

Basin Plan Water Resource Plan Requirements Position Statement 2B – Interpreting ‘significant hydrological connection’

POLICY ISSUE	What criteria and process will the MDBA use to assess whether there is a ‘significant hydrological connection’ between water resources and the water resources in a WRP area, and whether management action needs to be included in a WRP?
REFERENCES	Basin Plan s10.05(a), 10.12(1), 10.19(1)

MDBA POSITION STATEMENT	
	<ol style="list-style-type: none"> 1. In order to fulfil certain requirements for content of water resource plans (ss10.05, 10.12(1)(e) and 10.19), all significant hydrological connections between water resources both within and outside of the water resource plan area must first be identified. 2. Two water resources are considered to have a significant hydrological connection to one another if both of the following criteria are met: <ol style="list-style-type: none"> a. water of one resource is physically able to move to the other resource (whether naturally or because of connections created by infrastructure and not limited to being an adjacent resource), and b. activities in one resource may have a material impact on the state or condition of the other (including changes in surface or groundwater levels and pressures, quantity, timing of water availability or quality). 3. If a significant hydrological connection is identified, then the water resource plan must - <ol style="list-style-type: none"> a. be prepared having regard to - <ol style="list-style-type: none"> i. the management and use of connected resources (s10.05), and ii. whether it must include rules to ensure that operation of the water resource plan does not compromise the meeting of environmental watering requirements of connected resources (s10.19); and b. account for connected resources in the method(s) for determining permitted take (s10.12(1)(e)). 4. The extent to which a water resource plan needs to include management actions as a result of a significant hydrological connection will depend on the outcomes of the water resource plan risk assessment carried out for s 10.41. Further detail on use of the risk assessment is contained in Position Statement 9A. Where a risk assessment identifies a medium or high risk of an activity in one resource impacting on a significantly hydrologically connected one, the MDBA will expect the relevant WRP to include management actions relating to that activity. 5. For the purposes of paragraph 4, the relevant WRP is where the action that causes an impact takes place. Any management actions should be included in the WRP where the

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action that causes the impact takes place. Noting that the management actions should also be referred to in the WRP where the action will have an effect.

This Position Statement should be read in conjunction with the following Position Statements:

1B – Meaning of 'have regard to'

1J – Cross-border management

3C – Method for determining take (for applying s10.12(1)(e))

6C - Environmental watering between connected resources (for s10.27).

7A – Water Quality Management Plan and Basin Plan 10:21

9A – Risk Assessment Method

9B – Risk Assessment Strategies

Rationale

Significant hydrological connections between Basin water resources are common. The three types of possible hydrological connection between water resources (all of which may be interstate or intrastate) are surface water - surface water connection; surface water - groundwater connection; and groundwater - groundwater connection.

Surface water / surface water hydrological connection

Applying the criteria set out in this Position Statement, the MDBA's view is that all surface water resources are significantly hydrologically connected to at least one other Basin surface water resource, with the exception of the following:

- Lachlan (SW10),
- Wimmera-Mallee (SW4), and
- Paroo (SW29).

It is noted that in developing a WQMP (s 10.35) for a water resource plan (WRP), regard must be had to the impact of water quality measures on the ability of another State to meet its water quality targets. This requirement will be particularly important for resources where there is a significant hydrological connection. Requirements for groundwater water quality management plans are addressed in Position Statement 7A.

Groundwater / groundwater hydrological connection

There are a number of groundwater SDL resource units that the MDBA considers significantly hydrologically connected, such as where a single aquifer is divided by WRP or jurisdictional boundaries.

The MDBA also understands that there are some cases where this is a significant hydrological connection, but a WRP risk assessment indicates only a low risk that activities in one resource will have an impact on the connected resource. For example, two groundwater SDL resource units are significantly hydrologically connected, but there is little groundwater extraction and little potential growth in extraction, the risk of an activity in one resource impacting on the other is low. For these resources, the MDBA will not expect to see management actions addressing consequences of that connectivity.

Surface water / groundwater hydrological connection

There are many areas in the Basin where there is a significant hydrological connection between surface and groundwater. MDBA expects that the level of connectivity will be identified in the relevant WRP risk assessment.

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Risk assessment and management actions

In line with Position Statement 9A the risk identification and assessment carried out for s10.41 must include consideration of water resources with significant hydrological connection to those in the plan area (including where water resources are managed under different water resource plans or cross state borders).

Where a medium or high risk is identified the MDBA expects that it will be identified in WRP risk assessments for both resources.

If a WRP risk assessment identifies a medium or high risk that activities in one resource will have an impact on the state or condition of a connected resource, the MDBA will expect to see the relevant WRPs include appropriate actions. Noting that the management actions can also be referred to in the WRP in which they will have effect. Management actions should be included in the WRP where the management action is to be taken. For example if the management action is to link rules about when groundwater pumping is permitted to stream flow, the management action should be included in the groundwater WRP.

MDBA assessment of connectivity and need for management actions

The MDBA will use expert knowledge to assess findings about whether there is or is not a significant hydrological connection between resources, and whether a WRP risk assessment in relation to such a connection warrants inclusion of management actions in the WRP.

The fact that a State has identified any significant hydrological connections and carried out an associated risk assessment will be relevant to demonstrating compliance with sections 10.05 and 10.19. The WRP index may reference the same material for the purposes of demonstrating how it has met the requirements of those sections.

If an existing interstate agreement or mechanism for consultation and consideration in respect of connected resources exists (e.g. the Border Rivers Agreement between NSW and Queensland, or the Border Groundwaters Agreement between SA and Victoria), compliance with that agreement or mechanism will be relevant to a State demonstrating that it has met the requirements of s10.05. Position Statement 1J on cross-border management outlines the requirements for cross border consultation in more detail.

A hydrological connection may have been created through infrastructure. If the connection is a significant hydrological connection according to the criteria in this Position Statement, the provisions of sections 10.05, 10.12 and 10.19 will be attracted. For example the movement, by infrastructure, of non-Basin water resources into a WRP area or between WRP areas and between SDL resource units, might create a significant hydrological connection.

Basin states may use hydrological connections created through infrastructure to move Basin water resources out of the Basin, provided the water moved is within the SDL.

The consideration of intrastate connection between water resources (both between WRP areas, and between SDL resource units within the same WRP area) is the responsibility of the relevant State. Evidence that a WRP has been prepared on the basis of a risk assessment for a WRP area that explicitly considers the hydrological connection between water resources within the WRP area and with those in another WRP area will be relevant to demonstrating that the requirements of s 10.05(a) have been met for those resources.

Use of similar terms in Basin Plan

Section 12.18 of the water trading rules (relating to trade restrictions in surface water resources) refers to ‘hydrologic connections and water supply considerations’ and ‘the level of hydraulic connectivity’. Section 12.24 – 12.26 of the trading rules refers to ‘hydraulic connectivity’ which is defined in section 1.07 of the Basin Plan. These are different concepts to ‘significant hydrological connection’ in groundwater systems under discussion in this Position Statement.

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