



Office of the Chief Executive

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Ms Pothida Youhorn
Acting Committee Secretary
Select Committee on the
Multi-Jurisdictional Management and
Execution of the Murray Darling Basin Plan
Department of the Senate
PO Box 6100
Parliament House
CANBERRA ACT 2600

Dear Ms Youhorn

Thank you for letter dated 15 December 2020 inviting the Murray-Darling Basin Authority (MDBA) to provide feedback on the data available on the Bureau of Meteorology's website through the Australian Water Resources Information System (AWRIS). I understand the Select Committee would like to understand more about the adequacy of information provided by the Bureau of Meteorology (BoM) to its stakeholders.

The MDBA has provided detailed feedback on the BoM's data and AWRIS to inform a submission to the Committee led by the Department of Agriculture, Water and Environment. This letter provides information on MDBA/BoM data collection and use for broader context.

The MDBA and BoM have complementary roles in collecting and publishing water information. The BoM's role is broader in scope than that of the MDBA, and the scale, measurements, definitions, and uses of the information differ between the two agencies.

As the designated lead Australian Government agency with respect to water data, BoM collects Australia's water information, available in the AWRIS. This information is used by BoM to produce the National Water Account (NWA). The MDBA provides the BoM with extensive Murray-Darling Basin related water information in all the categories collected.

The MDBA utilises BoM water information and other data to execute many functions, including operating the River Murray, managing water quality, delivering the Living Murray Program, and Sustainable Diversion Limit (SDL) accounting. For example, BoM data is critical for updating the River Murray System Annual Operating Outlook to reflect changes to

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system conditions. This and other MDBA information products use BoM data to help inform water management decisions across the basin. The MDBA provided detail on the types of data used to inform water management in the basin, including BoM data, to respond to a question on notice following the Committee hearing on 18 October 2019. This information is attached for your convenience.

The MDBA collects water information from Basin States under s.71(1) of the *Water Act 2007*. This information is used to assess compliance with the SDLs, monitor compliance with water resource plans and water trading rules, and for other assessment and reporting functions.

There are differences in data collection and reporting for the NWA and SDL accounts, leading to some stakeholder concerns about the reasons for these differences. In response, the BoM and MDBA are collaborating on the National Water Account Alignment Project to align the two accounting frameworks. The recently announced Enhanced Water Monitoring and Information Program will support this work, funding a website hosted by BoM to streamline access to water management, use and availability information for the community.

A number of recent independent reports have also highlighted the need for better community access to consistent water information, in particular water availability and trade data. The MDBA has been working closely with the basin states, BoM, the Commonwealth Environmental Water Office and other stakeholders to explore opportunities for improving water information gathering across governments, to provide water users and communities with more consistent and accessible information. This is a significant piece of work, with the first phase to understand end-user information needs being well progressed.

As a key end-user of the BoM's information, the MDBA finds it fit-for-purpose for some of its functions, but also recognises there are opportunities to streamline the collection and reporting of water data across both state and Commonwealth agencies, to increase its useability and timeliness for other water management functions. We have provided specific areas for improvement to the Department to inform their submission to the Committee.

The MDBA also recognises that adaptive water management often requires specific and detailed information to be sourced and utilized on an as needs basis. As such, good relationships with BoM and basin states remains a basis for accessing and sharing relevant information in a timely way.

Thank you for the opportunity to provide information on this complex but critical aspect of managing water resources in the basin.

Yours sincerely

Phillip Glyde
5 February 2021

Attachment: Summary view of data types, collection, movement and use in relation to water management in the Murray-Darling Basin.

Data type	Basin States	MDBA	CEWO	BoM
Meteorological observations	Basin states collect, use and distribute targeted meteorological information and data such as rainfall and wind observations and evaporation rates in storages.	The MDBA consumes meteorologic information and data from both the BoM and Basin States through direct feeds and publicly available channels.	The CEWO uses meteorologic information and data from the BoM through publicly available channels related to climate, rainfall and streamflow forecasts.	The BoM has its own network of weather stations that it uses to capture meteorological information which it provides to various parties through a range of channels. The BoM collects Basin State meteorological data under the <i>Water Regulations 2008</i> .
Surface water observations	Basin states own and operate hydrometric networks which feature gauging stations installed throughout the Basin's catchments. This network captures information on river levels and flows, storage levels and volumes, and some water quality measures. The information is telemetered in near real-time to state entities as well as other parties such as the MDBA and BoM. States will also 'validate' this near real-time information and provide it to other parties such as the BoM and MDBA. Additionally, states conduct laboratory-based water quality sampling to measure other water quality attributes and provide the associated information to various parties.	The MDBA consumes these near real-time feeds from states as part of operating the RMS. This near real-time information feeds into operational decision making. The MDBA also consumes the states' validated SW data feeds (water quantity and quality). These datasets bring an additional level of assurance and quality to the near real-time information. The MDBA also consumes some surface water data from the BoM through routine data feeds as well as on an on-demand basis The MDBA publishes the data it collects through its Live River Data Portal and Water in Storages section on its website. Additional reports and	The CEWO uses information on stream flow (flow rate and height) and water quality through publicly available channels sourced from the MDBA, states and BoM.	The BoM consumes the states near real-time feeds as well as the validated SW data. Data is stored in a national archive that contains complete periods of record. The BoM publishes the data online and produces a number of information products and services as part its water functions. BoM presents information in a nationally consistent manner to complement the information provided by the States and Territories. Users can access the data through BoM information products and services, the Water Data Online website and via web service (SOS2).

Data type	Basin States	MDBA	CEWO	BoM
	A lot of this information is published on states' online water portals.	publications also draw on this information.		
Water shares (RMS shares, water allocations, etc.)	<p>States are responsible for the sharing of waters in their respective water (sharing/management) areas to individual water holders. This is done through their Available Water Determination (AWD) processes.</p> <p>For the River Murray, states are dependent on the determination of bulk water shares prior to conducting their AWDs. These bulk water shares are determined by the MDBA.</p>	<p>The MDBA plays a key role in the sharing of RMS waters and are the source of truth for RMS water share information.</p> <p>The function involves conducting a retrospective water accounting exercise as well as a forward-looking water resource assessment and availability forecast.</p> <p>RMS bulk water account information is issued to states on a monthly basis while the availability forecasts are provided on a twice-monthly basis.</p> <p>Under the TLM program, the MDBA relies on state AWDs to determine its water allocations for the TLM water portfolio of entitlements. The MDBA also relies on the monthly water account statements issued by the states.</p>	<p>Like the TLM program but with a larger portfolio of water entitlements the CEWO will rely on state AWDs to determine its water allocations. It will also receive water account statements.</p>	<p>BoM will receive various forms of this information from different 'persons' under the Water Regulations 2008.</p> <p>BoM publishes information on water entitlements on issue (including water shares) for catchments in the Basin and includes information on water allocations as part of the National Water Account.</p>
Consumptive water usage	States oversee the capture of information and data relating to consumptive water usage. This information is a critical input for	Varying forms of consumptive water usage data are provided to the MDBA as part of its RMS	Not applicable for the CEWH/O	BoM receives this information from 'persons' named under the Water Regulations 2008 at an aggregated and annual basis.

Data type	Basin States	MDBA	CEWO	BoM
	<p>their water management activities (e.g. water accounting and compliance and enforcement).</p> <p>The reporting of water usage information to the MDBA is required as part of Cap and SDL accounting. Usage here includes surface water and groundwater and covers various ‘forms of take’ that can broadly be grouped into diversions and interceptions.</p> <p>States also execute the water accounting activities needed to bring allocations and usage together into formal water accounts. This information is provided monthly to water holders.</p>	<p>management functions and for Cap and SDL accounting.</p> <p>The MDBA receives near real-time ‘offtake’ data for the irrigation district channels in the RMS.</p> <p>The MDBA then receives monthly and quarterly usage data as an input into its RMS water sharing function (specifically for maintaining the RMS state water accounts).</p> <p>Finally, the MDBA receives annual usage data as part of legislated reporting to feed into the Cap and SDL accounting processes.</p>		<p>BoM produces the National Water Account and Urban National Performance Report which both provide comprehensive water information that includes consumptive use on Australia’s major urban and rural supply systems.</p>
Environmental water usage and accounts	<p>States determine the amount of environmental water used in environmental watering events and provide this information to e-water holders. This will include the MDBA under the TLM Program and the CEWH/O.</p>	<p>In addition to the collection of consumptive water usage data, the MDBA receives environmental usage data from the states as part of its coordination of the TLM Program and management of the associated water portfolio.</p>	<p>Like the TLM Program, the CEWH/O will receive environmental usage data from the states as part of managing its water holdings.</p>	<p>BoM receive some information from ‘persons’ under the Water Regulations 2008 on an annual basis.</p> <p>BoM produces a National Water Account which provides general commentary on environmental water use in the Basin.</p>