the banks of a watercourse and does not involve any structure associated with the extraction of water.</p> <p>Structures authorized for the specific purpose of measuring stream flow.</p> <p>In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.</p>	The Board
Section 104(4)(c) Draining or discharging water directly or indirectly	<ul style="list-style-type: none"> <li>a) Into a watercourse or lake</li> <li>b) Port Augusta and Flinders Ranges Management Zone</li> </ul>	<ul style="list-style-type: none"> <li>a) Volume greater than 1 ML</li> <li>b) In the Port Augusta and Flinders Ranges Management Zone in an area that is a priority surface water area as shown in Figure 3.</li> </ul>	<p>In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.</p> <p>Rainwater refer to section 4.5</p>	The Board
Section 104(4)(d) Depositing or placing an object or solid material in a watercourse or lake	<ul style="list-style-type: none"> <li>a) In a watercourse</li> <li>b) In a lake</li> <li>c) Murray-Darling Basin Management Zone</li> </ul>	<ul style="list-style-type: none"> <li>a) Activity prevents the passage of low flow</li> <li>b) In all situations</li> <li>c) If it will divert any water away from the watercourse or lake and prevent the water from returning to the natural watercourse or lake.</li> </ul> <p>And or Water is diverted for the purpose of collecting the water</p>	<p>Placing rocks in a watercourse for erosion control provided the activity does not prevent the passage of low flow.</p> <p>An activity that involves a non-polluting object or solid material that occupies less than 5% of the cross-section of a watercourse.</p> <p>In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.</p> <p>Structures authorized for the specific purpose of measuring stream flow.</p>	The Board
Section 104(4)(e) Obstructing a watercourse or lake in any other manner	<ul style="list-style-type: none"> <li>a) In a watercourse</li> <li>b) In a lake</li> </ul>	<ul style="list-style-type: none"> <li>a) Activity prevents the passage of low flow</li> <li>b) In all situations</li> </ul>	<p>Structures authorized for the specific purpose of measuring stream flow.</p> <p>In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.</p>	The Board

<i>Landscape South Australia Act 2019</i> Reference & Water Affecting Activity	Location in Region	Permit Required if:	Exclusions (refer to relevant section or also policy Section 5.2)	Relevant Authority
Section 104(4)(f) Depositing or placing an object or solid material to control flooding	On the floodplain of a watercourse or near the bank or shore of a lake	If it will divert greater than 10 ML of water from its natural course during one flow event or any diversion in the Murray-Darling Basin Management Zone where the water will be prevented from returning to the natural watercourse or diverted for the purpose of collecting the water. This includes construction associated with the construction and/or maintenance of roads or tracks or levee banks.	Structures authorized for the specific purpose of measuring stream flow. In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.	The Board
Section 104(4)(g) Destroying vegetation growing in a watercourse or lake or growing on the floodplain of a watercourse	Port Augusta and Flinders Ranges Management Zone	In an area that is delineated as a priority surface water area as shown in Figure 3.	In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.	The Board
Section 104(4)(h) Excavating or removing rock, sand or soil	a) from the floodplain of a watercourse  b) from a watercourse or lake  c) from a waterhole or rock hole	a) if it diverts or impedes any water in the Murray-Darling Basin Management zone, or Greater than 10 ML of water from its natural course in one flow event in all other areas. b) if the volume excavated significantly alters the geomorphology of the area from which the material is taken c) all situations except for cleaning of rock holes in accordance with traditional Aboriginal practice	Activity involves the removal of less than 2 cubic metres of rock, sand or soil in a one year period except in the Port Augusta and Flinders Ranges Management Zone where it involves the removal of less than 2 cubic metres of material in any 5 year period. Desilting of dams in a watercourse or in the floodplain of a watercourse providing it involves the removal of unconsolidated material deposited since construction of the dam or material deposited since the dam was previously desilted. An activity supported by the Board In the Port Augusta and Flinders Ranges Management Zone in an area that is not a priority surface water area as shown in Figure 3.	The Board
Section 104(4)(i) Using water in the course of carrying on a business in a landscape management region at a rate that exceeds the rate prescribed by a water affecting activities control policy if the water has been brought into the region by means of a pipe or channel	Port Augusta and Flinders Ranges Management Zone	a) The water is used at a rate that exceeds 1 ML/water use year, where the rate is based on the total volume of imported water used on contiguous land parcels owned or leased by the applicant. b) The imported water is applied to land for irrigation purposes, either directly or following use in another process.	None	The Minister

## 6 Review of Water Affecting Activity policy

In order to ensure the sustainable implementation of Water Affecting Activities, this policy will be reviewed every 3 years. For more information, refer to Appendix 2.

## 7 Glossary

**Allotment** Has the same meaning as in the Real Property Act 1886 and more contiguous allotments owned or occupied by the same person and operated as a single unit.

**Applicant** A person or incorporated body who puts forward an application for water affecting activity permit or water management authorisation.

**Aquatic biota and ecosystems** All organisms that live in water at a particular locality and ecosystems located in a water body.

**Aquaculture** The farming of aquatic organisms for the purposes of trade, business or research.

**Aquifer** Porous, water-bearing layers of sand, gravel, and rock below the earth's surface; reservoirs for groundwater.

**Authorised structure** A structure authorised by the Board, a local government authority, or Minister.

**Average Recurrence Interval (ARI)** Average recurrence interval is the return period of a defined storm event with a defined magnitude of total rainfall.

**Biodiversity** Variety of life forms represented by plants, animals and other organisms, micro-organisms, the genes that they contain, and the ecosystems and ecosystem processes of which they form a part.

**Bund** A wall built for the purpose of preventing water from entering or leaving a defined area or point.

**Catchment** An area of land determined by topographic features where water is collected by the natural landscape and all rain and runoff flows to a creek, river, lake or into the groundwater system. Extent of land where water from rain drains into a body of water, a river, lake, reservoir, estuary, wetland, sea or ocean.

**Cease-to-flow** The water level below which a waterhole no longer spills water downstream.

**Channel** includes a drain, gutter or pipe, or part of a channel.

**Confined aquifer or artesian aquifer** Water that is confined underground with enough pressure to cause it to rise above the level where it is encountered such that when a well penetrates the aquifer water will rise to the ground surface without the need for pumping, for example the Great Artesian Basin (GAB).

**Connectivity** In relation to aquatic ecosystems refers to connections between and within aquatic ecosystems such as rivers and streams. Can include hydrology, ecology, genetics and geological processes.

**Construct** includes erect, repair, excavate, reduce, alter and enlarge.

**Contaminants** May include, but not limited to, nutrients, metals, biological organisms, temperature, dissolved oxygen, colour, turbidity, suspended sediments, leachate, hydrocarbons, chemicals and litter.

**Contour Bank** Banks that intercept water before it concentrates and starts to cause erosion, and direct or channels flow safely to a stable outlet.

**Cultural Significance** For the water affecting activity control policy, may include a site or physical item that has cultural significance to the tradition or existence of an Aboriginal person or group.

**Dam** -A catching or on-stream dam refers to a dam, wall or other structure placed on or constructed across a watercourse or drainage path for the purpose of holding back and storing the natural flow of that watercourse or surface water flowing along that drainage path. A Holding, turkeys nest or off-stream dam refers to a dam, wall or other structure that is not constructed across a watercourse or drainage path and is designed to hold water diverted, or pumped, from a watercourse, a drainage path or aquifer, or from another source. Off-stream dams may capture a limited volume of surface water from the catchment above the dam, but may not take an amount of surface water, from the catchment above the dam, in excess of 5% of its total volume.

**Desilting** Removal of unconsolidated material deposited in a dam since construction, or material deposited in dam previously desilted.

**Detention Basin** "Holding ponds" or retarding basins protect against flooding by regulating the rate, volume and quality of water after a rain event. They temporarily store water to enable a controlled release of water downstream after the event to provide time for suspended sediments and other heavy pollutants to settle before discharge into a watercourse, lake or other water storage.

**Detrimental affect** Activity causing or likely to cause damage or harm to water quality, aquatic life or ecosystem health.

**Dewatering** Taking water from an aquifer or lake for the purpose of lowering the water level of the aquifer or lake in order to obtain dry access to an underground area that would otherwise be saturated or partially saturated with water.

**Diversion structure** A physical infrastructure that is able to redirect the flow of a watercourse or a lake to a defined point and includes a water flow control device and channel or pump and associated infrastructure.

**Diversion** see 'take' definition.

**Domestic extraction/use** as defined in *Landscape SA Act 2019* and means in relation to the taking of water does not include: a.) taking water for the purpose of watering or irrigating land, other than land used solely in connection with a dwelling; or b) without limiting paragraph (a)—taking water for the purpose of watering or irrigating more than 0.4 of a hectare of land; or c) taking water to be used in carrying on a business (except for the personal use of persons employed in the business).

**Drain** See channel definition.

**Drainage path** Path surface water naturally flows along over land *Drill* as defined in the *Landscape South Australia Act 2019* and in relation to a well means to drill the well or to excavate the well in any other manner and includes to deepen or widen an existing well.

**Dryland Salinity** The process whereby salts stored below the surface of the ground are brought close to the surface by a rising water table. The accumulation of salt degrades the upper soil profile, with impacts on agriculture, infrastructure and the environment.

**Ecologically sensitive area** Unique and naturally occurring groups of plants and animals and their interaction with their non-living environment that is susceptible to changes, for example endemic species restricted to a narrow geographical range or a species rated due to a range of threats.

**Ecologically Sustainable** The use, conservation, development and enhancement of natural resources in a way, and at a rate, that will enable people and communities to provide for their economic, social and physical wellbeing; sustaining the potential of natural resources to meet the reasonably foreseeable needs of future generations.

**Ecosystem** A dynamic complex of plant, animal, fungal and microorganism communities and the associated non-living environment interacting as an ecological or functional unit.

**Environmental flows** Periods or patterns of inundation, or drying, or watercourse (river, creek) flows allocated or provided for the maintenance of water dependent ecosystems. The share of water provided and managed for the environment to protect river health.

**Environmental water requirements** The water regime needed to sustain the ecological values of water-dependent ecosystems, including their processes and biological diversity, at a low level of risk.

**Ephemeral Flows** Stream flows that only endure for a short time following a heavy rainfall event.

**Estuary** Partially enclosed coastal body of water permanently,

periodically, intermittently or occasionally open to the sea within which there is a measurable variation in salinity due to the mixture of seawater with water derived from or under the land.

**Floodplain** As per the *Landscape SA Act 2019*. In addition any area of land adjacent to a watercourse, lake or estuary that is periodically inundated with water and includes any other area designated as a floodplain by a Landscape plan; or by the Planning and Design Code under the *Planning, Development and Infrastructure Act 2016*.

**Geomorphology or Geomorphic characteristics** Refers to the study of the topographic and bathymetric features created by physical, chemical or biological processes operating at or near the Earth's surface. Features of a landform or landscape including but not limited to bed and banks of a watercourse, floodplain of a watercourse or lake, cliffs, soils, rocks or other mineral forms.

**Groundwater base flow** Usually the amount of streamflow that is due to groundwater discharge. In periods of low or zero rainfall, streamflow may be comprised solely of base flows.

**Groundwater dependent ecosystem (GDE)** Ecosystem that requires access to groundwater, on a permanent or intermittent basis, to meet all or some of its water requirements to maintain the community of plants and animals, and the geological processes and ecosystem services they provides, for example Great Artesian Basin Springs (GAB Springs) or mound springs.

**Groundwater** Is the water that filters below the earths' surface and is held in rock, gravel or sand or water that is pumped, diverted or released into a well for storage underground. Water occurring naturally below ground level; or water pumped, diverted or released into a well for storage underground.

**Groundwater discharge** The natural discharge of groundwater to the surface, usually seen as springs or soaks and can be found in river beds or lakes.

**Groundwater recharge** The process whereby water below the land surface is replenished by either direct infiltration of rainfall or by leakage from surface water bodies like streams or lakes.

**Habitat** The physical place or type of site where an organism, species or population naturally occurs together with the characteristics and conditions that render it suitable to meet the lifecycle needs of that organism, species or population.

**Headworks** A non-leaking assembly or mechanism installed on top of a well, between the well casing and water delivery to control and monitor flows.

**Hydrology** The branch of science investigating the movement and quality of water across the landscape.

**Hydrogeology** The study of groundwater, which includes its occurrence, recharge and discharge processes, and the properties of aquifers; see also hydrology.

**Hydrological flow regime** Flow regime applicable to a particular watercourse or aquatic ecosystem as it varies by seasonable and more episodic climatic events (e.g. periodic severe flooding or drought). May be a natural regime or man-managed (e.g. by weir pool manipulation). Includes water quality dimensions associated with particular flow periods (e.g. high salinity during periods of low flows and high turbidity due to erosion during high flows).

**Impede** To delay or prevent or retard in movement or progress by means of obstruction or hindrance.

**Indicators** A measure against which some aspects of performance can be assessed.

**Indigenous land use agreement** A voluntary agreement between a native title group and others about the use and management of land and waters.

**Infrastructure** As per the *Landscape SA Act 2019* and includes (a) artificial lakes; and (b) dams or reservoirs; and (c) embankments, walls, channels or other works or earthworks; and (d) bridges and culverts; and (e) buildings or structures; and (f) roads; and (g) pipes, machinery or other plant or equipment; and (h) any device; and (i) any item or thing used in connection with— (i) testing, monitoring, protecting, enhancing or re-establishing any natural resource, or any aspect of a natural resource; or (ii) any other program or initiative associated with the management of a natural resource; and (j) other items brought within the ambit of this definition by the regulations.

**Intensive farming** A method of keeping animals in the course of carrying on the business of primary production in which the animals are usually confined to a small space or are and usually fed by hand or by a mechanical means.

**Lake** As per the *Landscape SA Act 2019*. In addition Great Artesian Basin (GAB) Springs and associated wetlands fall within the definition of "lake" as well as salt beds, clay pans and temporary waterholes situated along creek beds. A natural lake, pond, lagoon, wetland, or spring (whether modified or not) and includes part of a lake, or body of water designated as a lake by a Landscape plan; or by the Planning and Design Code under the *Planning, Development and Infrastructure Act 2016*. In addition 3(4) (b) makes a reference to a lake as either (i) the bed, banks and shores of the lake (as they may exist from time to time); or (ii) the water for the time being held by the bed, banks and shores of the lake (as they may exist from time to time), or both, depending on the context.

**Land** as defined in the *Landscape SA Act 2019* and means according

to the context, (a) land as a physical entity, including land under water; or (b) any legal estate or interest in, or right in respect of, land; and includes any building or structure fixed to the land.

**Landscape** Heterogeneous area of local ecosystems and land uses that is of sufficient size to achieve long-term outcomes in the maintenance and recovery of species or ecological communities, or in the protection and enhancement of ecological and evolutionary processes.

**Landscape-scale management** Strategic approaches to manage natural resource management values and threats at a landscape scale, being of a sufficient size to sample all landforms of the landscape (i.e. from the top of the hill to the bottom of the valley).

**Licensed well driller** As defined in the *Landscape SA Act 2019* and means a person who holds a licence under Part 8 to drill wells.

**Low flows** Naturally occurring, regular, small flow events that are a critical part of the annual water pattern of a catchment.

**Low-flow bypass** A device that ensures that any water flow at or below the threshold flow rate will not be diverted from a watercourse or drainage path by a dam, wall or other structure, or ensure that these flows are returned to the same watercourse or drainage path immediately downstream of the dam, wall or structure.

**Management Zone** management zone means an area identified in a water allocation plan as a management zone for the purpose of managing resource conditions and impacts associated with the take, extraction or use of water in, or in association with, that area.

**Megalitre (ML)** One Million Litres, (1 000 000 litres).

**Metered water use** Water volume measured through a water flow meter.

**Modify** Includes any activity to replace, add, remove or make any other adjustments to the configuration or set-up of water related infrastructure so that its intended function is changed.

**Native Title Holder** The person or person who hold, or claim to hold, the native title in relation to the lands and waters according to their traditional laws and customs.

**Native underground water** Water occurring naturally below ground level that exists in the relevant aquifer absent of any such water drained or discharged to that aquifer by artificial means.

**Natural flow regime** Magnitude, duration, frequency, seasonality of flows that would exist if no diversion or storage of water occurred.

**Natural hydrological systems** Natural flow regime applicable to a particular watercourse/aquatic ecosystem as it varies by seasonal & more episodic climatic events (periodic severe flooding/drought).

**On-stream dam** A dam, wall or other structure placed on or



constructed across a watercourse or drainage path for the purpose of holding back and storing the natural flow of that watercourse and/or the surface water flowing along that drainage path.

**Owner of land** as defined in the *Landscape SA Act 2019* and means: a. if the land is unalienated from the Crown – the Crown; b. if the land is alienated from the Crown by grant in fee simple – the owner (at law or in equity) of the estate in fee simple; c. if the land is held from the Crown by lease or license – the lessee or licensee, or a person who has entered into an agreement to acquire the interest of the lessee or licensee; d. if the land is held from the Crown under an agreement to purchase – the person who has the right to purchase; e. a person who holds native title in the land; or f. a person who has arrogated to himself or herself (lawfully or unlawfully) the rights of an owner of the land; and includes an occupier of the land and any other person of a prescribed class included within the ambit of this definition by the regulations.

**Playa lake** A lake with no outlet and act as a collection area/s for surface water flows and discharge zones for groundwater flows.

**Prescribed water resource** A water resource prescribed through legislation to enable the water resource to be sustainably managed and provide security for all water users now and into the future.

**Proponent** An applicant for a permit or a person who puts forward a proposal in relation to an activity.

**Protective Measures** Including but are not limited to rip raps, rock chutes, detention or retention basins, litter traps and treatment of water.

**Receiving waters** The location or site (watercourse, lake) into which water is being discharged or directed.

**Recharge** The process whereby underground water is replenished by water draining into the aquifer from rainfall, irrigation infiltration or leakage from a surface water body.

**Recharge area** The area of land from which water from the surface (rainfall, streamflow, irrigation, etc.) infiltrates into an aquifer.

**Relevant Authority** An organisation or person appointed as the relevant authority by the Act and has the power to act or order others to act such as granting of a permit or setting of conditions.

**Retention Basin** Used to manage water runoff to prevent flooding, downstream erosion and improve water quality through the incorporation of a permanent pool of water in its design. Similar to a detention basin that temporarily stores water after a rainfall event.

**Rip Rap** Graded rock placed on the bed or banks of a watercourse.

**Riparian** The area adjacent to watercourse or lake that influences and is influenced by hydrological processes and includes bed, bank and

floodplain of watercourse or lake.

**Resilience** The capacity of a system to absorb disturbance and remain in the same state, essentially retaining the same function, structure and feedbacks.

**Rock Chute** An engineered structure designed to control the bed grade of a watercourse.

**Rockhole** A place where water is permanently or for extended periods collected irrespective of how the water got there initially.

**Runoff** water flowing over land after a rain event. Water flowing over land or in a natural or man-made drain, after having fallen as rain or hail or having precipitated in any other manner.

**Salina** An area, such as a salt flat, in which deposits of crystalline salts are formed or found. A body of water containing high concentrations of salt.

**Saline discharge** The process whereby excess groundwater containing dissolved salts rises close to the land surface, resulting in drylands salinity problems. Saline discharge occurs into waterways when saline groundwaters enter the river channel.

**Salinisation** The process whereby land or water resources become adversely affected by high levels of salt (usually sodium chloride) that inhibit normal ecosystem functioning (including crop production).

**Seascape** A heterogeneous area of local ecosystems and sea uses that is of sufficient size to achieve long term outcomes in the maintenance and recovery of species or ecological communities, or in the protection and enhancement of ecological and evolutionary processes.

**Springs and soaks** Under the *Landscape South Australia Act 2019* soaks and springs, including Great Artesian Basin springs and associated wetlands fall within the definition of a "Lake". They can be permanent or temporary expressions of groundwater where there is sufficient pressure to move water to the surface.

**Stock/domestic dam** A dam for the purpose of the storage of water for domestic purposes or use by livestock, with a capacity of up to 5 megalitres or wall height of up to 3 metres from the natural ground level.

**Storm water** Is surface water that is contained in infrastructure established for the purposes of storm water management.

**Structure** Something built or constructed including, but not limited to, a ford, causeway, culvert, fence, jetty, boat mooring, weir or retaining wall.

**Structure relating to a lake or watercourse** A built or constructed feature including but not limited to a ford, causeway, culvert, fence, jetty, weir, retaining wall or bridge.

**Sub-catchment** The area of land determined by topographical features within which rainfall will contribute to runoff at a particular point.

**Sufficient representative samples** Suitable samples, collected with equipment appropriate for the substance, material or characteristic to be measured and taken at suitable locations and times to accurately represent the quality of the relevant water.

**Surface water** As per the *Landscape South Australia Act 2019 (SA)*. Water flowing over land (except in a watercourse), after having fallen as rain or hail or having precipitated in any other manner, after rising to the surface naturally from underground. Also, water of either kind that has been collected in a dam or reservoir.

**Surface water sub-catchment** A zone defining the area within which the total allowable dam volume is limited. The zone boundary is based upon the sub-catchment boundary, with adjustments to align the sub-catchment boundary to the nearest practicable allotment boundaries.

**Sustainable diversion limits (SDL)** An environmentally sustainable level of water use or 'take', that is the amount of water that can be taken for consumptive uses whilst ensuring there is enough water to maintain healthy catchments and groundwater systems.

**Sustainable limits** Comprises the use, conservation, development and enhancement of natural resources in a way, and at a rate that will enable people and communities to provide for their economic social and physical well-being while sustaining the potential of natural resources to meet the reasonably foreseeable needs of future generations and safeguarding the life-supporting capacities of natural resources and avoiding, remedying or mitigating any adverse effects of activities on natural resources (State NRM Plan).

**To take water from a water resource** Includes:

- To take water by pumping or syphoning the water;
- To stop, impede or divert the flow of water over land (whether in a watercourse or not) for the purpose of collecting the water
- To stop, impede or divert the flow of water in any storm water infrastructure for the purpose of collecting the water, or to extract any water from storm water infrastructure;
- To divert the flow of water in a watercourse from the watercourse;
- To release the water from a lake;
- To permit water to flow under natural pressure from a well.

**Turkey nest dam** A dam with a 360 degree closed wall such that it does not collect surface run-off but is only used to hold water.

**Unacceptable impact** means an impact as a result of a water affecting activity that causes: a. a permanent degradation in the condition or function of a natural resource or water dependent ecosystem; b. a reduction in the economic value of land or personal property; c. damage to infrastructure that requires repair to continue its function or requires removal to reduce risk to public safety; or d. harms life or jeopardizes the quality of life.

**Underground water** Means water occurring naturally below ground level; or water pumped, diverted or released into a well for storage underground; See groundwater.

**Unit threshold flow rate** The flow rate (litres/second/square kilometer) of a sub-catchment determined by dividing the 10th percentile flow rate (litres/second) for a surface water sub-catchment zone by the area of the surface water sub-catchment zone (square kilometers).

**Water Affecting Activity (WAA)** Activities that may impact the condition of a water resource, water dependent ecosystems or water users as defined under Section 104 of the *Landscape South Australia Act 2019 (SA)*. Activities that can have adverse impacts on the health and condition of water resources, on other water users and the ecosystems that depend on water resources. These water resources include watercourses, lakes or dams, floodplains, groundwater, springs, wetlands, waterholes and catchment landscapes, among others.

**Water affecting activities control policy** a water affecting activities control policy prepared by a regional landscape board under section 102.

**Water Allocation Plan (WAP)** A legal document that sets out the rules for managing the take and use of prescribed water resources to ensure sustainability of the resource.

**Water dependent ecosystems** Those parts of the environment or areas where animals or plants and the associated ecological processes are dependent on water, whether intermittent or permanent or flowing or standing or above or below ground, to survive and

maintain the ecological processes. The in-stream areas of rivers, riparian vegetation, springs, wetlands, floodplains, estuaries and lakes are all water-dependent ecosystems.

**Water Protection Area** An area that is protected from pollution, contamination or unsustainable use; proposed development may be excluded from a WPA area when it is liable to impact the water resource or aquifer recharge.

**Water Quality** The physical, chemical and biological characteristics of water and any changes to these characteristics that affect the quality of a body of water and can result in harmful effects on any living thing that drinks, uses or lives in and around the body of water.

**Water Resource Plan (WRP)** Documents that set out how water will be managed in an area.

**Water resources** A watercourse or lake, surface water, underground water, storm water and effluent defined as per the *Landscape South Australia Act 2019 (SA)*.

**Water table** The elevation of the surface of underground water surface.

**Watercourse** As per the *Landscape South Australia Act 2019 (SA)*. A river, creek or other natural watercourse (whether modified or not) in which water is contained or flows, whether permanently or from time to time and includes a dam or reservoir that collects water flowing in a watercourse; a lake through which water flows; a channel (but not a channel declared by regulation to be excluded from the ambit of this definition) into which the water or a watercourse has been diverted; part of a watercourse; an estuary through which water flows; or any other natural resource, or class of natural resource designated as watercourse for the purposes of the Landscape Act by a Landscape Plan. In addition, Section 3(4) (a) of the *Landscape South Australia Act 2019* includes a reference to a watercourse is a reference to either (i) the bed and banks of the watercourse (as they may exist from time to time); or (ii) the water for the time being within the bed and banks of the watercourse (as they may exist from time to time), or both, depending on the context.

**Waterhole** Means a body of water that is a natural collection point in a drainage area, which retains water after flow for an extended period. Under the *Landscape South Australia Act 2019 (SA)*, a waterhole falls within the definition of a "lake".

**Weir** Refer to 'diversion structure'.

**Well** A deep hole or shaft sunk into the earth to obtain water (also referred to as a 'bore'). As per the *Landscape South Australia Act 2019* and means, a. an opening in the ground excavated for the purpose of obtaining access to underground water; b. an opening in the ground excavated for some other purpose but that gives access to underground water; c. a natural opening in the ground that gives access to underground water.

**Operational well** A well that has been used within the last 10 years (also referred to as an 'operational bore').

**Wetland** As per the *Landscape South Australia Act 2019 (SA)*. An area that comprises land that is permanently or periodically inundated with water (whether through natural or artificial process) where the water may be static or flowing and may range from fresh water to saline water and where the inundation with water influences the biota or ecological processes (whether permanently or from time to time) and includes another area designated as a wetlands by a Landscape Plan; or by the *Planning, Development and Infrastructure Act 2016*. It does not include a dam or reservoirs that has been constructed by a person wholly or predominately for the provision of water for primary production or human consumption; or an area within an estuary or within any part of the sea; or an area excluded from the ambit of this definition by the regulations of the Landscape SA Act.

**Works** means dams or reservoirs; wells or channels; pumps, pumping stations, pipes or tanks; drains, machinery or other plant or equipment; other forms of structures or apparatus; other items brought within the ambit of this definition by the regulations, whether on, above or under land, but does not include any items excluded from the ambit of this definition by the regulations.

Note: For the purposes of the policy care has been exercised in the use of the term lake in Water Affecting Activities as extensive areas of the region, where cyclical flooding occurs, may fall within the definition of 'wetland' and therefore considered a lake for the purposes of the *Landscape SA Act 2019*

## 8 Appendix 1. Water Resources of the SA Arid Lands

Water resources in the region are uniquely different from the common perception of rivers, creeks and lakes. The region is semi-arid to arid with highly variable episodic rainfall that has shaped the natural process and created the distinctive arid landscapes of the region. The characteristic episodic wet and dry cycles, often with prolonged dry periods (bust) broken by high intensity rains (boom) means rivers and creeks (watercourses) are ephemeral, unregulated and mostly undeveloped and consist of braided channels, waterholes and broad areas of floodplains along with scattered ephemeral salt lakes. High evaporation rates and variability in the scale and frequency of rainfall events means most waterholes are semi-permanent to temporary, holding water from a few months to a few years, with only a few permanent surface water resources of variable water quality across the region.

Kati Thanda- Lake Eyre is one of the largest playa or terminal lakes in the world and part of an internally draining river system covering about one sixth of Australia. Watercourses draining from the Macumba, Arckaringa and Neales Rivers in the west are normally dry but capable of carrying large volumes of water during times of flood and dissecting the breakaways to the Diamantina River, Cooper Creek and other rivers from central Queensland in the north east that are more likely to cause massive flooding and fill Kati Thanda-Lake Eyre after heavy rainfall events.

In the Gawler Ranges and along the western side of the Northern Flinders Ranges there are no true riverine systems and drainage of the area is limited resulting in many large Salinas or salt lakes. In the Northern Flinders through to the North East District rivers and creeks flow episodically in response to rainfall with some associated waterholes. The maintenance and retention of relatively unregulated natural flow patterns, high and low flows, is critical for maintaining the ecological functioning and health of the river systems and waterholes.

Groundwater underlies most the region but is highly variable in quality and quantity and is the result of depositional environments from over 600million years ago to the present, that have formed a variety of complex, deep and shallow, aquifers. The main four types present in the region are sedimentary basins; fractured rock; palaeochannels and surficial aquifers. The most well-known aquifer is the GAB and the sustainable use and management of the GAB and other groundwater resources within the Far North Prescribed Wells Area are controlled through the WAP. For groundwater resources that are not within the boundary of the Far North Prescribed Wells Area it is important to ensure extraction is sustainable, groundwater dependent ecosystems are protected and water quality is maintained.

Across the region there are a number of springs and soaks that are the surface water expression of groundwater, including the Great Artesian Basin (GAB) springs which have immense cultural and environmental importance, and springs associated with ranges across the region, in particular the Flinders Ranges.

## 9 Appendix 2. Review of policy process

To ensure the range of Water Affecting Activities undertaken across the region do not impact the condition (quality), persistence (availability, quantity) and connectivity (flow dynamics, distribution) of water resources, the SAAL Board recommends the Water Affecting Activities Policy is reviewed to ensure:

- New information is incorporated, regarding:
  - accumulative effects from multiple activities at, or connected to, a site,
  - natural fluctuations in water quality,
  - natural hydrology of arid watercourses (e.g. timing, duration and frequency of flow),
  - the limits of sustainable use,
  - environmental water requirements of hydrological systems and water-dependent ecosystems,
  - methods that reduce risk of harm to public and private assets
- The improved efficiency of the policy framework (e.g. through developing a risk assessment for common Water Affecting Activities in the region, and if appropriate, BPOPs and CRPs), and
- The currency of objectives and principles in the SA Arid Lands Water Affecting Activities Control Policy.

In addition the permit assessment process shall be reviewed upon completion of the policy review as it supports the SA Arid Lands WAA Control Policy. For further information on the assessment and review process please refer to WAA Permit Assessment Procedure.

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