



Australian Government



Water Resource Plan Assessment Guidelines — Part 10 s10.46

*Guidelines for meeting Basin Plan (Chapter 10)
requirements in relation to monitoring of
water resources to enable Basin Plan
reporting and evaluation*

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The Murray–Darling Basin Authority pays respect to the Traditional Owners and their Nations of the Murray–Darling Basin. We acknowledge their deep cultural, social, environmental, spiritual and economic connection to their lands and waters.

The guidance and support received from the Murray Lower Darling Rivers Indigenous Nations, the Northern Basin Aboriginal Nations and our many Traditional Owner friends and colleagues is very much valued and appreciated.

Aboriginal people should be aware that this publication may contain images, names or quotations of deceased persons.

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Introduction

The information in this document is provided by MDBA in good faith with the intention of assisting with the development of water resource plans (WRPs) in a manner consistent with the Basin Plan. The information is provided ‘without prejudice’ and is not intended as an indication that a particular course of conduct will guarantee accreditation. The MDBA’s intention is to provide assistance in a way which does not fetter either the Authority’s assessment process or the Minister’s decision.

Please note this is a living document MDBA is keen to continuously improve for future users. MDBA would appreciate users advising it of parts of the guideline that could be clarified.

Purpose of this assessment guideline

This guideline provides information for water planners and assessors on how to apply the s10.46 requirement of WRPs. S10.46 requires that *a WRP must specify the monitoring of water resources of the water resource plan area that will be done to enable the Basin State to fulfil its reporting obligations under s13.14.*

Section 1 outlines a suggested approach to address requirements and includes a guidance tool working through Schedule 12 Matters and relevant monitoring. Users of this guideline who are familiar with how Basin Plan monitoring and evaluation (M&E) works could use this tool directly, otherwise we suggest reading Section 2 first, as an introduction.

Section 2 provides background and context for the Basin Plan M&E approach including to monitoring, reporting and evaluation (under Chapter 13 and Schedule 12) that addressing s10.46 must be consistent with.

Section 1: Suggested approach on how to address and assess section requirements

Water planners and MDBA assessors should firstly familiarise themselves with the Position Statement 10A and the Detailed Assessment Criteria for s10.46.

To clarify, s10.46 focusses upon *monitoring of water resources* as a source of evidence, rather than monitoring in the broader sense it is often used e.g. “monitoring” of implementation, progress, performance, participation etc. S10.46 therefore focusses on a subset of the evidence enabling Schedule 12 reporting and does not focus on broader reporting of implementation under Schedule 12 e.g. the monitoring of water resources is not required to report upon Matter 6- the extent to which local knowledge and solutions inform the implementation of the Basin Plan.

MDBA assessment considerations

The MDBA will assess whether the monitoring specified in the WRP is relevant to and aligns with each reporting requirement, where monitoring of water resources is required.

The MDBA will not be assessing the quality or quantity of monitoring per se, nor judge how well states adhere to the Chapter 13 Principles in developing their monitoring programs. These aspects of developing best practice monitoring and evaluation programs are discussed in other forums, in particular the Monitoring and Evaluation Working Group and the Joint Venture Monitoring and Evaluation Program.

The steps in addressing (and assessing s10.46) requirements are as follows, broadly paraphrasing the Detailed Assessment Criteria:

1. The WRP must specify monitoring.
2. The monitoring must enable states to report as required against their Schedule 12 Matters (s13.14). This means that the line of sight between the monitoring and the Matter it enables reporting against needs to be clear in the WRP.

(In practice, this line of sight is most clear for those Matters where more detailed reporting indicators have been developed, in particular Matter 9, as below).

3. Each Schedule 12 Matter that states must report upon must be addressed (‘exhaustive’). It is acknowledged that some Matters require monitoring of water resources; some may use that monitoring as well as more qualitative sources of evidence; and some Matters do not require monitoring as they are about implementation. Table 1 below provides further guidance on how each matter must be addressed.

MDBA recommends WRPs address s10.46 requirements via a table working through each State reporting Matter, and specifying the relevant monitoring, in line with Table 1 below. This table is an extension of the Schedule 12 Reporting Guidelines. Working through each Schedule 12 Matter this way will provide a line of sight between each Matter and the relevant monitoring.

As the Position Statement 10A notes, when specifying the monitoring, the water resource plan should provide a *high-level description* of the nature, extent and indicative frequencies of the monitoring in place. The description should be written in a way that allows the monitoring program to change (e.g. in response to adaptive management) without triggering the need to amend and reaccredit the water resource plan. For this reason, detailed descriptions of state monitoring programs are not requested or required in state water resource plans

WRPs should also specify where the relevant monitoring is already in place or planned under other Basin Plan reporting processes or state legislation as this will give confidence about the monitoring and reporting arrangements in place. For instance, monitoring and reporting that will fulfil parts of Matter 9 are in place under s71 of the Water Act (see 9.1, 9.2 in the table below and the Explanatory Note) so MDBA suggests this could be specified in the WRP.

Table 1: Guidance to the line of sight from Schedule 12 Matters to monitoring that may be specified in WRPs under s10.46
Given reporting is required against each Matter please note the below as guidance, anticipating that states will address differently dependent on monitoring programs applied.

Schedule 12-Matters for States to report on	Guidance about specific Matters that require monitoring	Monitoring that may be specified in the WRP.
Monitoring is required to inform reporting for the four Matters 8, 9, 12 and 19		
<p>8. The achievement of environmental outcomes at an asset scale.</p>	<p>States are to use appropriate indicators to track progress toward the objectives and targets identified in their long-term watering plans (LTWPs). Under BP s8.19 the states must identify priority assets and functions and their objectives, targets and water requirements in each long term watering plan. These plans must be consistent with the Basin Wide Environmental Watering Strategy (BWS).</p>	<p>Ecological monitoring in line with the objectives and targets in their long term watering plans and/or in line with the BWS’ quantified environmental outcomes (QEOs) that will enable reporting at an asset scale under Matter 8 of:</p> <ul style="list-style-type: none"> • ecological responses by vegetation, waterbirds and fish, and • hydrological flows and connectivity. Hydrological monitoring of flows and connectivity may also relate to the monitoring undertaken for Matter 9.3 below.
<p>9. The identification of environmental water and the monitoring of its use.</p> <p>Note: Matter 9 reporting comprises three indicators (9.1, 9.2, 9.3)</p>	<p>Matter 9.1 Volume of Held Environmental Water available</p>	<p>Matter 9.1 (volume of HEW available) can be addressed by indicating that a Basin state will continue to use an existing process of reporting via the annual s71 workbook [see Explanatory Note below about Water Act reporting, and the s71 workbook for more detailed reporting indicators].</p>

Schedule 12-Matters for States to report on	Guidance about specific Matters that require monitoring	Monitoring that may be specified in the WRP.
	Matter 9.2 Volume of Planned Environmental Water	Matter 9.2 (volume of PEW) can be addressed by indicating that a Basin state will continue to use an existing process of reporting via the annual s71 workbook [see Explanatory Note below about Water Act reporting, and the s71 workbook for more detailed reporting indicators].
	Matter 9.3 Volumes of HEW and PEW used during the reporting year. The hydrological monitoring and measuring used to enable states to provide Matter 9.3 reporting (environmental water use) to MDBA each year will vary depending on whether the system is regulated to unregulated.	Specify the hydrological monitoring and other sources that enable states to provide Matter 9.3 reporting (environmental water use) to MDBA each year. The reporting requirements are identified in the annual reporting templates for Matter 9.3. The reporting requirements include volumes of environmental water used and the location, purpose, alignment with annual environmental watering priorities and consequences of environmental water use (this may include hydrographic and/or inundation monitoring). Matter 9.3 reporting includes the volume of both HEW and PEW used during the reporting year.
12. Progress towards the water quality targets in Chapter 9	<p>The Basin Plan contains a water quality and salinity management plan (Chapter 9) that specifies certain water quality objectives and targets.</p> <p>WRPs must include their own water quality and salinity management plans (Chapter 10, Part 7) that identify targets and measures that align with Chapter 9.</p>	<p>WRPs must specify the monitoring where applicable that will enable states to meet their requirements in their WRP Water Quality Management Plans (under Part 7 s10.32, 10.33).</p> <p>This specification of any monitoring that is conducted (and reported) will create a line of sight from WRP Water Quality Management Plans and their measures to the targets Chapter 9 of the Basin Plan.</p>

Schedule 12-Matters for States to report on	Guidance about specific Matters that require monitoring	Monitoring that may be specified in the WRP.
		Any monitoring of salinity (9.19) under the BSMS, and of salinity, dissolved oxygen and blue-green algae that is undertaken as part of having regard to targets when managing water flows (in accordance with BP s9.14), can also be referenced here.
19. Compliance with water resource plans	Currently Matter 19 is reported to MDBA via statements of assurance from Basin states, and other reporting requirements such those under s71 of the Water Act. The MDB Water Compliance Review recommended a range of actions to improve the accuracy of monitoring water take, including on hydrometric networks and hydrological modelling.	<p>At a minimum, WRPs should specify the monitoring to inform reporting on compliance with WRPs, including monitoring, measuring and reporting of water taken.</p> <p>The WRP might also specify how accuracy might be improved regarding hydrometric networks and hydrological models thereby improving measuring and monitoring. Basin states may also choose to include these commitments in the Basin Compliance compact.</p> <p>Monitoring in relation to the delivery and use of environmental water (see Matter 9) may also be relevant to compliance with WRPs.</p>
<i>Monitoring undertaken for these four matters above (8, 9, 12 and 19) is likely to also be relevant to reporting on a further four Matters (4, 10, 14 and 18) and may be referenced accordingly as per the guidance below:</i>		
4. The effectiveness of the management of risks to Basin water resources	Reporting so far has been implementation reporting, but monitoring could inform this reporting e.g. monitoring of environmental assets (Matter 8) or water quality (Matter 12)	Monitoring outlined above could inform reporting under this Matter, including of environmental assets (Matter 8) or water quality (Matter 12)
10. The implementation of the environmental management framework (Part 4 of Chapter 8)		Reporting could be informed by monitoring from Matters 8 (environmental outcomes) and 9 (environmental water use) above, as well as implementation reporting.

Schedule 12-Matters for States to report on	Guidance about specific Matters that require monitoring	Monitoring that may be specified in the WRP.
<p>14. The implementation of the water quality and salinity management plan including the extent to which regard is had to the targets in Chapter 9 when making flow management decisions.</p>		<p>Monitoring that is conducted for Matter 12 may also inform reporting about implementation of the Basin Plan Water Quality and Salinity Management Plan (BP Chapter 9).</p> <p>This may include, for example:</p> <ul style="list-style-type: none"> • any monitoring of salinity, dissolved oxygen and blue-green algae that is undertaken as part of having regard to targets when managing water flows (in accordance with BP s9.14) • any monitoring in relation to the Water Quality Management Plans and their measures in the WRP.
<p>18 The efficiency and the effectiveness of the operation of water resource plans, including in providing a robust framework under a changing climate.</p>		<p>This Matter is expected to draw on various lines of evidence above, across a range of BP implementation (e.g. environmental water use from Matter 9; take and WRP compliance from Matter 19) and the achievement of objectives (e.g. ecological outcomes at the asset scale, Matter 8, and water quality and salinity, Matter 12).</p>
<p><i>The following Matters require reporting of implementation. It is not anticipated that monitoring of water resources would be necessary in order to report on these remaining five Matters (6, 13, 16, 20 and 21), based on the reporting indicators set out in the Schedule 12 Reporting Guidelines and as per Position Statement 10A. As WRPs are required to include text against each Matter the following wording is suggested as below.</i></p>		
<p>6. The extent to which local knowledge and solutions inform the implementation of the Basin Plan</p>		<p>N/A. The indicators in the reporting guidelines do not require monitoring of water resources.</p>
<p>13. The implementation, where necessary, of the emergency response process for critical human water needs.</p>		<p>N/A. The indicators in the reporting guidelines do not require monitoring of water resources.</p>

Schedule 12-Matters for States to report on	Guidance about specific Matters that require monitoring	Monitoring that may be specified in the WRP.
16. The implementation of water trading rules.		N/A. The indicators in the reporting guidelines do not require monitoring of water resources.
20. The prioritisation of critical human water needs.		N/A. The indicators in the reporting guidelines do not require monitoring of water resources.
21. The accountability and transparency of arrangements for water sharing		N/A. The indicators in the reporting guidelines do not require monitoring of water resources.

Explanatory note: Water Act reporting- fulfilling 9.1 and 9.2 requirements

Section 32 of the Water Act requires the Authority to identify and account for held environmental water (HEW) in the Murray–Darling Basin for each financial year. To enable the Authority to identify and account for HEW each year, specific reporting requirements are included in Schedule 12 – Matter 9.1. The Authority requires Basin states to report Items 9.1.1, 9.1.2 and 9.1.3 as part of the MDBA’s annual water data collection under s71 of the Water Act. Item 9.2 is also collected under the annual s71 water data collection process. The annual s71 workbook process continues to be made more efficient each year, therefore the layout, design and form of how this data is collected may alter over time. Matter 9.1 and 9.2 are reported in the annual Transition Period Water Take reports published on the MDBA’s website.

Section 2. Background to addressing and assessing s10.46

Introduction to the Basin Plan approach to monitoring, evaluation and reporting

Chapter 13 sets out a program for monitoring and evaluating the effectiveness of the Basin Plan. This program builds upon monitoring and reporting already underway by State governments and the Commonwealth Environment Water Holder (CEWH) before the Basin Plan came into effect and includes:

- state based programs
- joint government programs e.g. TLM monitoring
- the CEWH's Long-Term Intervention Monitoring Program

In some cases additional monitoring and reporting, beyond these pre-existing programs, may be needed to evaluate Basin Plan effectiveness:

- At the Basin scale, the MDBA is building an environmental monitoring programme.
- At the local asset scale (Schedule 12 Matter 8), the Basin Plan may require monitoring and reporting from states than they were already doing before the Basin Plan. Identifying gaps and how to address gaps is a core part of MDBA's Basin Plan monitoring and evaluation program on an ongoing basis, discussed with Basin governments through the Monitoring and Evaluation Working Group and the Joint Venture Monitoring and Evaluation Program.

States' Basin Plan reporting requirements

As part of the Basin Plan Monitoring and Evaluation Program, Basin Plan Schedule 12 specifies the Basin Plan objectives and outcomes to be reported upon, by responsible agencies: Basin states, the MDBA, the CEWH and the Commonwealth Department responsible for water management. These reports are required either annually (mostly about implementation) or five yearly (about longer term outcomes so generally requiring more detailed work).

States will need to undertake some physical monitoring of water resources in order to be able to meet the Schedule 12 reporting requirements. Typically this could include the range of monitoring often already in place to assist states to manage their water resources including ecological, water quality, water take and environmental water flow monitoring. This aligns with several Schedule 12 Matters requiring reporting from states.

Other Schedule 12 Matters for states to report upon do not involve physical monitoring of water resources directly as evidence, for instance reporting about the extent which local knowledge and solutions inform the implementation of the Basin Plan (Schedule 12 Matter 6). This is qualitative reporting that gathers and evaluates information, but does not require the direct physical monitoring of water resources as evidence in the way that ecological outcomes evaluation does. Therefore these Matters are not the focus of s10.46.

BP approach to States' monitoring

Schedule 12 of the Basin Plan does not directly specify the monitoring to enable reporting, but rather specifies reporting as a key step towards evaluation. In practical terms, MDBA recognises that monitoring will vary around the Basin, including in terms of the amount, method, and scope reflecting differences in water resources, ecological values and risks. This is illustrated by comparing the differences in monitoring in some WRPs considered to date, including from the opposite ends of the Basin. The monitoring (type, extent, focus etc) in the Warrego Paroo Nebine WRP would be expected to differ from monitoring conducted in the Coorong, for instance in regards to waterbird monitoring.

While the Basin Plan does not directly specify the monitoring to enable reporting of Schedule 12 Matters, monitoring is guided by:

- [Chapter 13 Principles](#). Chapter 13 recognises a range of good practice Principles to guide the scope of monitoring, including efficiency, building on existing monitoring capabilities, taking a risk based approach to investment and enabling adaptive management, being guided by program logic etc (Chapter 13 Part 2)
- more detailed reporting guidance that is updated from time to time and reflected in this s10.46 guideline, including the Schedule 12 Reporting Guidelines.
- the [Basin Plan Evaluation Framework](#) available on MDBA's website

Glossary and definitions

Water resources The *Water Act 2007* provides the following definition for water resources:

water resource means:

a. *surface water or ground water; or*

b. *a watercourse, lake, wetland or aquifer (whether or not it currently has water in it);*

and includes all aspects of the water resource (including water, organisms and other components and ecosystems that contribute to the physical state and environmental value of the water resource).

Monitoring of the water resources Systematic collection of data about the condition, water quality, and water use (quantity) over time of a water resource. May also include data on the effects of management and interventions. Depending on the type of water resource, this typically includes aspects of ecological and physical characteristics of the water resource. The term 'water resource' is defined in the *Water Act (2007)*.

Monitoring in s10.46 is focused on monitoring *of water resources*, not monitoring in the broader sense it is often used e.g. monitoring of engagement, monitoring of implementation.

Monitoring of water resources also includes *measuring* water resources within Part 10, ie measuring of take under s10.44, 10.45.

Reporting obligations under s 13.14 In addition to specific monitoring and reporting requirements in other parts of Chapter 10, Basin states also have reporting obligations under Chapter 13 (monitoring and evaluation of effectiveness). Section 10.46 requires a water resource plan to specify the monitoring to be undertaken to meet the States reporting obligations under Schedule 12. The MDBA provides specific guidelines to Basin states about reporting (the Schedule 12 Reporting Guidelines) and monitoring of water resources (these WRP Assessment Guidelines for s10.46) that will enable the States to fulfil their reporting obligations in Schedule 12.

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