Information collection template for water year 2019–20 (MDBA)

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The Murray-Darling Basin Authority (MDBA) 2019–20 Annual Report to satisfy reporting obligations for:

- Basin Plan Schedule 12 responses (except Matter 9.3 – use of environmental water, which is reported separately).
- Basin Plan Implementation Agreement (BPIA) self-assessment of progress with implementation tasks.

Reporting context

This reporting template addresses the MDBA's Basin Plan annual reporting obligations for the 2019-20 water year. It includes annual reporting as required under Schedule 12 of Basin Plan, as well as reporting against the 2019-20 requirements of the Basin Plan Implementation Agreement.

Matter 4: Risk Management

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
The effectiveness of the management of risks to Basin water resources (s4.03)		
M4.1 Implementation and management of the risk strategies under s4.03 (3) of the Basin Plan. *Applicable to Schedule 12 Matter 4, Indicator 4.1 and BPIA Task 39.1*	**M4.1)** Describe how regard was had to the risk strategies.	The MDBA had regard to the risk strategies identified in the Basin Plan, and other identified risk through its work program. Activities included: • conducting reviews, and evaluations of implementation and outcomes, of the Basin Plan in 2020 (see Reviews of the Basin Plan) • consideration of emerging risks and priorities for risk management, including climate change, in the 2020 Basin Plan Evaluation released in late 2020. • supporting the independent review of the Lower Lakes • developing and implementation of the Native Fish Recovery Strategy • a review of the issue of return flows • continuing to improve regulatory and compliance capabilities, including conducting a number of reviews to assess the adequacy and effectiveness of metering and monitoring processes for water licence holders across the Basin, and setting compliance priorities for each water year. • assessing and reporting on water delivery shortfall risk, and continuing to work with Basin governments to examine capacity and shortfall risk across the River Murray system and tributaries. MDBA released the technical report "Barmah Choke Channel Capacity and Geomorphic Investigation" in April 2020, at https://www.mdba.gov.au/node/5917. • assessing Basin states' approaches to managing risks to water resources within their water resource plans • continuing a research program to advance and share our understanding of climate change impacts on water resources • Monthly Basin condition updates and drought updates Further information is available in the MDBA corporate annual report 2019-20 available at: https://www.mdba.gov.au/publications/mdba-reports/MDBA-annual-report
Strategies to manage or address identified risks (s4.03)		
M4.2 Identify research priorities to address risks to Basin water	**M4.2) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:**	The Murray Darling Water and Environment Research Program will invest $20 million to deliver applied research over a four-year period (2020 – 2024). Funding is from the Department of Agriculture, Water and the Environment (AWE) and will be administered by

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resources. *Applicable to BPIA Task 39.2*	The MDBA will, through the Basin Plan Implementation Committee – Water Resource Plan Working Group, identify research priorities to improve knowledge of the impact of climate change, interception activities, land use, floodplain harvesting, peri-urban and industrial take on Basin water resources in a manner consistent with the National Water Knowledge and Research Platform.	the MDBA. The Program will invest in priorities across climate adaptation, hydrology, environmental outcomes and social economic and cultural outcomes. The research program will be co-designed between the Commonwealth and research consortia, with the research commencing in 2021. The MDBA is continuing a research program to advance and share our understanding of climate change impacts on water resources. MDBA released a discussion paper explaining the impact of climate change across the Basin and exploring how the current Basin Plan settings actively manage climate change. The paper also sets out some focus research questions the MDBA is investigating through its climate change program in the years ahead. The 2020 Basin Plan Evaluation identifies risks to water resources, and areas of Basin Plan implementation that could be improved to mitigate these risks. The Basin Science Platform is a Basin Official Committee initiative to improve how science/knowledge needs are identified to inform decision making processes to successfully implement the Basin Plan. A Knowledge Broker has been appointed and commenced in November 2020 to work with the Basin Official Committee and key stakeholders to progress the Basin Science Platform's implementation.
Guidelines to assist in implementing risk strategies (s4.04)		
M4.3 Develop guidelines that provide further advice on actions that may be taken to implement the risk strategies listed. *Applicable to BPIA Task 40.1*	**M4.3) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** If required, the MDBA will develop guidelines in consultation with BPIC and the BPIC – Water Resource Plan Working Group.	MDBA released a range of guidelines including: • annual compliance priorities https://www.mdba.gov.au/basin-plan/compliance-enforcement/compliance-priorities • the Sustainable diversion limit (SDL) accounting improvement strategy 2020-2025 at https://www.mdba.gov.au/publications/policies-guidelines/sustainable-diversion-limit-sdl-accounting-improvement-strategy • Basin Wide Annual Environmental Watering Priorities to guide the planning and prioritisation of water for the environment over the next few years, at https://www.mdba.gov.au/publications/mdba-reports/basin-annual-environmental-watering-priorities • flow management guidelines at https://www.mdba.gov.au/publications/policies-guidelines/managing-water-quality The guidelines are to assist managing flows, wherever possible, to help mitigate salinity, turbidity, fluctuating water temperature and dissolved oxygen shortages.

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		• a position statement for sustainably managing groundwater in the Murray Darling Basin https://www.mdba.gov.au/publications/mdba-reports/groundwater-management-position-statement. The MDB expects, in instances where localised groundwater risks are not managed or mitigated by water resource plans, it will work with Basin state governments to implement more localised responses.

Matter 6: Local Knowledge and Stakeholder Engagement

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The extent to which local knowledge and solutions inform the implementation of the Basin Plan.		
M6.1 The outcome of engagement on the implementation of the Basin Plan. *Applicable to Schedule 12 Matter 6, Indicator 6.1*	**M6.1)** Please describe the process and outcomes of local engagement for key BP implementation activities in 2018-19 with particular reference to: • Water Resource Plans • Environmental Watering • Other key Basin Plan implementation activities.	**First Nations environmental watering guidance project (Basin-scale)** The MDBA and Commonwealth Environmental Water Holder (CEWO) are collaborating on projects that provide for First Nations' input into environmental water planning. By engaging First Nations in a collaborative design process, the MDBA and the CEWO have fostered a partnership with the Northern Basin Aboriginal Nations (NBAN) and the Murray Lower Darling Rivers Indigenous Nations (MLDRIN) to establish an enduring mechanism to include First Nations' objectives in Basin-scale environmental water planning. This is being done through the First Nations Environmental Water Guidance (FNEWG) project which is focussed on knowledge sharing and capacity building. The FNEWG project supported First Nations, through NBAN and MLDRIN, to identify priority outcomes for environmental watering during the 2020-21 water year. This information was used in the MDBA Basin Annual Environmental Watering Priorities for 2020-21. Importantly, the outputs from the FNEWG Project were also incorporated into water planning documents for several water holders ahead of the 2020-21 water year. This means that for the first time, First Nations have provided guidance to water holders at both a local and system scale. Building on the success of the first round of FNEWG, the MDBA and the CEWO are working with NBAN and MLDRIN to build the contribution of First Nations to environmental water planning in the Basin over the coming years. The next phase of the project will include a focus on supporting First Nations to contribute to the 2022 update of the Basin-wide environmental watering strategy. **Consultation on other Basin-scale environmental watering matters** First Nations groups, through NBAN and MLDRIN, were also consulted on several other work programs concerning Basin-scale environmental watering. These included: • The development of the 2020-21 watering priorities; in addition to their content provided through the FNEWG project, they were provided with an opportunity to review the draft report. • The review of the Environmental Watering Plan (Chapter 8), providing written

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		feedback on the draft report. • Review and 2019 update of the Basin-wide Environmental Watering Strategy, which was completed in November 2019. **Environmental Water engagement (local and regional scale)** Process: Environmental water holders use regionally relevant networks to engage directly with local communities and ensure there is active and effective community input into shaping environmental flow planning and delivery. This occurs via groups such as Environmental Watering Advisory Groups in NSW, Catchment Management Authorities in Victoria, and the Community Advisory Panel in South Australia. Traditional Owners are also actively involved. Community information and views are used as to input into watering proposals developed by jurisdictions as part of their annual planning each year. This flows through to coordinated planning across all environmental water holders through the Southern Connected Basin Environmental Watering Committee (where MDBA provides the secretariat function as well as being the program manager of the Living Murray Initiative on behalf of Joint Governments). Although routine community consultation during the e-water planning phase in autumn 2020, ahead of the 2020-21 water year, was heavily impacted by Covid19 disruptions, all TLM agency-leads adapted and moved meetings online, which enabled community engagement to continue in water planning. While online planning enabled work to continue while social distancing measures were in place, but it is no substitute for face-to-face discussions on country. Once Covid19 travel restrictions ease, agencies and community groups are looking forward to getting back out on-Country to plan and work together to support healthier landscapes. *Example outcome: Work to boost environmental water information sharing and transparency* An update of the water for the environment information on the MDBA website, including annual icon site condition report cards, has been completed to better meet audience communication needs, report back to communities on the outcomes of environmental flows, and provide access to the primary science. https://www.mdba.gov.au/managing-

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		water/water-for-environment/progress-outcomes MDBA has also published the SCBEWC annual report 2018-19, part of which reports on how communities are involved and the outcomes from environmental water planning and delivery. Preparation of the SCBEWC annual report for 2019-20 is currently underway. https://www.mdba.gov.au/publications/mdba-reports/southern-connected-basin-environmental-water-committee-annual-reports *Example case study: Living Murray Community reference group for Gunbower Forest environmental watering (MDBA as program manager of the Living Murray on behalf of Joint Governments)* The Gunbower Island Community Reference Group (CRG) was established in 2012 as the primary mechanism for engaging the community and stakeholders on annual environmental watering activities and complementary works programs in the Gunbower Forest and Gunbower Creek. The group is led by the North Central Catchment Management Authority, meets quarterly and plays a critical role in ensuring that the Victorian Seasonal Watering Plan (SWP) for environmental water use incorporates local community and stakeholder knowledge and expertise and is in accordance with their understanding of the system. It also provides an avenue for the dissemination of information to the broader community, particularly in relation to the purpose of environmental watering actions and reporting on the outcomes. For example, a CRG meeting was held on the 26th February 2020, where the priority watering actions for Gunbower Forest and Gunbower Creek under each climatic scenario, as well as the risks associated with these, were discussed. Members also shared observations of the forest condition and discussed community concerns for the forest and creek and proposed watering events as a direct influence on the planning. *Example case study: Considering Indigenous values in environmental water planning (MDBA as program manager of the Living Murray on behalf of Joint Governments)* The Living Murray Indigenous Partnerships Program (IPP) is an initiative established by Joint Governments to support Indigenous contribution to the planning and management of

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		environmental watering activities at significant sites along the River Murray of cultural, ecological and community significance. The IPP facilitates exchanges of knowledge, information, perspectives and histories at each of the sites across government and non-government groups. A key finding of the2017-18 independent review was that the IPP is, and continues to be, an impressive and effective model of maturing engagement with First Nations people. In 2019–20, the IPP has continued to support genuine and culturally appropriate engagement with First Nations people in the use of water for the environment. Through a range of activities and projects, First Nations groups have worked together with agencies to plan water use, connect to Country, share knowledge between generations, participate in two-way exchanges between Cultural science and Western science, undertake learning and training opportunities, and implement cultural practices at key sites along the River Murray. IPP activities have also complemented other funding programs such as the Barapa Barapa Water for Country project at Gunbower Forest, and the Working on Country Ranger Program at Chowilla floodplain and the Coorong in South Australia. In November 2019, Indigenous Facilitators and Traditional Owners participated in The Living Murray Indigenous Partnerships Forum held in Victor Harbour, South Australia. The Indigenous Facilitators presented alongside Icon Site Managers, giving a holistic site update which included cultural perspectives on locations and activities. Ngarindjeri representatives presented on cultural science and shared with participants the significance of the Meeting of the Waters (Lower Lakes and Coorong). The integrated participation of IPP Indigenous Facilitators in The Living Murray Icon Site Manager forums has been an overwhelming success, facilitating information exchange across sites and providing an enriching, supportive and respectful learning experience for all involved. In 2019-20, the IPP has facilitated meaningful engagement of First Nations People in the forward planning of water for the environment use for 2020-21, applying the principles of free, prior and informed consent. Sharing of information about water planning, use and monitoring is a key focus for Living Murray Icon Site Managers and Indigenous Facilitators, and many have held planning meetings to identify watering priorities of Cultural significance.

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		Example case study: Local knowledge influenced environmental water delivery to Coombool Swamp (MDBA as program manager of the Living Murray on behalf of Joint Governments) There are strong links between the delivery of water for the environment for environmental outcomes and for cultural outcomes. In spring 2019 Coombool swamp (Chowilla Floodplain) received water for the environment through the Living Murray program. providing habitat for over 850 waterbirds, including 19 swan nests and over 50 calling male southern bell frogs. During an Aboriginal Waterways Assessment visit to Coombool swap, Traditional Owners observed nesting Kungardi (swans) and that these would require additional water to raise the wetland water levels to protect the nests and eggs from predators such as foxes. Traditional Owners' requested SA DEW to provide further water for the environment to support the Kungardi to finish their breeding cycle. Within a week, the Living Murray program had supplied additional water to top up Coombool Swamp and the Kungardi chicks successfully fledged and survived. Kungardi eggs are a prized food source and their feathers are used in the traditional practice of making feather flowers. **MLDRIN, NBAN and First Nations Engagement** The Murray Lower Darling Rivers Indigenous Nations (MLDRIN) and the Northern Basin Aboriginal Nations (NBAN) were formed in 1998 and 2010 respectively and each represent over 20 Nations in the MDB. One of their main functions is to be a primary conduit for the MDBA to engage with and seek input from First Nations on issues that cover multiple Nations and require coordination and general advice. The MDBA provides core funding for MLDRIN and NBAN to provide for office administration, Board meetings and Nation gatherings. The MDBA also engages with individual Nations on issues that relate to those Nations as well as with the Basin Community Committee and its Indigenous Subcommittee. A highlight for 2019-20 included welcoming representatives of MLDRIN to the Southern Connected Basin Environmental Watering Committee's annual water planning workshop in April 2020, to provide guidance on how environmental water planning could align with Cultural objectives and priorities. MLDRIN has continued to participate in SCBEWC meetings as advisors and this is seen as the beginning of a good working relationship

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		between SCBEWC and MLDRIN, and individual First Nations more broadly. **Water Resource Plans** Chapter 10, Part 14 of the Basin Plan requires a Water Resource Plan (WRP) to identify the objectives of Indigenous people in relation to water resource management, and the outcomes for management sought by Indigenous people. A water resource plan must be prepared having regard to the views of relevant Indigenous organisations with respect to a number of matters, such as cultural flows. Basin jurisdictions are responsible for engagement with Aboriginal Nations in the preparation of WRPs. The MDBA continues to support Basin jurisdictions by providing advice on engagement protocols, including Aboriginal Nations relevant to specific WRP areas. Additionally, the MDBA continues to support NBAN and MLDRIN in their assessment (along with relevant organisations and Aboriginal Nations) of whether consultation undertaken by Basin jurisdictions in the development of WRPs meets the requirements of Chapter 10, Part 14. **Cultural Flows** Project officers commenced with MLDRIN and NBAN in 2018-19, to work with First Nations over the next three years to translate the findings of the National Cultural Flows Research Project into practical and effective ways forward. In particular, the project officers are working with First Nations people to implement the cultural flows assessment methodology developed in the project in each Nation. It is expected that at the end of the project, Traditional Owners will have developed cultural flows management plans or have otherwise articulated cultural flow requirements for their Nations. The MDBA manages contracts with NBAN and MLDRIN that support this work and continues to provide advice and support with project implementation.

Matter 10: Environmental Watering

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Basin annual environmental watering priorities (ss8.27 - 8.31, 8.04 - 8.07, 8.14(2) (a) (i), 8.49 - 8.51, 8.33 - 8.43, 8.53 - 8.59; Schedules 8 & 9)		
M10.1 Prepare Basin annual environmental watering priorities each year, with the required content, published, reviewed and updated as obligated under Chapter 8, Part 4, Divisions 2-5 *Applicable to Schedule 12 Matter 10, Indicator 10.1 and* *BPIA Task 51.1*	**M10.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:**	
	a) In consultation with Basin States and the CEWH, the MDBA will review the framework for development of Basin annual environmental watering priorities, based on feedback and evaluation of previous year's priorities.	a) The MDBA sought feedback from members of BPIC's Environmental Watering Working Group (EWWG) on the Basin annual environmental watering priorities (the priorities) for 2019-20 (published in June 2019). We held a workshop with EWWG members on 28 November 2019 to discuss the approach for the next water year. The workshop drew on feedback about the priorities that EWWG members had provided through three different review processes over the preceding 18 months: the review and 2019 update of the Basin-wide environmental watering strategy; the review of the Environmental Watering Plan, and the annual review of the priorities in 2018. The workshop identified nine recommendations to improve the process and product. This included trialling a new approach to assess vulnerability of the most at-risk assets for native vegetation, waterbirds and native fish. A re-phasing of outputs was also identified, with the aim of the MDBA providing its information in time for the environmental water planning cycle starting in February before the next water year. It was noted this would not be possible to implement for the 2020-21 water year but could be done for subsequent years. For the 2020-21 water year, the MDBA made a number of changes in response to EWWG feedback including ceasing publication of the Outlook; earlier engagement on draft priorities report content, attending meetings of the SCBEWC to gain earlier insights for developing Basin priorities; and removing contextual information from the priorities report (which was moved to a community summary publication) to strengthen focus on a technical audience.
	b) The MDBA will provide advice to Basin States in developing their annual environmental watering priorities, if requested.	b) The MDBA did not receive any requests from the Basin states to provide advice for the preparation of state annual watering priorities.
	c) The MDBA will consult with environmental water holders and Basin States on the proposed Basin annual environmental watering priorities through the BPIC – Environmental Watering Working Group.	c) The MDBA consulted EWWG members, including the CEWH, on development of the 2020-21 priorities. In addition to the information provided at a) above, the MDBA circulated an early draft priorities report in March and a final draft report in May for feedback which was considered in preparing the final report.
	d) The MDBA will have regard to the annual environmental watering priorities provided by the Basin States.	d) The MDBA considered the Basin states' annual watering priorities provided to it in May 2020 and found that the state priorities complemented the Basin-wide priorities. No watering priorities were received from the Australian Capital Territory.
	e) The MDBA will develop the draft Basin annual environmental watering priorities via multilateral consultation through BPIC – Environmental Watering Working Group, and bilateral consultations with Basin States and the CEWH.	
	f) The MDBA will publish the Basin annual environmental watering priorities.	

		e) Refer response to c) above. f) The MDBA published the Basin annual environmental watering priorities for 2020-21 on 30 June 2020.
	g) The MDBA will seek stakeholder feedback on the process for developing Basin annual environmental watering priorities to inform the process in the following year.	Refer response to a) above and response to matter 6.1. The MDBA will also be discussing the approach to the 2021-22 Basin priorities with Basin states and the CEWH.
	h) The MDBA will evaluate whether priorities are met, based on annual reporting requirements and reporting of where Basin annual environmental watering priorities are not followed and review the prioritisation framework and process.	The following advice was provided by the States in relation to whether the Basin annual environmental watering priorities for 2019-20 had been met: Victoria: During December 2019 and June 2020 145 ML of water for the environment was used for pump maintenance at Hattah Lakes. The environmental water used was authorised by the VEWH in line with the Seasonal Watering Plan 2018-19 and with the authority of the SCBEWC (TLM holdings were used). South Australia: The management and delivery of environmental water was in accordance with the Basin annual watering priorities. Management and delivery of planned and held environmental water was consistent with the Basin Plan, including the environmental watering plan's Principles to be applied to environmental watering NSW: NSW report not yet received, as at 18 November 2020. Queensland: Queensland is not aware of any environmental watering that was not in accordance with the 2019-20 Basin annual watering priorities (partially/fully), in accordance with Section 8.44 of the Basin Plan and Principle 1 of Division 6. ACT: The ACT provided environmental water in accordance with the Basin annual watering priorities.
The implementation of the environmental management framework (Chapter 8, Part 4)		
M10.2 Watering strategies, plans and priorities are prepared consistently with Chapter 8**,** Part 4 in relation to coordinating, consulting and cooperating with other Reporters and the matters to which regard	**M10.2)** Please describe progress in coordinating, consulting or cooperating with other Basin jurisdictions on the management and delivery of environmental water and opportunities for improvement.	The Southern Connected Basin Environmental Watering Committee (SCBEWC) is the forum that supports coordination of environmental water delivery across multiple water holders and jurisdictions in the Southern Basin. SCBEWC brings together agencies to coordinate and manage environmental water across the Commonwealth, New South Wales, Victorian and South Australian governments. Additionally, MLDRIN representatives started participating in the SCBEWC from April 2020 as observers and advisors which is improving First Nations' involvement in the planning, delivery and monitoring of water for the environment.

must be had (Chapter 8, Part 4) *Applicable to Schedule 12 Matter 10, Indicator 10.2*		In order to streamline planning processes and avoid duplication, SCBEWC incorporates two distinct functions: the coordination of environmental water across the southern connected Basin (facilitation), and consensus decision making on jointly held water portfolios and joint natural resource management program elements of the Living Murray. This approach ensures effective coordination across multiple water portfolios while allowing different environmental water holders to make independent decisions. Key to the effectiveness of SCBEWC is its broad membership, collaboration and consultation - providing all relevant stakeholders involvement and shared responsibility in the effective and efficient management of water for the environment. To improve transparency and accountability, SCBEWC annual reports on progress in coordinating environmental water planning and use, and opportunities for improvement, have been made available online since 2017-18. The 2019-20 annual report is being finalised with the 2018-19 annual report available: https://www.mdba.gov.au/sites/default/files/pubs/SCBEWC-water-for-the-environment-annual-report-2017-18.pdf. SCBEWC develops operational scenarios before the start of each watering year to assist with coordinating the use of environmental water and identifying commitments for water held as part of the joint portfolio under The Living Murray and Snowy Scheme River Murray Increased Flows (RMIF). The SCBEWC operational scenarios are also prepared as an input to inform the planning assumptions in the River Murray Annual Operations Outlook. This ensures the major environmental water actions under a range of resource scenarios are incorporated into the Outlook which explains how the MDBA may operate the River Murray system across a range of possible climatic and rainfall scenarios. https://www.mdba.gov.au/publications/mdba-reports/river-murray-system-annual-operating-plan. Throughout the year, environmental water holders regularly discuss the potential for initiating coordinated watering actions and monitoring the progress of current actions. SCBEWC planning considers a range of matters including: • Requirements of the Basin Plan including the Basin-Wide Environmental Watering Strategy and Basin Annual Environmental Watering Priorities, • Having regard to Water quality targets in s9.14 (and the draft flow management guideline in development for s9.14) • SCBEWC agreed operating, channel capacity and coordination principles • Watering proposals under a range of water availability scenarios (dry to wet), • Regular discussion of opportunities for coordination amongst environmental water holders and broader planned river operations, • Identification of potential delivery constraints and risks and mitigation strategies. Environmental water managers and river operators have committed to improving coordination during annual planning and real-time delivery. An annual review of the SCBEWC environmental water planning process and opportunities for improvement is undertaken and the planning process updated each year.

		A key area of recent improvement is the River Murray Channel watering proposal which aims to describe the environmental watering requirements right along the river channel. This work is an important development in moving planning from site based to considering system-scale needs. In particular, the River Murray channel watering proposal allows the testing of approaches to deliver water following natural rainfall and flow cues, as well as targeting the active coordination and combination of tributary and Murray environmental flows. Shaping multi-site spring flows along the River Murray and its tributaries allows longitudinal connectivity of water through the system for native fish movement, use of environmental infrastructure to divert water into priority wetland sites (lateral connectivity) and to provide end-of-system flows for holding the Lower Lakes and Coorong at minimum water levels. Supplying end-of-system flows are critical to support Basin Plan connectivity targets, and to keep lake levels high enough to help limit the re-emergence of acidification, heavy metal release from sediments and extreme salinities that happened during the millennium drought. *Northern Basin* The newly created Northern Basin Environmental Watering Group provides a forum for planning for, and delivery of, environmental water across the northern Basin with a focus on enhancing connectivity using cross-border / multi-catchment co-ordination.
M10.3 How environmental watering principles were applied consistent with Chapter 8, Part 4, Division 6. *Applicable to Schedule 12 Matter 10, Indicator 10.3*	**M10.3)** Provide at least one case study that demonstrates how environmental watering principles were embedded in the decision-making process and identify the relevant principles. Please note it is not necessary to address each of the 11 Principles individually. Responses can include links to published case studies for further detail. Please provide reasons for any environmental watering that was not undertaken in accordance with the Basin annual watering priorities listed at Att. A (partially/fully), in accordance with Section 8.44 of the Basin Plan and Principle 1.	Environmental water holders plan and coordinate the delivery of water for the environment in the Southern Connected Basin consistent with the environmental watering principles and have regard to the Basin annual watering priorities. **Principle 1:** Environmental watering to be undertaken having regard to the Basin annual environmental watering priorities **Principle 2:** Consistency with the objectives for water-dependent ecosystems **Principle 3:** Maximising environmental benefits **Principle 4:** Risks **Principle 5:** Cost of environmental watering **Principle 6:** Apply the precautionary principle **Principle 7:** Working effectively with local communities **Principle 8:** Adaptive management **Principle 9:** Relevant international agreements **Principle 10:** Other management and operational practices **Principle 11:** Management of water for consumptive use **Case study: The Southern Spring Flow – using environmental water to support river health at a system scale** **(Principles 1, 2, 3, 4, 6, 7, 8, 9)** *Event overview:* In Spring 2019 the River Murray food chain received a productivity boost from the delivery

		of nearly 300 GL of water for the environment, supporting river health. Environmental water holders worked together to coordinate a late-winter and spring flow in the Murray and Goulburn rivers. This flow maximised benefits along the length of the River Murray from Hume Dam, through to the Coorong and Murray Mouth, as well as the lower Goulburn River. During the 2019 Southern Spring Flow, water for the environment from multiple environmental water holders was added to operational flows in the River Murray and the Goulburn River to help provide food and habitat for fish and other aquatic animals. Water for the environment benefitted over 3,000 km of rivers and creeks as it passed through the river system together with several wetland sites along the way including 6 internationally listed Ramsar wetlands of international significance: • Barmah Forest • Gunbower Forest • Millewa and Koondrook-Perricoota Forests (part of NSW mid-Murray Forests) • Lake Kramen (part of Hattah-Kulkyne Lakes) • Chowilla floodplain (SA Riverland Ramsar site) • The Coorong and Lakes Alexandrina and Albert Wetland. *Planning:* Water for the environment use aimed to apply the precautionary principle to deliver environmental flows to build resilience and maintain condition at key wetlands in the southern connected Basin during a third year of dry conditions. The objective of targeting key sites to maintain their condition was intended to help native plants and aquatic animals survive and be in a better condition to recover when drought conditions ease. Even in dry times, such as spring 2019, natural flows would have replenished the Murray River with fresh food and nutrients as they flowed through the creeks and river red gum forests. The centuries-old red gum forests are in a low-lying wet part of the landscape that thrive on frequent watering in winter and spring. Based on rain and inflows over winter and spring, Murray River flows would have naturally reached 30,000 ML/d downstream of Yarrawonga if there were no dams and weirs. Environmental water holders came together to mimic this seasonally appropriate winter-spring flow, albeit at a much smaller scale within regulated flow constraints (15,000 M/d downstream of Yarrawonga). The Southern Spring Flow was the result of months of careful planning, and adaptive management by learning from past deliveries of environmental flows and monitoring. This planning was coordinated across agencies in NSW, Victoria, South Australia and the Commonwealth through the work of SCBEWC. *Delivery:* Key to the success was the close collaboration with river operators and site managers to make sure flows were coordinated and well timed so water could be used multiple times along the river to maximise environmental benefits, consistent with the objectives for water dependent ecosystems and without impacts on other users. Environmental water holders worked with river managers to consider a range of risks associated with the event during planning and delivery. This allowed strategies to mitigate these risks to be developed. For example, there was regular monitoring for water quality

		risks and adjustments to the flows based on rainfall forecasts to aim to maintain the target flow rate. This was facilitated by regular operational advisory group meetings and communication between the many different agencies involved (up to fifteen). This delivery created a spring pulse along the length of the River Murray, consistent with the objectives of the Basin-watering strategy, and made water available for use at a range of significant downstream sites (including Ramsar-listed wetlands), before finally supporting end of system flows at the Coorong and Murray Mouth. The event started in August and ended in November with the main coordinated flows delivered in September and October to align with the natural seasonality of higher flows in the Murray. Much of the water in the system was operational water en-route for consumptive users, with water for the environment building on and shaping flows in the river for a better outcome. *Community Engagement:* There was a strong focus on engaging effectively with local communities and communicating the benefits and outcomes of the Southern Spring Flow. This included developing shared messages on why water for the environment is needed in dry times, and a commitment to regular and transparent communication and local community engagement. The Commonwealth Environmental Water Holder took the lead with proactive community engagement and collecting local insights and for regular public updates on behalf of all environmental water holders involved. https://www.environment.gov.au/water/cewo/catchment/southern-spring-flow-2019 *Monitoring outcomes:* Scientists at CSIRO monitored how carbon and nutrients changed along the length of the river to understand whether the spring flow boosted the aquatic food web (funded by the Living Murray, with MDBA as program manager on behalf of Joint Governments). A companion study monitored how plankton (fish food) responded and was funded by the Commonwealth Environmental Water Office. The linked scientific studies were developed and guided by SCBEWC. Together the studies measured increases in carbon, nutrients and plankton from the Southern spring flow, which demonstrated productivity outcomes through increases to food sources for small yabbies, crays and small fish. *Reporting:* The CSIRO science reports have been published on MDBA and CEWO websites, as well as a summary report of the flow event. Stories of some of the key highlights, findings and opportunities to improve will be highlighted in the 2019-20 SCBEWC annual report to Ministerial Council, due in December/January 2020-21. *Adaptive management:* Environmental water managers and river operators have committed to improving coordination and maximising environmental benefits during annual planning and real-time delivery. An annual review of the SCBEWC environmental water planning process and opportunities for improvement is undertaken and the planning process updated each year. Lessons from the 2019 spring flow will be built into the planning and delivery of the 2020 spring flow.

		Further information **(Principles 1, 2, 8, 9, 10, 11)** Watering actions had regard to the Basin annual environmental watering priorities and objectives of the Basin Plan as part of the planning process undertaken by SCBEWC. Watering proposal linkages to Basin annual environmental watering priorities are documented and explicitly considered at SCBEWC. Many of the sites where environmental water is delivered are Ramsar listed sites of international significance. Sites also include important wetlands and a number of those, including the Lower Lakes, Coorong and Murray Mouth are important for the life cycles of international migratory bird and threatened species. Environmental watering proposals submitted to SCBEWC identified a range of risks associated with watering actions and proposed appropriate mitigation measures. The watering proposals were assessed as part of operational scenarios developed by SCBEWC. This ensures environmental water holders collectively assess plans and the quantity and quality of water required for the range of proposed actions and any need to consider prioritisation if there is not enough water available or the water cannot be delivered in a pattern that supports priority environmental needs. Adaptive management principles were applied throughout the planning and delivery of jointly held environmental water in 2019-20: • Long-term condition monitoring and emerging intervention monitoring results were used as a specific knowledge and learning input to the April 2020 SCBEWC planning workshop. • Real-time decision-making allowed managers to respond to changing river and climatic conditions. These were informed through operational advisory groups. • Validation and recalibration of several hydro-dynamic models occurred with the input of measured data from the watering events. These processes help to ensure and maintain model accuracy and planning usefulness. • Bi-annual Icon Site Managers meetings where managers collectively share and learn from recent successes and challenges faced at each of their respective sites. This enables the different site managers to learn and improve management practices more quickly and effectively. SCBEWC held a review of their annual planning in late 2018 to assess recent performance and identify improvements. The most recent review led to several changes in the annual planning process, including: • Earlier engagement with MDBA River Operations and Water Liaison Working Group to improve representation of environmental water demands into the River Murray Annual Operating Outlook. This process also supported management of water for consumptive use to be undertaken in a way that is consistent with achieving the objectives in Part 2 of the Basin Plan, where possible. • Improvements to the SCBEWC watering proposal template to include consideration the Basin-scale multi-year rolling priorities.

		• Strengthened operational scenarios planning to focus on River Murray Channel and Goulburn River multi-site watering to achieve as spring pulse and system-wide longitudinal connectivity.
Basin-wide environmental watering strategy (ss8.13 - 8.17 & 8.49 - 8.51; Schedules 8 & 9)		
M10.4 Prepare a Basin-wide environmental watering strategy. *Applicable to BPIA Task 50.1*	**M10.4) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will review and update the Basin-wide environmental watering strategy in consultation with environmental water holders, Basin States and stakeholders at intervals not exceeding five years.	The *Basin-wide environmental watering strategy (the strategy)*, first published in 2014, must be reviewed and updated no later than five years after it was first made (no later than 24 November 2019). In 2017-18, the MDBA commenced preliminary work on reviewing and updating the strategy. In 2018-19 the review was completed and drafting of an updated strategy commenced. Drafting of the updated strategy was informed by a survey of 140 stakeholders, discussions with scientific experts and an internal review. Peak groups and other key stakeholders were notified of the forthcoming release of the draft updated strategy on 2 August 2019 for public comment, and the opportunity to provide feedback was promoted by a media release and article in the MDBA's public electronic newsletter *River Reach*. Feedback closed on 2 September. We received 17 submissions from peak environment, science and irrigation groups, catchment management groups, other advocacy groups, First Nations groups and individuals. Submissions not otherwise identified as confidential were published on the MDBA's Get Involved site. During the public consultation period, the MDBA held a workshop with members of the EWWG to discuss their feedback on the draft updated strategy. All feedback was assessed ahead of finalising the updated strategy which was published on 22 November 2019. Work commenced in July 2020 on the next update of the strategy, scheduled for November 2022. Key bodies of work, which include material changes, were identified in the 2019 strategy update. Additional content may be identified as the work progresses to prepare the 2022 strategy.
M10.5 Conduct a review of the environmental watering plan *BPIA task 73.1*	**M10.5)** The MDBA will scope the review of the environmental watering plan.	The MDBA is required to review the Environmental Watering Plan (EWP) before the end of 2020 and every five years thereafter. The EWP sets out: • environmental objectives and targets for water-dependent ecosystems • a framework for managing planned and held environmental water • methods to identify priority environmental assets and priority ecosystem

		functions • principles and methods to be applied when prioritising the application of environmental water, in line with the requirements of s.28 of the *Water Act (2007).* Section 13.09 of the Basin Plan Guidance provides direction on how the Authority should conduct the review. A review of the targets set out in Schedule 7 is mandatory. In 2019 - 20, the MDBA continued the review. Actions completed include: • gathering internal MDBA staff knowledge on EWP effectiveness • synthesising external and internal components of the review to draft the findings and recommendations • testing findings and recommendations with the Environmental Water Working Group (EWWG) • providing findings and recommendations to NBAN, MLDRIN, the Basin Community Committee and national peak groups for feedback • providing the draft review report to DAWE, Basin States, CEWO, NBAN and MLDRIN for pre-publication commentary [BP 13.19(2) requirement]. The review confirmed there were no critical gaps in the EWP that required legislative changes. The review report recommendations focus on improving implementation under the current EWP. The recommendations include: • strengthening First Nations' participation in environmental water planning • improving SMARTness and line-of-sight between objectives, targets and outcomes • better communication of complexity and uncertainty in applying environmental water and how different EWP components work together. Several EWP review recommendations will be incorporated into work for the 2022 Basin-wide Environmental Watering Strategy update. The review is on track for publication before the end of 2020.

Matter 13: Critical Human Water Needs

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
The implementation, where necessary, of the emergency response process for critical human water needs.		
M13.1 The number of days in the water accounting period that Tiers 1, 2 and 3 water sharing arrangements have been applied. *Applicable to Schedule 12 Matter 13, Indicator 13.1*	**M13.1)** Provide a summary of the number of days that tiers 1, 2 and 3 water sharing arrangements have been applied during 2019/20.	Tier 1 water sharing arrangements were in place for the entire 2019-20 water accounting period.
Process for managing risks to critical human water needs associated with inflow prediction (s11.07)		
M13.2 Assess the risks of insufficient conveyance water, insufficient water for the conveyance reserve, and the water quality and salinity triggers been reached. Determine whether any advances under the Murray-Darling Basin Agreement are required. *Applicable to BPIA Task 63.1*	**M13.2) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will assess and manage the risks to critical human water needs associated with inflow prediction and in conducting its river operations functions. The Annual Operating Plan and monthly Water Resource Assessments consider risks to critical human water needs associated with a range of water availability/inflow scenarios including the risk of insufficient conveyance water, conveyance reserve or where the water quality and salinity triggers are reached under the range of water availability/inflow scenarios. Each determination of annual water availability is calculated using data and models agreed to by each of the Basin States. The MDBA will consider the risk to critical human water needs of any advances under clause 102C or Schedule H. If advances are required, or forecast to be required, the Annual Operating Plan will identify and assess any risks to critical human water needs associated with making these advances.	To manage risks to critical human water needs associated with inflow prediction, MDBA regularly reviews its predictions and adjusts to reflect current conditions. This is done through periodic review of the Annual Operating Outlook and the assumptions used in preparing the fortnightly Water Resource Assessments, in consultation with the Water Liaison Working Group. During all water resource assessments for 2019-20 and versions of the Annual Operating Outlook, sufficient water resources were available to meet the conveyance water, conveyance reserve and was of suitable water quality under all inflow scenarios.
M13.3 Undertake water resource assessments.	**M13.3) Response should confirm or update on the following statement:**	The MDBA is required, under the Objectives and outcomes for river operations in the River Murray System, to prepare water resource assessments monthly or at

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Applicable to BPIA Task 63.2	The MDBA prepares Water Resource Assessments, usually monthly but may be more frequent if conditions are very dry. As part of the preparation of the assessments, the MDBA regularly reviews its inflow scenarios, in consultation with the Water Liaison Working Group.	more frequent intervals approved by the Committee. Since the Millennium Drought, MDBA has been providing these assessments fortnightly for the majority of the water accounting periods to support the states in making their fortnightly allocation announcements. No changes to the inflow statistics were warranted as inflows were not near minimums.
Risk management approach for inter-annual planning for critical human water needs arrangements (s11.08)		
M13.4 Undertake inter-annual planning for critical human water needs. *Applicable to BPIA Task 64.1*	**M13.4) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA's risk management approach for inter-annual planning for critical human water needs is based on: the conveyance reserve under s11.12(2); the range of inflows predicted under s11.06; the risk management processes under s11.07; the efficient operation of the River Murray System and the *Objectives and Outcomes for River Operations in the River Murray System*; monitoring and forecasting of water quality data in the River Murray System; and communication between the MDBA, Basin States and private providers of water quality data. From January to June each year the MDBA prepares a forecast of the water available in the next water year. This second year forecast will be based on the matters listed under s11.08 (1) of the Plan. The Water Resource Assessments are prepared in consultation with the southern Basin States, through the Water Liaison Working Group. The MDBA will use information from the existing River Murray Water Quality Monitoring Program as the basis for identifying water quality risks to critical human water needs. When making decisions about the volume of water available to the Basin States in a particular year, and whether water can be set aside for the conveyance reserve, the MDBA must have regard to the Water Resource Assessments which form the basis for decisions on the water available to Basin States, including if water can be set aside for the conveyance reserve.	The MDBA undertook informal second year water resource assessments from early 2020 for 2020-21, and continued these assessments through until the formal 2nd year assessment provided in April 2020. At all times during these assessments, there was sufficient water to meet the conveyance for 2020-21 and the conveyance reserve for 2021-22 with no forecasted periods of water quality that would trigger Tier 3.
Commencement and cessation of Tier 2 water sharing arrangements (ss11.09 & 11.10)		
M13.5 Determine if the trigger is reached and Tier 1 or 2 applies.	**M13.5) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA, through the preparation of the Water Resource Assessment, will determine if the triggers detailed in BP s11.09 have been reached, or	The MDBA published a notice on the water sharing arrangements on the MDBA website, found here: https://www.mdba.gov.au/river-information/water-sharing/critical-human-water-needs. This states the system is currently under Tier 1 arrangements.

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Applicable to BPIA Task 65.1	if the appropriate conditions apply. The MDBA will publish a notice on its website declaring that: • Tier 1 water sharing arrangements cease and Tier 2 water sharing arrangements commence; or • Tier 2 water sharing arrangements cease and Tier 1 water sharing arrangements commence. The *Guideline on the triggers and process for moving between water sharing Tiers* provides more information on how the MDBA will communicate a change in water sharing arrangements to the Basin States and Commonwealth.	
Commencement and cessation of Tier 3 water sharing arrangements (ss11.15 & 11.16)		
M13.6 Determine if the trigger is reached and Tier 3 applies. *Applicable to BPIA Task 66.1*	**M13.6) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA, through the preparation of the Water Resource Assessment will determine if the appropriate conditions apply. If New South Wales, Victoria or South Australia considers the triggers have been reached, its BOC member should advise the Executive Director, River Management Division, MDBA. The MDBA will publish a notice on its website declaring that: • Tier 1 or Tier 2 water sharing arrangements cease and Tier 3 water sharing arrangements commence; or • Tier 3 water sharing arrangements cease and Tier 2 water sharing arrangements commence; or • Tier 3 water sharing arrangements cease and Tier 1 water sharing arrangements commence. If conditions require water sharing arrangements to change from Tier 3 to Tier 1, the MDBA will declare that Tier 2 arrangements commenced when Tier 3 arrangements ended but ceased immediately afterwards. The *Guideline on the triggers and process for moving between water sharing Tiers* provides more information on how the MDBA will communicate a change in water sharing arrangements to the Basin States and Commonwealth.	Not applicable in the 2019-20 water year

Matter 14: Water Quality and Salinity Management

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Chapter 9 Guidelines (s9.13)		
M14.1 Prepare and publish guidelines relating to water quality targets. *Applicable to BPIA Task 57.1*	**M14.1)** The BPIA notes that MDBA will prepare a proposal for consideration by BPIC for a new guideline providing additional guidance in relation to flow management decisions by the MDBA, BOC and Basin States and when making decisions about the use of environmental water by the CEWH and other environmental water holders and managers. BPIC will then decide the process for the guideline to be developed.	The MDBA prepared and published a guideline to provide guidance on flow management decisions by the MDBA, BOC and Basin States, and when making decisions about the use of environmental water by the CEWH and other environmental water holders and managers. The link to the guideline is provided below. https://www.mdba.gov.au/sites/default/files/pubs/flow-management-guideline.pdf
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		
M14.2 Progress with implementation of the Basin Plan W*ater Quality and Salinity Management Plan* (BP CH9) and outcomes, including having regard to the targets on dissolved oxygen, recreational water quality and levels of salinity when managing flows. *Applicable to Schedule 12, Matter 14, Indicator 14, and* *BPIA 54.1*	**M14.2)** Context: BP ch9.14 recognises that flow management, in some circumstances, can assist with the management of water quality issues, such as salinity, hypoxic black water events and blue green algal outbreaks. The intent of s9.14 is that 'having regard' to these risks and opportunities becomes part of business as usual when making decisions about flow management or the use of environmental water. Other actions that can also address water quality issues include coordination and communication about blue green algal outbreaks (in line with BP9.18) or hypoxic black water events. In this context, please describe how these water quality issues were considered, when making decisions about flow management or the use of environmental water, and/or other actions; did this make a difference to these water quality issues, and any learnings to inform continuous improvement.	**Regard to water quality when managing flows** Salinity The MDBA had regard to water quality and salinity targets by: • implementing procedures that maintain minimum flows at key locations along the River Murray System; • preparing weekly flow and salinity forecasts available on MDBA web site • assisting with the delivery of environmental water which has dilution benefits • using the "River Operations Workflows System" (ROWS) Threshold Reports to monitor EC at key sites along the River Murray and to alert river operations when salinity thresholds are being approached or breached • chairing discussions at the Barrages Operations Advisory Group and facilitating the delivery of environmental water to South Australia • delivering significant volumes of environmental water to South to provide additional water to the Lower Lakes, including the Coorong and Murray Mouth from increased barrage releases, which reduced salinity; and • preparing whole of system climatic and operational updates to the salt interception scheme, to help inform decisions about the level of SIS operations given current and forecast conditions. Blue Green Algae

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		MDBA had regard to the Basin Plan target for recreational water quality (cyanobacteria) by: • Contributing to the monitoring of BGA levels along the Murray at key locations • Participating in Murray and Sunraysia Regional Algal Co-ordinating Committee meetings to keep abreast of the latest information and provide system wide updates and outlooks • Reporting and discussing issues and potential mitigation measures with environmental water holders • Liaising with WaterNSW regarding Hume Reservoir outbreak locations and updates on algal levels, strains and alert status • Continuing to review an internal cyanobacteria (blue-green algae) status mapping product weekly to guide relevant flow management decisions. The status map brings together the algal reporting from the states (algal data and alerts published by NSW Regional Algal Coordinating Committees, Goulburn-Murray Water and South Australia). <u>Dissolved Oxygen</u> MDBA had regard to dissolved oxygen targets by: • Maintaining minimum flow rates at strategic points according to the O&O • Minimising overbank flows in the warmer months of the year • Discussing the potential for low dissolved oxygen levels and potential mitigation measures • Contributing to the monitoring of dissolved oxygen levels along the Murray at key locations • Reviewing real time dissolved oxygen information (Dissolved Oxygen Circulars) collated and periodically provided by the NSW Office of Water. This served as a surveillance tool to provide 'early warning' of potential low dissolved oxygen levels • Communicating with forest managers via the Barmah-Millewa Operations Advisory Group about the potential for low dissolved oxygen levels in the Barmah-Millewa forest associated with forest inundation • Facilitating Lake Victoria transfers and delivering at a seasonally appropriate time. <u>Bushfires</u> During the summer of 2019-20, 56% of the upper Murray catchment was impacted by fire. MDBA staff undertook significant work to map burnt areas, assess water quality risks and develop potential mitigation actions. No major water quality problems occurred, aided by post-bushfire rainfall of low intensity. A consultant was also engaged to outline the impact of the 2019/20 fires to water quality in the Lake Hume Catchment to improve

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		understanding of water quality impacts for future management activities. <u>Lower Darling restart and water quality management in the lower Darling and River Murray</u> In planning for the re-connection of flows from the Darling to the Murray, the MDBA, in conjunction with WaterNSW and with the support of the Water Liaison Working Group, commenced early consultation and planning for a partial lowering of the Wentworth Weir pool. This action was aimed at helping support the management of potential water quality impacts associated with the arrival of lower Darling water into the Darling arm of the weir pool. This action was also aimed at implementing some of the lessons learnt around poor water quality entering the Wentworth weir pool from the previous time the lower Darling restarted in 2016-17. Wentworth Weir was lowered from a level 10 cm above Full Supply Level (FSL) to 30 cm below FSL, coincident with the arrival of the Darling flows. By more effectively moving this water through the Darling arm of the weir pool, the partial weir pool lowering helped reduce the period of salinity impact on the region's pumpers and other water users. As WaterNSW commenced releases from Weir 32, a temporary working group was established with representatives from all three state agencies and river operators meeting at least weekly. The group monitored and coordinated adaptive management actions to mitigate the impact of poor water quality as flows re-connected with the Murray and travelled downstream to South Australia. The first flows from the lower Darling River reached the junction of Wentworth Weir pool and the River Murray around 14 April 2020. The salinity entering the Murray from the Darling briefly peaked at 600 EC one week later on 21 April. Salinity sampling and visual observations suggested that denser, high salinity water entering from the Darling pooled behind the Wentworth Weir and was mixed with and diluted by the lower salinity Murray water as it passed over the weir. Downstream of Wentworth Weir, measured salinities remained below 200 EC and quickly returned to levels observed prior to the Darling flow arrival. The salinity spike in the Murray continued to reduce further as it moved downstream to Lock 9 where the observed peak was 165 EC. To help mitigate the anticipated higher salinity levels into SA, Lock 7 weir pool was returned from its partially lowered level to FSL and plans were made to maximise diversion into Lake Victoria to provide dilution. However, the lower than anticipated salinity levels meant it was not necessary to maximise diversion into Lake Victoria and operations at Lake Victoria remained unchanged. The coordinated effort by river operators and officials across state agencies helped manage risks to water quality associated with the re-connection of the Darling River in both the lower Darling River and immediate downstream reaches of the Murray into South Australia. This was achieved with minimal impact to the community as a result of the weir

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		pool lowering undertaken. Salinity outcomes in the lower Darling and the Murray were highly favourable when compared with previous Darling River re-connections. At the same time, comprehensive engagement and communication with community members by the MDBA and WaterNSW, including with key tourism and water user stakeholders, ensured the local community was informed and supported through the process and minimal impacts were reported. **Environmental water management** A range of procedures and tools have been developed to consider water quality risks and ensure that the MDBA has regard to the targets in s9.14 of the Basin Plan, when making decisions about the use of environmental water. SCBEWC has a risk management strategy to identify, evaluate and control risks associated with coordinating the delivery of environmental water and a framework for managing salinity spikes. Jointly held environmental water has been delivered to support the health of the River Murray for over 10 years and a range of management arrangements and tools have been developed to assist decision making. <u>Watering proposals</u> The planning and delivery processes for environmental water in the southern connected Basin has regard to the Basin Plan water quality targets. When developing watering proposals, using the tools outlined below, jurisdictions and site managers are asked to assess the risk of proposed watering actions and identify appropriate mitigation strategies These watering proposals are reviewed by the SCBEWC as part of the annual water planning, including when deciding on use of jointly-held water for watering actions (Living Murray and River Murray Increased Flows). <u>Operating plans for environmental works</u> In collaboration with partner governments and icon site management authorities, operating plans have been developed to guide the use of the environmental works at Gunbower–Koondrook–Perricoota Forest, Hattah Lakes and the Chowilla Floodplains–Lindsay–Wallpolla Islands. These operating plans assist environmental water managers to effectively and efficiently deliver water as well as manage risks (including water quality risks) related to operation of the environmental works. <u>Modelling</u> Operational and hydrodynamic models are used to inform watering activities at the icon sites with environmental works. These models simulate the operation of the works to produce information about areas of inundation, water usage, impacts on downstream flows and water quality. A blackwater model for the River Murray and Edward–Wakool rivers is used to predict downstream Dissolved Oxygen (DO) levels during watering activities, assisting water

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		managers and river operators to manage low DO (which can kill fish and other aquatic animals) during environmental water delivery. The model provides an assessment of the predicted dissolved oxygen levels from the inundation of major floodplains of Barmah-Millewa Forest, and Gunbower-Koondrook-Perricoota forests. This modelling capability is also being extended to South Australian floodplains, including the Chowilla Floodplain, and a new SOURCE model plug in tool is under development by CSIRO to extend predictive analysis from site to system scale. SCBEWC operational salinity risk management framework A salinity risk management framework is in place to use when planning and delivering environmental water to high salinity risk sites. The framework allows salinity risks and mitigation and/or monitoring measures to be identified, including cumulative risks from multi-site watering activities. Selected measures will depend on a range of factors at the time of delivery. Some important measures include hydrograph manipulation, improved coordination of water deliveries and dilution flows. There is a hydrodynamic model for the Lower Lakes, Coorong and Murray Mouth. This model is used to consider different environmental water delivery scenarios and how different delivery patterns and lake operating practices can influence lake levels and salinity in the lakes and Coorong. Monitoring Monitoring of water quality issues is primarily undertaken using joint-funded water monitoring stations, to inform both operations and environmental water planning or delivery activities. Other sources of data are available from state-based staff who record water quality data from spot readings during watering actions at icon sites. Operational Advisory Groups (OAGs) OAGs support operational decisions on the real time management of environmental water delivery at the Icon Sites. OAGs include representatives from state agencies, state water authorities, river operators, icon site managers, environmental water managers and scientists. Before and during watering events, OAGs meet on a regular basis to discuss a range of operational matters including flow management, inundation extents, risk management, ecological responses, engineering issues, fishway operations and water accounting. **Exceedance of salinity targets in 2019-20**

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		Under the basin-wide Basin Salinity Management 2030 (BSM2030) strategy, MDBA coordinates the review of elevated salinity events to examine the causes, impacts and effectiveness of management responses and to identify potential policy improvements. In 2019-20, BSMAP determined that the elevated salinity levels associated with the recommencement of flows in the lower Darling River warranted review. This review is scheduled for completion in February 2021. The flow management salinity targets for Burtundy and Milang are 830 EC and 1,000 EC, respectively. During the past 12 months (1 July 2019 to 30 June 2020), under drought and low flow conditions, the EC at both sites has been above these levels on several occasions (notably Burtundy under cease to flow conditions). Over much of 2019-20 Menindee Lake levels were very low and the lakes were within NSW control and primarily managed as a drought reserve. This meant that active flow management to manage downstream salinity levels has been limited. Environmental water was not available to be used while Menindee was being managed as a drought reserve. For Milang and the Lower lakes on the River Murray, although environmental water has worked hard to improve environmental outcomes and improve water quality at Milang, with no unregulated flows moving through the system, on occasion the salinity levels at Milang went just above the target threshold (see M14.4 for more details). Without environmental water, modelling has shown that the lower lakes drought emergency framework could have been triggered several times over the past five years. Without deliveries of environmental water, this is likely to have seen increasing salinities, bankside vegetation erosion and collapse, loss of connectivity between the river and its estuary, and a re-emergence of acid sulfate soils. The exceedance of salinity targets in 2019-20 were in large part due to extended dry and low flow conditions. Although flow management had regard to water quality, it was not always possible to fully influence water quality outcomes and keep salinities below targets.
M14.3 Conduct a review of the water quality targets in the water quality and salinity management plan *BPIA task 73.1*	**M14.3)** The MDBA will scope the reviews of the water quality and salinity management plan targets in consultation with the BPIC – Monitoring and Evaluation Working Group. The review of the water quality and salinity management plan targets must include a review of salinity targets and target sites. The review of the environmental watering plan must include a review of targets.	Section 13.08 of the Basin Plan requires the MDBA to conduct a review of the water quality targets (as set out in Chapter 9, Part 4 of the Basin Plan) in the water quality and salinity management plan every five years after commencement of the Basin Plan in 2012. The first review was due in 2017, however, an Independent Review of the Water Act in 2014 made a number of recommendations about re-phasing and aligning the five-yearly and ten-yearly reviews that were legislated in the Basin Plan. The rationale was that a

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		delayed start date would provide more meaningful results, given that full implementation of the Basin Plan will not be achieved until 2019, or, in the case of SDLAM, 2024. To give effect to these recommendations, Parliament passed the Water Amendment (Review Implementation and Other Measures) Act 2016 on 4 May 2016 and the due date of the first review was rescheduled from 2017 to the end of 2020. To seek input into the review process, the MDBA established a Water Quality Taskforce (WQT) for consultation purposes with the Basin States, the Commonwealth Environmental Water Holder and the Department of Agriculture, Water and the Environment. The WQT terms of refence included consideration of the recommendations of the 2018 Productivity Commission Inquiry, the 2017 Basin Plan Evaluation and the use of alternative water quality targets by the Basin States in their Water Resource Plans. A series of online workshops with the WQT was held from June through August 2020 and a draft report has been circulated for final comments. Once feedback has been received, a final report will be prepared and submitted to the Authority before the end of December 2020.
M14.4 Monitor salinity levels at five sites on a daily basis and report at the end of each water accounting period. Is salinity at reporting sites consistent with the salinity targets in s9.14(5)? *Applicable to Schedule 12 Matter 14, Indicator 14.3, and* *BPIA Task 54.2*	**M14.4)** The MDBA will assess whether the salinity targets have been met over the period that consists of that water accounting period and the previous four water accounting periods. This will include an analysis of data at reporting sites against target values in s9.14(5). Once this assessment has been carried out the MDBA will publish this assessment on its website.	Salinity levels at the five reporting sites (Lock 6, Morgan, Murray Bridge, Milang and Burtundy) were monitored continuously over the five-year reporting period (2015–2020). The targets are deemed to have been met if the percentage of days above the target is less than 5%, or the salinity has been below the target 95% of the time. Over the reporting period (July 2015–June 2020), the assessment indicates the targets have been met at three of the five reporting sites—Murray Bridge, Morgan and Lock 6. However, the recorded salinity at the Burtundy site and the Milang site was above the target value 42.4% and 6.4% of the time, respectively. The salinity target for Burtundy is 830 EC. In the previous 12 months (1 July 2019 to 30 June 2020), recorded salinity levels at Burtundy peaked at 1,267 EC on 31 August 2019. Dry conditions with low or no flows during this 12 month period stranded the data recorder above the waterline on five separate occasions so salinity levels could not be recorded at these times (1 July to 5 July, 7 July to 18 July, 6 August to 12 August, 25 August to 30 August, and 4 September to 11 April). The salinity target for Milang is 1,000 EC. An increasing trend in salinity levels at Milang was first identified in last year's report. As forecast, the Milang target was not achieved in the current reporting period. In the previous 12 months (1 July 2019 to 30 June 2020), salinity at Milang peaked at 1,049 EC on 5 July 2019. The details of the assessment of the achievement of targets at the five reporting sites will be published along with the Basin Plan Annual Report 2019–20.

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		As recommended in the 2017 Basin Plan Evaluation, the current review of the water quality and salinity targets in the Basin Plan (see M14.3 above) is examining the appropriateness of salinity targets, particularly at Burtundy.
Salt export objective (s9.09)		
M14.5 Adequacy of flushing to provide salt export. Conduct an annual assessment of the extent to which the salt export objective is met against the indicative figure of a minimum 2 million tonnes per year. *Applicable to Schedule 12 Matter 14, Indicator 14.4, and* *BPIA Task 53.1*	**M14.5)** Estimated number of tonnes of salt exported from the River Murray System to the Southern Ocean, with an explanation of adequacy of flushing in the context of broader flow and salinity management in the Basin. As per BPIA requirements, the MDBA will annually estimate salt export using Method 3 (BMT WBM 2-D hydrodynamic model in consultation with the BPIC – Water Resource Planning Working Group and the BPIC – Water Quality Taskforce) and publish the estimate on its website. Please see BPIA obligations for further information about applicable methods over time.	Over the three-year period from July 2017 to June 2020, the annualised rate of salt export over the barrages was 0.43 million tonnes per year. This is lower than the indicative figure of 2 million tonnes per year referred to in the Basin Plan. Flushing salt from the river systems helps avoid salt accumulation and adverse impacts on water users. Flushing salt also supports healthy river and floodplain ecosystems. Salt interacts with in-stream biota (animals and plants), changing the ecological health of streams and estuaries. Generally, more salt is flushed out to the ocean during wet years and less salt is flushed out in dry years. The level of salt flushing in a year is also impacted by river regulation, irrigation diversions and current levels of development, including salt interception works. As recommended in the 2017 Basin Plan Evaluation, the current review of water quality and salinity targets in the Basin Plan (see M14.3 above) is examining the appropriateness of the indicative figure of 2 million tonnes of the salt export objective as an indicator of adequate flushing of salt from the river system in the context of a variable climate. The review is also considering how salt export objectives can be varied to deal with periods of low flow. The details of the assessment of the achievement of salt export objective will be published along with the Basin Plan Annual Report 2019–20. Consistent with the BPIA, the approach used to estimate salt export in this report is Method 2 which is described in MDBA Technical Report 2013/09. The Method 2 requires South Australian diversion data. With timely availability of this data, the application of Method 2 is now streamlined. The refinement of the approach for estimating salt export objective (using Method 3) will be considered by the MDBA following examination of the appropriateness of the salt export objective as recommended by 2017 Basin Plan Evaluation.
Application of salinity targets for the purposes of long-term salinity planning and management (s9.19)		
M14.6 Apply salinity targets in the Murray–Darling Basin Agreement for salinity planning and management and report	**M14.6)** The MDBA, Basin Officials Committee and Basin States are to undertake any long-term salinity planning and management functions in accordance with the targets in Appendix 1 of Schedule B, including the Basin Salinity Management Strategy Operational Protocols.	On behalf of the Basin States, the MDBA reports on this indicator regarding the types of measures that the Basin States and MDBA have implemented for long-term salinity planning and management. In 2019–20, the following activities were undertaken:

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
on the Implementation of measures to achieve end of valley targets (s9.19) *Applicable to Schedule 12 Matter 14, Indicator 14.5, and* *BPIA Task 56.1*	Please indicate how this is done. Note that reporters may refer to Basin Salinity Management 2030 Strategy reporting to meet this reporting requirement, in line with the Schedule 12 Reporting Guidelines.	• Authorised works or measures (salt interception schemes - SIS) were operated and maintained to divert salt away from the Murray and Darling Rivers and from adjacent floodplain areas. The operation of the SIS made a significant contribution to maintaining river salinity at levels consistent with the targets. • Basin states have implemented measures such as improved irrigation practices, rehabilitation of irrigation infrastructure, and salinity management plans or land and water management plans. These measures contributed to the achievement of the Basin salinity target at Morgan. • Salinity modelling tools were reviewed and updated to improve the accounting of actions that have significant salinity impacts on the river. These tools assist the assessment of entries in the salinity registers which provide an account of river salinity impacts in terms of salinity credits and debits. • New Basin Salinity Management Procedures were prepared. These procedures provide the operational detail and consistency to guide the implementation of the accountabilities under Schedule B. Fourteen of these have been finalised and three are still being prepared. • Knowledge priorities to reduce uncertainty around future salinity risks under the BSM2030 strategy have been progressed, including: further development and trialling of a transfer function for use in groundwater models to compute irrigation accessions to groundwater recharge; measurement of floodplain evapotranspiration at two sites in South Australia and two sites in Victoria; and continuing investigations at trial sites to understand the system responses to changed SIS operations. Following are the key achievements in 2019–20 for long-term salinity planning and management: • The Basin salinity target at Morgan was achieved for the eleventh consecutive year • A further three Basin salinity management procedures were finalised for application and drafts of the remaining three procedures were progressed • Five salinity register entry reviews were completed, and several other reviews were commenced and progressed • Implementation of the trial of responsive management of salt interception

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		schemes continued • The salt interception schemes diverted approximately 471 thousand tonnes of salt away from the River Murray system and adjacent landscapes.

Matter 16: Water Trading

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Restrictions on trade and their application (ss12.02 - 12.36)		
M16.1 Ensure trades are consistent with the water trading rules. *Applicable to BPIA Task 67.2*	**M16.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will consult with Basin States through the BPIC – Water Trade Rules Working Group in order to ensure regular targeted examination of Basin States' water trading rules to assess whether those rules are consistent with the Plan. The MDBA may examine trading activity conducted within Basin States to ensure that it is consistent with the restrictions on trade and the right to trade free of certain restrictions.	The majority of consistency issues with the Basin Plan Water Trading Rules relate to individual Basin States, rather than the Basin as a whole. As such, the MDBA works with Basin States bi-laterally to identify and address inconsistences. The collaborative arrangements for working together have evolved, with different arrangements taking over from BPIC. The MDBA has published the *Strategic Priorities - Basin Plan Water Trading Rules Policy*. This policy allows the MDBA to prioritise its regulatory and compliance activities. Priorities may be adjusted over time.
Declarations on allowable restrictions on permitted use of exchange rates (ss12.18 & 12.22)		
M16.2 Make a declaration on allowable restrictions on trade. *Applicable to BPIA Task 68.1*	**M16.2) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** If a Basin State requests and the MDBA is satisfied that the restriction is necessary, the MDBA will make a written declaration that a restriction is allowable. The MDBA will publish its decision and the reasons for it on its website.	The MDBA did not receive any formal requests for a declaration of an allowable restriction from any Basin State in 2019-20.
M16.3 Make a declaration on permitted use of exchange rates. *Applicable to BPIA Task 68.2*	**M16.3) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will make a written declaration permitting a specified exchange rate if a Basin State requests, and the MDBA is satisfied that it is for the purpose of addressing transmission losses, or to redress the impact of previous exchange rate trades. The MDBA will publish the declaration it its website.	The MDBA received an application for an exchange rate from NSW on 25 August 2019. The MDBA sought further information from NSW on which to base its decision.
Information and reporting requirements (ss12.40 - 12.51)		
M16.4 Publish information about water access rights and trading rules.	**M16.4) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:**	The MDBA has continued to publish information about approximately 70 highly traded water market products, State trading rules and the trading rules for large Irrigation Infrastructure Operators (IIOs).

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Applicable to BPIA Task 69.1	The MDBA will determine the form in which information is to be provided, and will publish information provided to it (or nominate a central information point for publication). The MDBA will not require information to be given more than once per water accounting period, unless information is changed.	Links to State Trading Rules and IIO Trade Rules are regularly updated on advice from the Basin States and IIOs.
M16.5 Make water announcements generally available. *Applicable to BPIA Task 69.2*	**M16.5) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** Water announcements will be published in a way that makes them likely to be brought to the attention of interested members of the community. The MDBA will implement a process to ensure that a person, who is aware of a water announcement before it is generally made available, must not trade a water access right that is subject to the water announcement, or whose price or value would be materially affected by the announcement until that announcement is made.	The MDBA ensures that water announcements are generally available by publishing media releases as well as putting the releases on the MDBA website. The MDBA continued to manage sensitive water market information consistent with its protocol (introduced 2014, reviewed in May 2018). All MDBA workers must sign an annual statement they have read, understood, and will comply with the protocol. The MDBA's Internal Auditors, KPMG, undertook a review of the MDBA's arrangements for managing sensitive water market information, which was completed in August 2020. No recommendations were made.
The implementation of water trading rules		
M16.6 Compliance with the Basin Plan water trading rules. *Applicable to Schedule 12 Matter 16, Indicator 16.1*	**M16.6)** Authority to report on its obligations under the water trading rules not listed above.	As the regulator of Basin Plan water trading rules, the MDBA has responsibility to address non-compliance and inconsistencies with the rules. The MDBA takes a risk-based approach to compliance and regulation as outlined in the MDBA's compliance and enforcement policy (2018 - 2021)

Other: Other Reporting Requirements

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Effectiveness Reports (s13.05)		
ORR.1 Evaluate the effectiveness of the Basin Plan against the objectives and outcomes set out in Ch 5, 8 and 9. *Applicable to BPIA Task 71.1*	**ORR.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** MDBA Annual Effectiveness Report developed annually in consultation with the BPIC – Monitoring and Evaluation Working Group.	The Basin Plan Annual Report 2018-19 was provided to the Commonwealth Minister for Water during the reporting period.
Five-year advice of the Plan impacts (s13.05).		
ORR.2 Advising on the impacts of the Basin Plan before the end of 2020, as required by section 49A of the Act [s13.059 (b)]. *Applicable to BPIA Task 72.1*	ORR.2) The MDBA will give advice to Ministerial Council, drawing on the 2020 evaluation reports.	This advice is due in 2020. The advice will draw on the evaluation of the Basin Plan, released in December 2020.
MDBA may conduct (and publish) audits to assess the extent of compliance with the Plan (ss13.10 & 13.20).		
ORR.3 Conduct audit. *Applicable to BPIA Task 74.1*	**ORR.3) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA may conduct, or appoint or establish a person or body to conduct, periodic audits to assess the extent of compliance with the Plan. Finalised audits will be published on the MDBA website. The MDBA will produce a report setting out the findings of the audit and any recommendations arising from the audit; and before the report is finalised, provide an opportunity to comment on the proposed findings and recommendations. The finalised audit report will be published on its website.	The MDBA continues to build its audit program and capability within its Office of Compliance. The MDBA takes a risk based approach to developing its annual compliance priorities (https://www.mdba.gov.au/sites/default/files/pubs/mdba-compliance-priorities-2019-20_1.pdf) and its annual audit program (https://www.mdba.gov.au/publications/mdba-reports/audit-assurance). These are both published to provide transparency for the year ahead. For the 2019/20 year, audit activities completed and published included: • The Review of metering in the Victorian lower Murray regulated surface water system • The Review of metering in the Riverland regulated surface water system • Review of metering in the lower Murrumbidgee regulated surface water system

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		• Review of the Condamine Alluvium Groundwater self-meter read process • Murray-Darling Basin Compliance Compact Annual Assurance Report - 2019 All reviews and audits were discussed with auditees and they had the opportunity to comment or provide a management response prior to finalising and publishing. The MDBA takes the outcomes of all audits and reviews into consideration as part of its risk assessment for determining future compliance and audit priorities.
Assessments of trends in the condition and availability of Basin water resources (s13.11)		
ORR.4 Undertake an assessment. *Applicable to BPIA Task 75.1*	**ORR.4) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA may periodically undertake assessments of trends in the condition and availability of the Basin water resources and the social, cultural and economic contexts in which they are used, as revealed by monitoring information. The assessment will be undertaken in consultation with the BPIC – Monitoring and Evaluation Working Group.	The MDBA conducts ongoing assessments of trends in the condition and availability of Basin water resources, and social and economic condition in the Basin. The program includes water resource availability assessments, ecological monitoring, and social and economic research. This work will inform condition reporting. The MDBA has commenced work on development of a monitoring strategy that seeks to ensure there is an effective and efficient monitoring program to support implementation of the Basin Plan.
Assessment and improvement of monitoring evaluation and reporting capabilities		
ORR.5 Conduct an assessment of monitoring, evaluation and reporting capabilities. *Applicable to s13.23, and BPIA Task 76.1*	**ORR.5) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will prepare a draft assessment in consultation with BPIC – Monitoring and Evaluation Working Group (by June 2017 – subject to Basin Plan amendments). The MDBA will finalise and publish the assessment, have regard to any recommendations, and exercise its best endeavours with Basin States, the Department and the CEWH, to give effect to those recommendations – (By November 2020 – subject to Basin Plan amendments).	The MDBA conducted an assessment of monitoring, evaluation, and reporting capabilities in 2018-19 in consultation with the BPIC – Monitoring and Evaluation Working Group. The report is available on the MDBA's website: at https://www.mdba.gov.au/publications/independent-reports/monitoring-evaluation-reporting-capability-assessment The MDBA is evaluating the implementation of monitoring, evaluation and reporting as part of the 2020 Basin Plan Evaluation released in late 2020. The MDBA is working with jurisdictions to adapt the terms of reference for the BOC Alternates – Monitoring and Evaluation Working Group in recognition of the need for monitoring for environmental, social, economic and cultural conditions.
Register of Take (s6.08)		
ORR.6 Establish, maintain and publish a register of take	The MDBA will develop and maintain a register of take using Basin States' monitoring and reporting information, following consultation, for the purpose of assessing diversion compliance.	SDL compliance commences from 1 July 2019 for the 2019-20 water year. As reporting is undertaken retrospectively, the first SDL register of take is expected to be available in March 2021. This will be based on data to be provided by Basin states be the end of October 2020, in accordance with their reporting requirements under s71 of the Act.

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Applicable to BPIA Task 44.1	The MDBA will consult with BPIC and the BPIC – Water Resource Planning Working Group on the establishment and maintenance of the register. Basin States will provide data for the register in accordance with their reporting requirements under s71 of the Act.	In preparation for SDL compliance the MDBA has published a series of Transition Period Water Take Reports from 2012-19. These trial accounts developed and maintained an annual register of take which was a proof of concept and has no compliance consequences. The MDBA has consulted with states on the register via BOC alternates and the surface water and groundwater advisory panels. An independent review of SDL accounting, for which the register of take is a key component, was undertaken in 2019 and found the overall SDL accounting framework was robust and fit for purpose but should continue to be refined over time.
Development of an integrated hydrologic model across the Basin (s10.10)		
ORR.7 Adopt eWater Source. *Applicable to BPIA Task 59.1*	The MDBA standard for water resource plan accreditation is eWater Source for water resource planning and operations, having regard to the modelling practices of Basin States and the nature of water resource plan areas and operational readiness of the model as it relates to a water resource plan area. The MDBA will consult on the development of eWater Source for hydrological models used as part of the method for determining annual permitted take with BPIC and the BPIC – Water Resource Planning Working Group, and agree separately with each Basin State on the timeframes for its adoption. For associated provisions for which the Basin States have a related accountability, refer to paragraph 25.1 of this Agreement.	The MDBA continues to encourage states to develop the river management models using eWater Source, however submission of updated models in Source for WRP purposes has been slower than desired. It is expected that in the coming years with key Basin Plan process such as: FPH licencing, SDLAM reconciliation and model harmonisation, may provide opportunities for the adoption and submission of valley models in Source. In anticipation of the increasing development and adoption of eWater Source models across the MDB, the MDBA is currently investigating possibilities to uplift the modelling framework that integrates MDB water resource models. This uplift envisages taking advantage of the common modelling platform to better integrate models, communicate results and

Other: Water Resource Plan

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Identify all water resource plan areas (s3.03)		
WRP.1 Identify and publish maps of the water resource plan areas. *Applicable to BPIA Task 38.1*	**WRP.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will identify and hold relevant data sets for the publication on its website of a map that identifies each water resource plan area.	Up-to-date datasets and maps that identify the Water Resource Plan Areas for groundwater and surface water are available on the MDBA's website at: https://www.mdba.gov.au/publications/maps-spatial-data
Assessment of water resource plans (ss10.01 - 10.55)		
WRP.2 Assess water resource plans for accreditation. *Applicable to BPIA Task 58.1*	**WRP.2)** Progress with the development of water resource plans for accreditation is currently being reported by the MDBA. MDBA may add to/build on the most recent MDBA quarterly report on WRP development for this reporting requirement. **For context, the BPIA noted the following requirements for the preparation of WRPs:** The approach needed to address water resource plan requirements will vary according to local conditions, levels of development and statutory and other arrangements in the water resource plan area. Each Basin State will prepare water resource plans for the Plan's water resource plan areas. The MDBA and the Basin States agree that the Basin State will use the following types of instruments to inform the content of the Basin State's water resource plans: • New South Wales: surface water and groundwater sharing plans; • Victoria: bulk water entitlements, environmental entitlements, groundwater management plans, sustainable water strategies and other instruments of the kind currently in place under the Victorian water planning and management framework. It is noted that this suite of instruments may be amended as a result of the outcomes of the current Victorian Water Law Review and further	As of 30 June 2020, 13 WRPs have been accredited and are operational, including all Queensland, Victorian, ACT and South Australian WRPs. NSW submitted its 11 proposed groundwater and nine proposed surface water WRPs to the MDBA for formal assessment by 30 June 2020. The MDBA is working through the assessment of all 20 proposed WRPs, including assessment of issues such as the protection of planned environmental water, consultation with First Nation groups and accounting for forms of take and interception activities (such as floodplain harvesting). There is considerable work required to assess the plans and the MDBA is working though the assessment process as quickly and efficiently as possible. However, the assessment timelines are a function of the quality of each WRP and the number of WRPs to be assessed. As NSW WRPs were not accredited by 30 June 2020, a new bilateral agreement has been agreed to cover the 2020-21 water year, to ensure key water resource plan commitments remain in effect from 1 July 2019. This agreement promotes transparency and gives the MDBA and the community confidence in the consistent application of SDL accounting and compliance across all WRP areas irrespective of NSW WRPs not being accredited. Water Resource Plan Amendments Water management is an evolving process and changes to accredited WRPs are anticipated as new and improved information comes to hand. The MDBA is establishing processes for the assessment and re-accreditation of WRPs within the processes governed by the Act. This will involve a tailored assessment approach that is suited to the scale and complexity of an amendment when determining consistency with the Basin Plan requirements. WRP Amendment guidelines have been developed to guide Basin states in

	consideration will be given to the relevant instruments following the completion of that review; • South Australia: water allocation plans; • Queensland: water resource plans and resource operations plans; and • Australian Capital Territory: water management plans. The MDBA and each Basin State will separately agree on what further material would be required for each of the Basin State's water resource plans as part of individual Basin State work programs. The MDBA and Basin States will collectively settle a general approach to assessment and accreditation and to the key milestones and deliverables to be addressed in the Basin State work programs. Individual Basin State work programs for the preparation of water resource plans will then be agreed with the MDBA with a view to ensuring a progressive work flow through to 30 June 2019. If requested by a Basin State, the MDBA and the Basin State will agree on a water resource plan development program for a water resource plan area or areas. The program could include recommended standards for addressing accreditation requirements. The development of the agreed program may be informed by the risk assessment prepared for the area or areas. The Basin States and the MDBA agree that any risk assessments, advice or water resource plan development programs could be shared through the BPIC – Water Resource Planning Working Group to ensure continuous mutual improvement. Water resource plans must identify the objectives and outcomes based on indigenous values and uses and be prepared having regard to the views of relevant indigenous organisations with respect to cultural flows. The MDBA will consult with relevant indigenous organisations, including MLDRIN and NBAN, with respect to these matters during the assessment of water resource plans for accreditation.	the development of amendments. The MDBA is also working closely with the Department of Agriculture, Water and the Environment on the drafting of legislation for minor or non-substantive amendments to WRPs to enable a streamlined accreditation of such amendments.
WRP.3 Convene water planners' forum. *Applicable to BPIA Task 58.2*	**WRP.4) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will, commencing in 2014, convene an annual water planners' forum to which all parties will be invited to share experiences and new information relevant to the development of water resource plans for accreditation. Discussions at these forums may be used to inform updates of the *Handbook for Practitioners for Chapter 10, Water Resource Plan Requirements.*	With the development of water resource plans now complete, the MDBA is no longer running the annual water planners' forum. The MDBA held five water planners' forums since the Basin Plan came into effect and these were considered to be very effective in bringing people together during the development phase of WRPs. This group may be reconvened in the future to assist with the preparation of water resource plan amendments if required.

Review of long-term diversion limit equivalence factors.		
WRP.4 Review of long-term diversion limit equivalence factors. *Applicable to BPIA Task 61.1*	**WRP.4)** Long-term diversion limit equivalence factors reflect the reliability of water access rights of the water resource plan area. In consultation with Basin States, the MDBA will develop a work program and processes for the timing and revision of the long-term diversion limit equivalence factors through the BPIC – Water Resource Planning Working Group. The work program will outline the processes for stakeholder consultation. The MDBA will consult with the BPIC – Water Resource Planning Working Group and BPIC, as appropriate. The MDBA will provide the proposed changes to the long-term diversion limit equivalence factors to the Ministerial Council for consideration.	While some work was initiated by the MDBA in response to BPIA task 61.1, in May 2015 Ministers agreed that each Basin state would work with the MDBA to settle planning assumptions / proposed methods for each valley ahead of the SDLs taking effect in July 2019, for consideration by the MDBA in the context of meeting WRP requirements under the Basin Plan. As Basin States have prepared and finalised their water resource plans, their long-term diversion limit equivalent (LTDLE) factors are also progressively being finalised. The MDBA completed Independent Reviews of the NSW and Victorian approaches for LTDLE factors during 2018-19; and of the South Australian and Queensland approaches during 2019-20. These independent reviews are published on the MDBA website, while the updated factors are published on each state's website. When NSW submits its water resource plans (WRPs) for accreditation, it is expected that there may need to be some minor adjustment to its updated LTDLE factors. When efficiency measures are nominated for the ACT, LTDLE factors will be considered.

Other: Sustainable Diversion Limit (SDL) Implementation, SDL Adjustment & Constraints Management

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Identification of surface water sustainable diversion limit resource units (s6.02)		
SDL.1 Identify and publish the surface water sustainable diversion limit resource unit maps. Hold relevant data sets. *Applicable to BPIA Task 41.1*	**SDL.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will identify and hold relevant data sets and publish on its website maps that identify each surface water Sustainable Diversion Limit resource unit. The MDBA will consult with Basin Plan Implementation Committee and the Basin Plan Implementation Committee – Water Resource Plan Working Group to update and maintain surface water sustainable diversion limit resource unit maps, as required.	Up-to-date data sets and maps that identify each surface water sustainable diversion limit resource unit are available on the MDBA's website at: https://www.mdba.gov.au/publications/maps-spatial-data
Identification of groundwater sustainable diversion limit resource units (s6.03)		
SDL.2 Identify & publish groundwater sustainable diversion limit resource unit maps. *Applicable to BPIA Task 42.1*	**SDL.2) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will identify and hold relevant data sets and publish on its website maps that identify each groundwater sustainable diversion limit resource unit. The MDBA will consult with BPIC and the BPIC – Water Resource Planning Working Group as appropriate. The MDBA will update a groundwater SDL resource unit map where, following consultation, a change is identified as necessary. The maps are available on the MDBA website. The MDBA will maintain a groundwater SDL resource unit map on its website.	Up-to-date data sets and maps that identify each surface water sustainable diversion limit resource unit are available on the MDBA's website at: https://www.mdba.gov.au/publications/maps-spatial-data
Constraints Management Strategy (s7.08)		
SDL.3 Provide annual reports to Ministerial Council on progress with implementing Strategy. *Applicable to BPIA Task 45.7*	**SDL.3) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will assess and report on progress against recommendations in the Constraints Management Strategy, in consultation with Basin States.	**Constraints as part of the SDL Adjustment Mechanism (SDLAM)** The MDBA determined the sustainable diversion limit adjustment volume in September 2017, based on the package of projects notified by the Basin Officials Committee to the MDBA. In January 2018, this adjustment was proposed and adopted as an amendment to the Basin Plan by the Australian Government Minister responsible for water. The Basin Plan SDLAM amendment increased SDLs by 605 GL in the southern-connected Basin, based on outcomes from a package of 36 supply and constraints measures notified to the MDBA by the Basin Officials Committee. This included five

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		constraint projects submitted as supply measures (two further constraint measures, Goulburn and Gwydir, were not notified as supply projects). The Goulburn in Victoria was submitted separately as a constraint project, and the Gwydir project will be further developed by the NSW state government as part of the Northern Basin Review's toolkit measures. The Gwydir was not considered as part of the SDLAM. Proponent states are responsible for driving and delivering their individual constraints measure projects at a local-level, including consulting with communities, detailed project design and implementation. Basin state governments have agreed that no changes to flows will occur until third party impacts have been resolved in consultation with affected communities. The MDBA provided technical analysis of the projects to support Basin state governments with project feasibility studies and business cases. This is in line with the phased process agreed to by all Basin governments. Information about the adjustment process and the determination can be found at https://www.mdba.gov.au/basin-plan-roll-out/sustainable-diversion-limits/sdlam The determination reports and assessment of projects can be found at https://www.mdba.gov.au/publications/mdba-reports/sustainable-diversion-limit-adjustment-mechanism-assessment-draft The MDBA provides progress updates on the implementation of SDLAM projects as well as an annual progress report that includes information about the progress of constraints measure projects in 2018-19- https://www.mdba.gov.au/basin-plan-roll-out/sustainable-diversion-limits/sdl-adjustment-proposals-state-projects AND https://www.mdba.gov.au/publications/mdba-reports/adjusting-sustainable-diversion-limits-annual-progress-report **Constraints Measures Program** The Constraints Measures projects withing the Constraints Measures Program are all technically feasible. However, due to the complexities of the authorising environment, particularly in relation to stakeholder engagement and third-party impacts, the total Constraint Measures program is at significant/high risk of not being delivered by 30 June 2024. The MDBA provided Constraints Measures Program (CMP) progress reports to the Ministerial Council in December 2019 and June 2020. The reports against the milestones

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		of the Coordinating Work Plan (the work plan) identify that the: • South Australian Constraints Measure project stage one (the design and approvals stage) is on track. • NSW Constraints Measures: Murrumbidgee, NSW part of the Hume to Yarrawonga and NSW part of the Yarrawonga to Wakool Junction projects are being considered within their broad SDLAM Program stage one package and are progressing slowly. The NSW Lower Darling Constraints Measure is part of the Menindee Lakes SDLAM project and is progressing slowly. • As of September 2020, funding agreement for Victorian stage one constraints project work has not been agreed between the Victorian Department of Environment Land, Water and Planning (DELWP) and the Commonwealth Department of Agriculture Water and the Environment (DAWE). Victorian Goulburn Constraints measure has not commenced stage one, and the Victorian lead Hume to Yarrawonga and the Victorian elements of the Yarrawonga to Wakool Junction measures have not commenced stage one. The Victorian and NSW governments commissioned an independent analysis of constraints modelling and presented the report to the Ministerial Council in December 2019. Ministers were also briefed by Greg Wilson, chair of the New South Wales and Victorian Ministers' Independent Expert Panel on constraints modelling at the June 2020 Ministerial Council meeting. The Ministers asked the MDBA to prioritise climate change scenario modelling on the future frequency, nature and extent of inundation, including planned environmental flows and unplanned flows, for the River Murray. This review process has contributed to the delay in progressing the NSW and Victorian constraints projects. Additionally, the community co-design process means the projects' design and approvals stage (stage one) is not expected to conclude until 2023, which has increased the risk that there will be insufficient time for the delivery of infrastructure works (stage two) prior to the June 2024 implementation timeframe.
SDL.4 Amend the Constraints Management Strategy as appropriate. *Applicable to BPIA Task*	**SDL.4) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will consider new information and progress in implementing the Constraints Management Strategy and update, as required, in consultation	The Constraints Measures Working Group is to review the Constraints Measures Program (CMP) coordinating work plan (work plan) in 2020/2021 in line with the Ministerial Council (June 2020) emphasis on additional modelling. The 17 CMP strategic risks were assessed as remaining high or significant and reported

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
45.8	with all parties and the community.	to the Ministerial Council as such December 2019, June 2020. The 17 strategic risks include: • Reluctance to participate • Community support • Lack of confidence in models • Uncertainty over program success • Demonstrating program benefits • Program timeframe • Program governance and coordination. A number of risks are being addressed through the CMP Joint Communications and Engagement Strategy which was developed as a working draft in May 2020.
Development of methods for calculating supply and efficiency contributions (s7.14-7.17, 7.20, Schedule 6)		
SDL.5 Advise Basin States on the feasibility of supply measure proposals. *Applicable to BPIA Task 46.2*	**SDL.5) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will assist SDLAAC to assess the feasibility of supply measure proposals, including through the provision of technical advice and modelling, once the benchmark model and the ecological elements scoring method are complete.	Completed. All 36 SDL Adjustment Mechanism supply and constraints projects have been notified through Basin Official Committee. The role of SDLAAC has been incorporated into the Adjustment Implementation Committee (AIC) terms of reference (to become the SDLAM Implementation Committee).
SDL.6 Develop proposed approach to incorporating efficiency measures into the SDL adjustment mechanism. *Applicable to BPIA Task 46.4*	**SDL.6) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will develop an approach on how the 2016 SDL adjustment could incorporate the progressive recovery of water from efficiency measures, in consultation with Basin States.	Ongoing. The Basin Plan provides for efficiency projects to adjust the SDL by recovering an additional 450 GL of water for the environment. At least 62 GL must be recovered through Efficiency Measures to enable the full 605 GL supply offset to take effect, (605 GL supply offset minus five per cent limit of 543 GL). Efficiency Measures projects are required to have neutral or improved socio-economic impacts on Basin communities and industries. In 2018, the Ministerial Council agreed to additional socioeconomic criteria for assessing projects. While the additional criteria are designed to provide assurance to stakeholders that the socio-economic impacts of efficiency measures projects are considered appropriately, they have made it more difficult for projects to meet the neutrality test. In July 2019, the Australian Government Department of Agriculture, Water and the Environment launched the Water Efficiency Program to progress the recovery of the additional 450 GL of environmental water, in accordance with the additional socio-economic criteria. The program is available in all Basin states and includes urban, industrial, off-farm, metering and on-farm projects. As at December 2019, only 1.259 GL had been recovered and 0.638 GL contracted through Efficiency Measures projects. Given the small volume of water recovered so far,

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
		the additional socio-economic criteria, and the lack of support by some Basin governments, there is a high risk that the full amount of 450 GL per year will not be achieved. As a result of the Government agreeing to the Basin Commitments Package, funding for supply measures are linked to the delivery of efficiency measures. Under this approach, state access to supply measure funding would be conditional on the Commonwealth being able to roll-out any efficiency measures programs. These arrangements would be set out in the performance milestones under funding agreements with the States. The Authority will consider whether reconciling the package of SDLAM projects by 30 June 2024 against the equivalent environmental outcomes determined in 2017 is required. The project assumptions within the MDBA's modelling of the 2017 determination make up a base-line for the projects. Any changes after further design, community consultation or other influences will be reported at regular intervals and an assessment of the impact of these factors will be undertaken and accounted for through the MDBA's sustainable diversion limit reconciliation process in 2024. The MDBA is currently developing a SDLAM Reconciliation and Assurance Framework.
Notification and registration of measures (ss7.12, 7.13)		
SDL.7 Maintain a register of notified measures and publish on website. *Applicable to BPIA Task 47.1*	**SDL.7) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will establish the register as soon as practicable after it receives its first notification. The MDBA will update the register, as soon as practicable, after receiving additional notifications or amendments to existing notifications. A process for receiving notifications and updating the register will be developed by the MDBA in consultation with basin states.	Ongoing. The notification register is available on the MDBA website. The register is provided in the form of two tables: • Table A lists the relevant details of each notified measure • Table B lists the efficiency entitlements and likely SDL adjustment for each of the Basin's surface water SDL resource units. Official changes to notified measure details listed in Table A will be updated by the MDBA. https://www.mdba.gov.au/sites/default/files/20180504-s7.13-Register-of-Sustainable-Diversion-Limit-Adjustment-Mechanism-%28SDLAM%29-measures.pdf
Determining and proposing initial adjustment amounts (ss7.10, 7.15-7.20, 7.23)		
SDL.8 Determine the amounts of proposed SDL adjustments resulting from any measures notified by 30 June 2016.	**SDL.8) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** Using the methods developed in consultation with Basin States, the CEWH, the Department and relevant members of the science community, the MDBA will determine contributions from notified supply measures (taking into consideration the impact of unimplemented policy measures) and efficiency measures and propose adjustments amounts.	Complete. The MDBA determined an adjustment to the Sustainable Diversion Limit based on the package of measures notified by Basin state governments to the MDBA. Using the science based assessment framework - designed in collaboration with Basin governments, and including the ecological equivalence method developed by the CSIRO, the MDBA assessed notified supply measures and recommend an adjustment to the SDL. This draft determination was open for public consultation in October 2017. BOC also reviewed the draft determination and provided advice to the MDBA. In January

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Applicable to BPIA Task 48.1	Before proposing an adjustment, the MDBA must seek and consider advice from BOC and submissions from members of the community.	2018, this adjustment was proposed and adopted as an amendment to the Basin Plan by the Australian Government Minister responsible for water.
SDL.9 Propose SDL adjustments. *Applicable to BPIA Task 48.3*	**SDL.10) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will prepare amendments to the Plan, for adoption by the Minister (under section 23B of the Act). The MDBA will consult with Basin States through BOC, or other committees as appropriate, on the implications of a proposal on any declared Ramsar wetland. The MDBA will advise the Minister on the implications of an SDL adjustment amount proposal for any declared Ramsar wetland. The advice will be provided as part of the package of information presented to the Minister when proposing an adjustment amount.	Complete. MDBA considered feedback received on the draft determination and prepared an amendment to the Basin Plan for consideration by the Commonwealth Minister responsible for Water. In preparing the amendment, the MDBA provided advice to BOC and the Authority for consideration on the implication of the SDL adjustment proposal for any declared Ramsar wetlands. In December 2017, the determination was proposed and the adjustment adopted as an amendment to the Basin Plan by the Commonwealth Minister responsible for Water in January 2018.

Other: Reviews of the Basin Plan

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Reviews of the Basin Plan (s6.06)		
RBP.1 Conduct research and investigations to inform reviews of the Basin Plan. Publish the results. *Applicable to BPIA Task 43.1*	**RBP.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will conduct research and investigations for informing any reviews of the Plan and publish on its website any reports produced as a result of this research or investigation. The MDBA will develop, consult through BPIC and implement a strategy to provide new knowledge to future Basin Plan reviews and update the relevant aspects of the Plan. The MDBA will publish its final report on research or investigations conducted to inform any reviews of the Plan on its website.	The MDBA conducted several reviews of Basin Plan activities in 2019-20, as well as supporting a number of independent reviews. These include: • A review of the Basin-wide Environmental Watering Strategy, published on MDBA's website in August 2019 https://www.mdba.gov.au/publications/mdba-reports/basin-wide-environmental-watering-strategy. • Reviews of water quality targets and the environmental watering plan which will be completed in 2020. • The 2020 Basin Plan Evaluation completed in late 2020. The 2020 Basin Plan Evaluation in turn draws upon the Independent Assessment of Social and Economic Conditions in the Basin ("the Sefton report") https://basin-socio-economic.com.au/. The MDBA also supported other reviews and investigations to identify and manage risks to water resources, see M4.1 above.
RBP.2 Undertake a review of the work underpinning the SDLs in the Northern Basin, including the basis for the long-term average sustainable diversion limits for surface water and groundwater SDL resource units. *Applicable to BPIA Task 43.3*	**RBP.2) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will undertake the review of the work underpinning SDLs for the Northern Basin, in collaboration with New South Wales and Queensland, who will participate in the review and advise on associated studies, processes and final recommendations. The MDBA has established a Northern Basin Advisory Committee (NBAC) to provide independent strategic advice to the MDBA on how an adaptive Basin Plan can be implemented in the Northern Basin. The MDBA, New South Wales and Queensland have endorsed the formation of the Northern Basin Intergovernmental Working Group, a technical reference panel of Queensland, New South Wales and Commonwealth officials (MDBA, the CEWH and the Department), to provide advice on developing and implementing the Northern Basin work program. The work program for 2012-13 was developed in consultation with NBAC and the Northern Basin Intergovernmental Working Group, and both groups are working with the MDBA to develop and implement the remaining three years of the Northern Basin scientific and socio-economic work program through 2015-16.	The MDBA, in close consultation with the New South Wales and Queensland governments, finalised a review of Basin Plan settings in the northern Basin in 2017-18.

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
	The MDBA commits to provide funding of $1 million per year over the three financial years (2013-14 to 2015-16) to be allocated by the MDBA for projects under the Northern Basin work program, noting that the scope and funding amounts for particular projects will be determined by the MDBA in light of advice from established consultative arrangements with the New South Wales and Queensland governments and NBAC. The Commonwealth has committed to provide $822,000 in Commonwealth funding for the *Floodplain vegetation watering requirements proposal*, subject to the outcomes of the scoping study for Queensland now underway. The project would be delivered over three financial years, from 2013-14 to 2014-15, through the Murray–Darling Freshwater Research Centre, who will work with research providers in the Northern Basin.	

Other: Assessing Inflows

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Establish and maintain assets and functions database (s8.48)		
AF.1 Establish and maintain assets and functions database. *Applicable to BPIA Task 52.1*	**AF.1) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** The MDBA will prepare a draft strategy for developing and maintaining the environmental assets and functions database. The MDBA will consult on the strategy through the BPIC – Environmental Watering Working Group. The MDBA will implement the strategy as agreed. The MDBA may publish this database on its website.	The Environmental Assets and Functions Database has been completed. It has been populated with all assets and functions identified by the jurisdictions in their Long-Term Environmental Watering Plans (LTWPs). The database contains the objectives, targets and watering requirements for these assets and functions. The database and its contents are being shared with jurisdictions in the lead up to their Matter 8 reporting in October 2020. It will require continual maintenance as LTWPs are revised or as new information is supplied. MDBA continues to develop an Environmental Assets and Functions Information System of which the asset database will be a core component. Development is being undertaken consistent with our enterprise data initiative and data pipeline which provides the necessary tools and technology. The development is aligned to the blueprint that was developed by Think Place in 2014-15. There was consultation with all states and water holders at the time and this will again become a focus as development of the system moves to stakeholder and public sharing.

Reporting Matter	Supporting evidence to be provided by MDBA	Response/milestone achievement and compliance status
Process for assessing inflows (s11.06)		
AF.2 Monitor and review inflow volumes within the River Murray System. *Applicable to BPIA Task 62.1*	**AF.2) Responses should address the following requirement(s) as outlined in the Basin Plan Implementation Agreement:** Within the River Murray System, the MDBA[1] must monitor and review inflow volumes taking into account the best possible inflow information, tributary inflows, daily, monthly and seasonal weather conditions and trends in climate and inflow patterns.	The MDBA is required, under the Objectives and outcomes for river operations in the River Murray System, to prepare water resource assessments monthly or at more frequent intervals approved by the Committee. Since the Millennium Drought, MDBA has been providing these assessments fortnightly for the majority of the water accounting periods to support the states in making their fortnightly allocation announcements. No changes to the inflow statistics were warranted as inflows were not near minimums.

[1] In relation to River Operation including tasks 62-65, the Independent River Operations Review Group (IRORG) has reviewed the Authority's compliance with the Act and the Basin Plan in relation to river operations. IRORG has reported "The Authority was able to demonstrate to IRORG that it had met its obligations under the Act and Basin Plan in relation to these operational functions."

Attachment A: Theme B - Basin Environmental Watering Priorities (BAEWP) for reference in reporting why watering not undertaken in accordance, under BPs8.44

(Content for Attachment A is published in a separate document).