

Water User Reference Group (WURG) - Communiqué

Meeting 2 – Thursday 21 May 2020

All members were in attendance.

Purpose of meeting

The purpose of this meeting was to better understand the evidence base and decision-making process for making and lifting restrictions during the first flush event, and identify improvements that can be made in the future.

Allan Raine, A/Director Water Planning and Implementation (DPIE) and Adrian Langdon, Executive Manager System Operations (WaterNSW), presented DPIE's [fact sheet](#) on the targets, principles and flow forecasts used to manage the Northern Basin first flush event (see following pages).

Key items of discussion

There was extensive discussion on what can be done in future to improve the evidence base for decisions and the process of decision making for first flush events. Key items put forward to the Panel included:

- the importance of communicating decision-making principles to the community before a first flush event to help aid understanding of the decision-making process
- greater transparency around the evidence base for decisions to build community trust and confidence
- the need for clear, timely and transparent public communication before, during, and after first flush events
- consider including first flush rules in water sharing plans to provide clarity and certainty for water users and communities
- the need to involve Traditional Owners and consider Native Title rights in first flush event planning
- the need for first flush decisions to ensure an efficient use of flows
- the need for an integrated approach which considers the general health of the entire river system in developing first flush targets
- potential development of a publicly available manual of extractive capacity and other relevant information in each river section to provide transparency in future first flush events
- where possible, avoid the use of s324 (Temporary Water Restriction) orders as a means of managing first flush events.

Next meeting

The next meeting will be held on 3 June 2020 and will discuss how improvements can be made to communication of and during first flush events.

Northern Basin Restrictions: January to March 2020

Overview of targets and principles

Presentation to Water User Reference Group

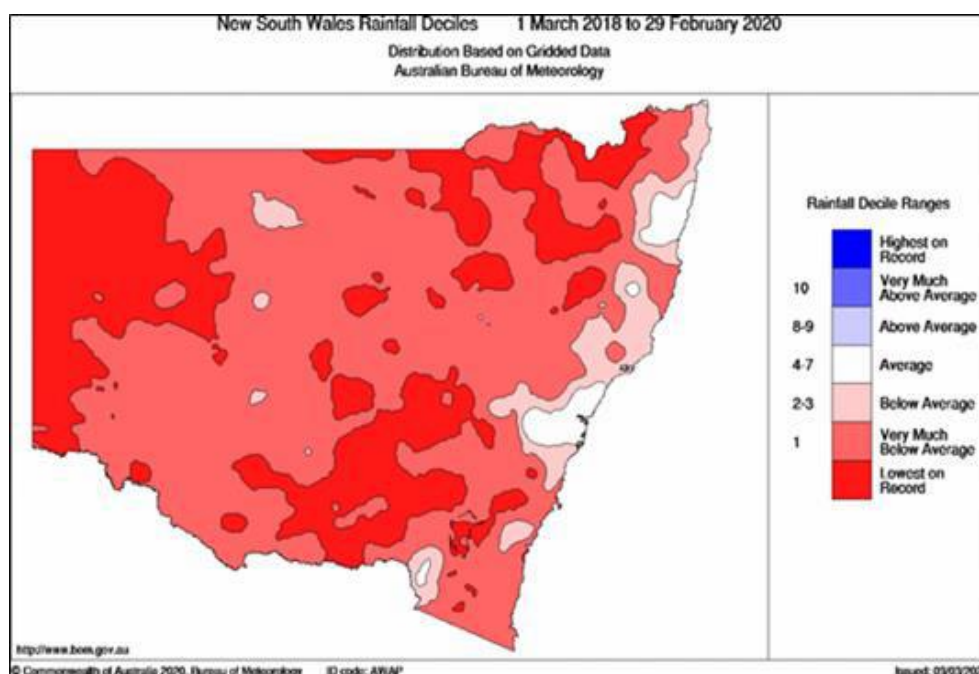
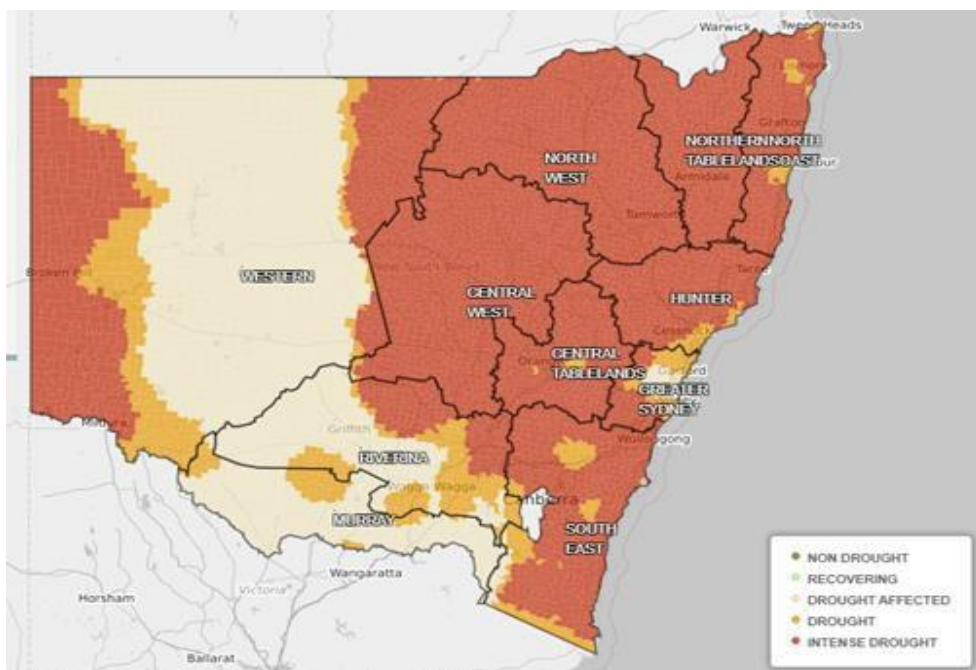
May 2020

Allan Raine

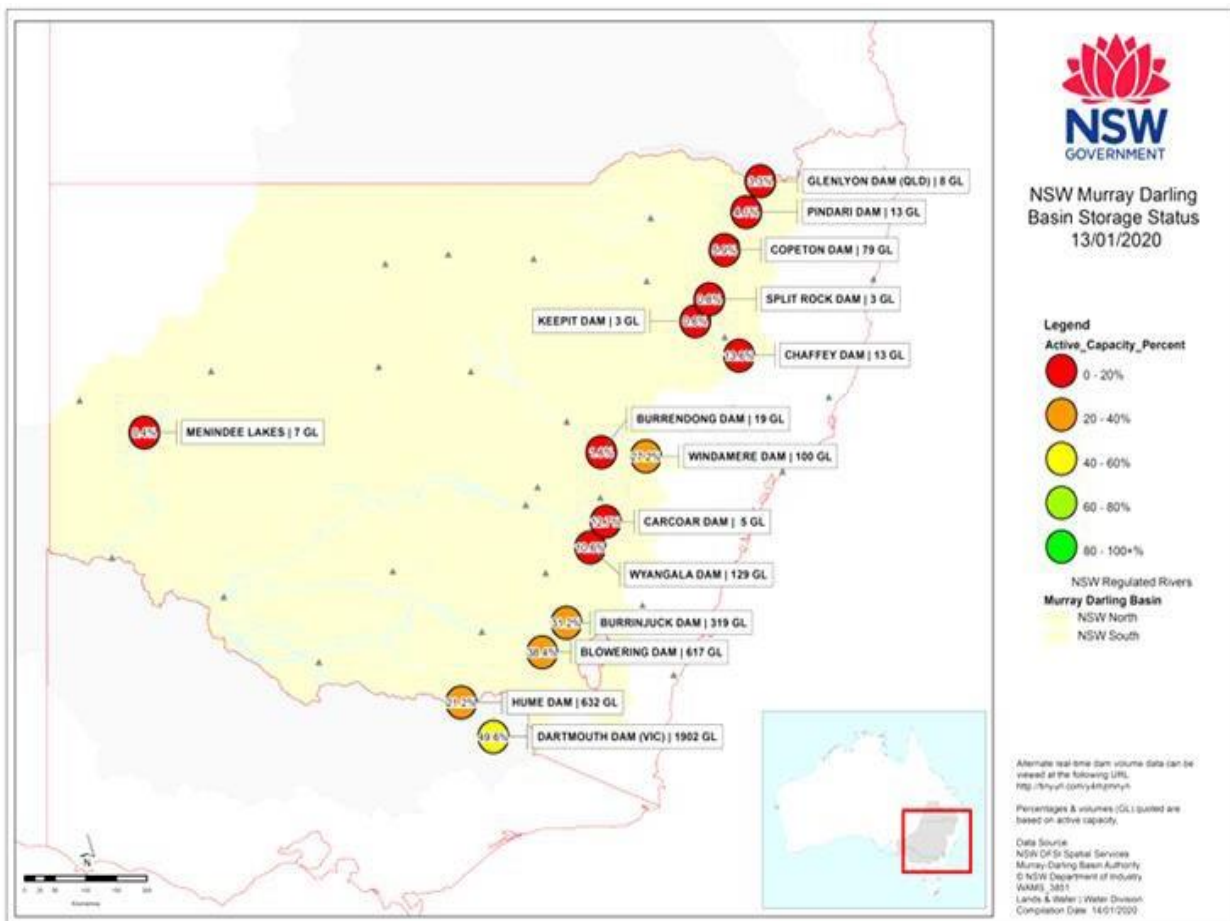
A/Director Water Planning Implementation

Start of 2020

- 100% of NSW was in drought (13 January 2020) with 60% of the state in intense drought.
- 2019 had been the warmest and driest year on record for NSW.
- Rainfall has been the lowest on record for NSW for two years.
- Total rainfall was 55% below average; well below the previous driest year of 1944.



Storages and river flows at record low levels

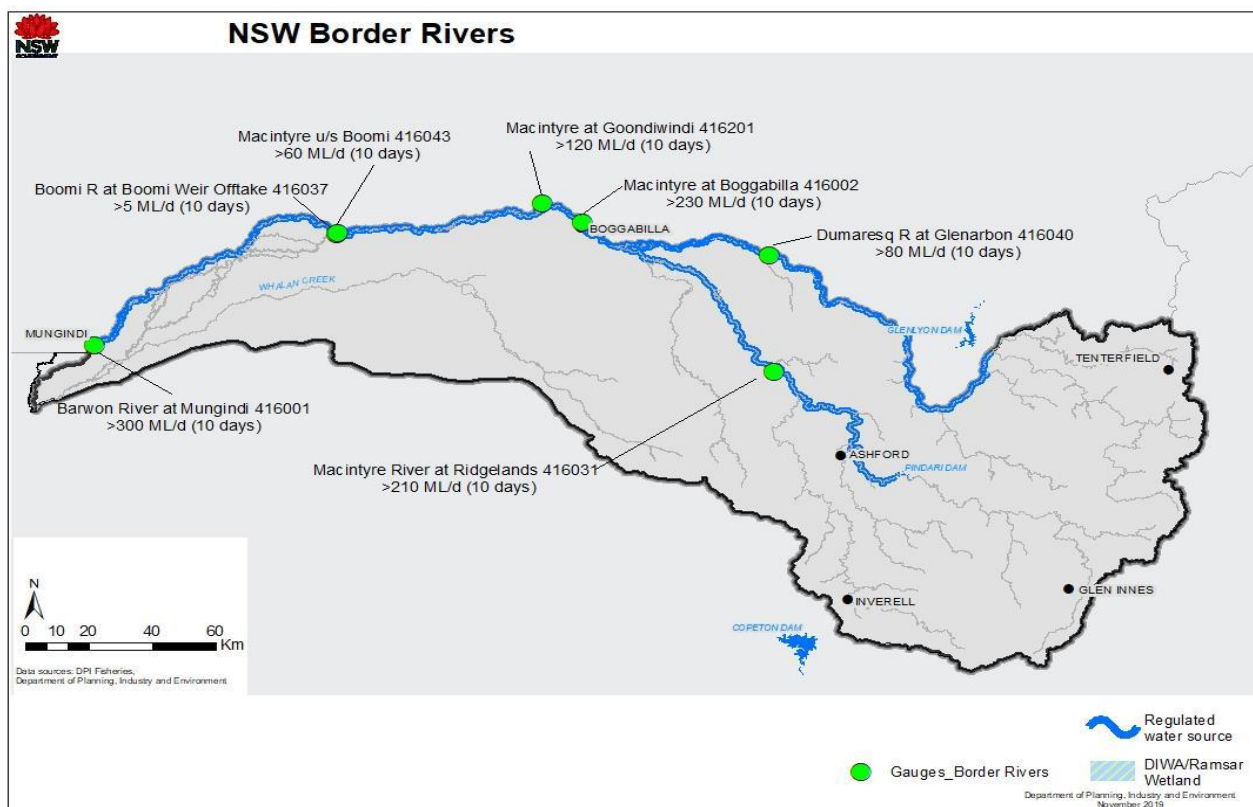


January 2020

- All the major northern storages at very low levels - mostly 5% or less.
- Keepit Dam and Menindee Lakes effectively empty.
- Lowest inflows on record in many storages - up to 60% less than the previous record.
- Lowest cumulative inflows in recorded history to the northern basin.
- Along unregulated river systems, surface water supplies had failed for many towns requiring emergency bores or water carting.

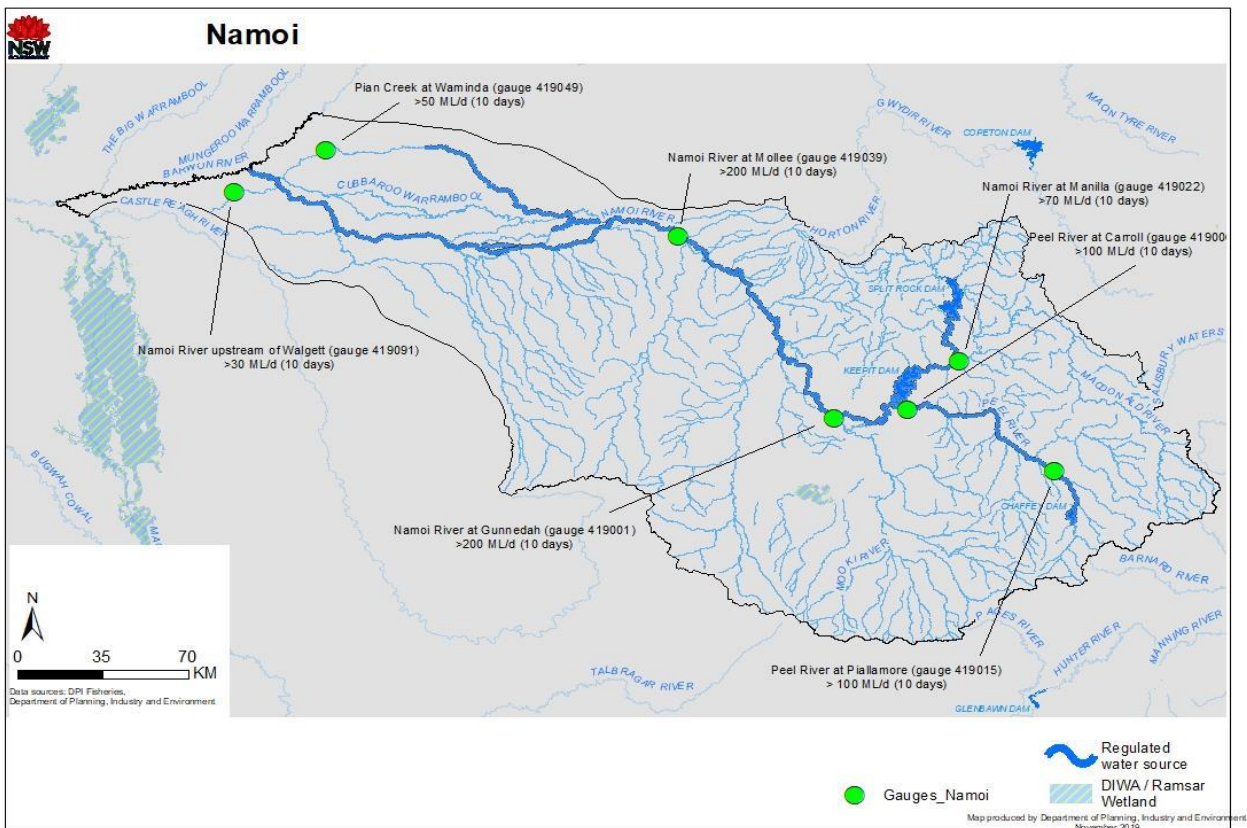
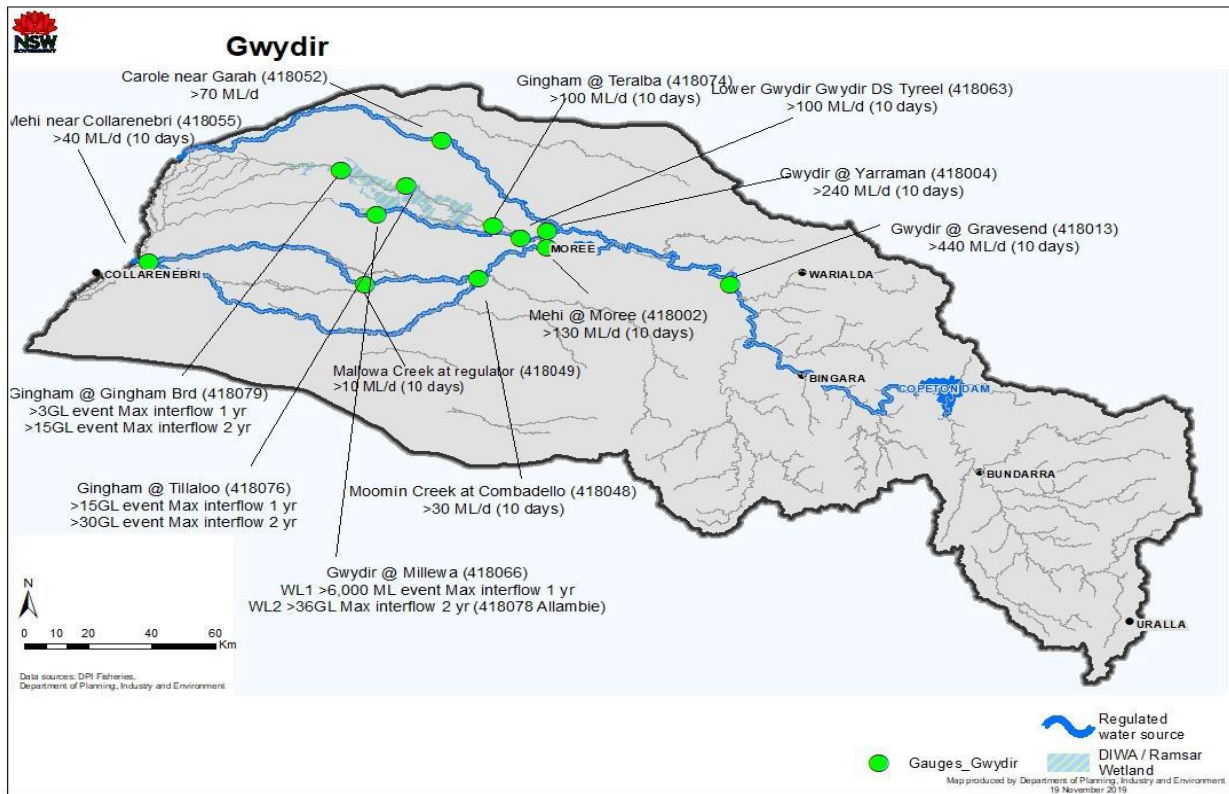
Flow triggers

- Flow triggers determined at gauge sites along the rivers – these were the minimum flow levels required.
- Volumes based on flows rates in the Long Term Environmental water Plans to provide minimums for critical refugia – assumed these sufficient for environmental needs – for example:
 - Refugia pool water quality – a flow rate that aims to manage risks around stratification and de-stratification (Mitrovic *et al* 2003).
 - A flow that enables some connectivity and fish passage between pools – minimum depth 0.3m (Gippel 2013; O’Conner *et al* 2015; Fairfull and Witheridge 2003). This may enable fish and other biota to move to larger drought refugia.
- Assumed that refilling refugia and providing connected flows would meet town, domestic and stock needs.
- Originally provided as a volume/duration (an interagency panel agreed to change this to a volume) as it is difficult to manage and forecast durations. Example: a flow of 80ML for 10 days became a target of 800ML.



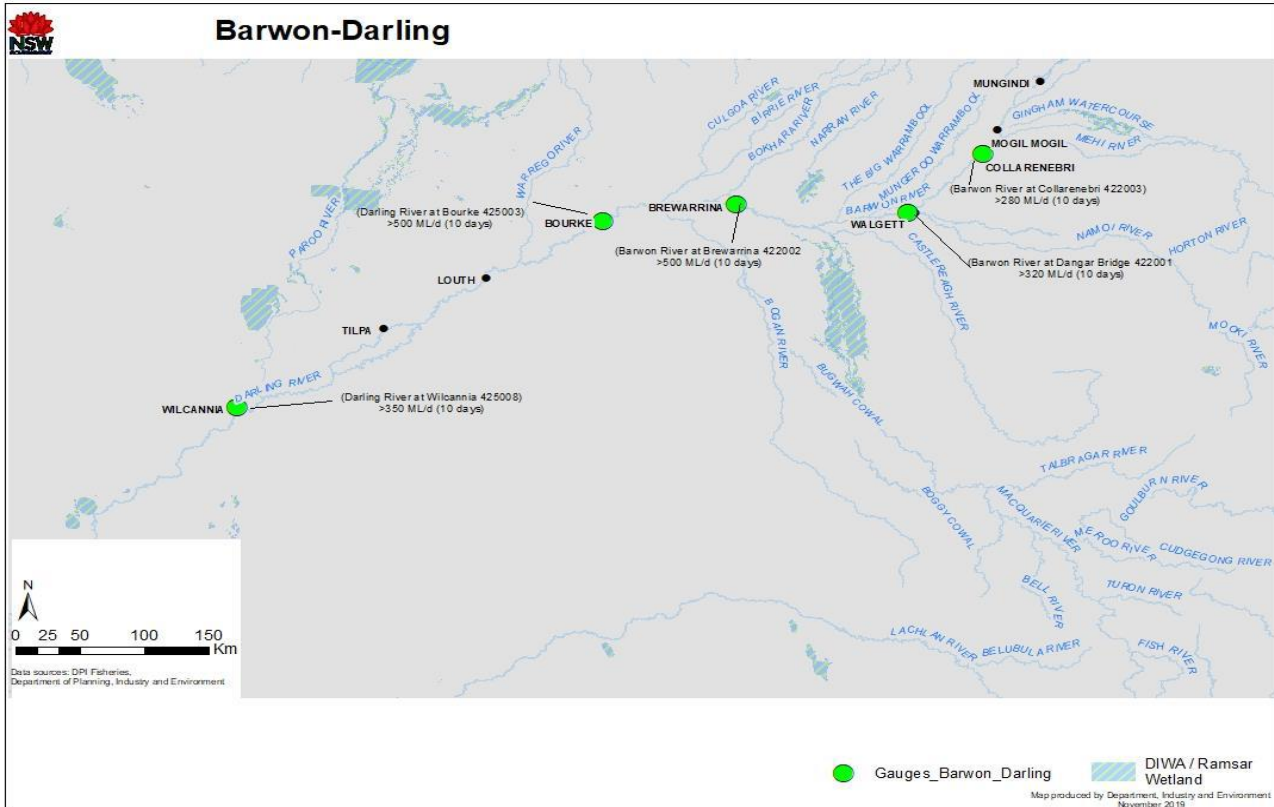
Independent Assessment of the Northern Basin First Flush Event

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Principles for lifting northern basin restrictions

- Consider providing access to upstream water users under normal rules if the nearest downstream targets are met or forecast to be met and there is an assessment that this event will not meaningfully contribute to meeting any downstream targets.
- Where an event is predicted to meaningfully contribute to meeting the next downstream target, the temporary water restriction should not be lifted (e.g. meet Menindee Lakes requirements).
- When an event has met local targets and is no longer expected to contribute to meeting downstream targets, or is in excess of that required to meet downstream targets, some local extraction relief could be allowed.
- Temporary water restrictions should apply to a consistent upstream network of both unregulated and regulated rivers systems in a valley, to provide sufficient volumes of water to meet critical needs, avoid interceptions by extractors, and avoid inequitable sharing between users.
- Early relaxation of upstream access restrictions prior to downstream targets being met should only occur if there is high confidence in downstream flow predictions meeting targets.
- When flow predictions are used for early relaxation of restrictions on upstream access, river system loss assumptions should reflect the antecedent extended dry conditions.

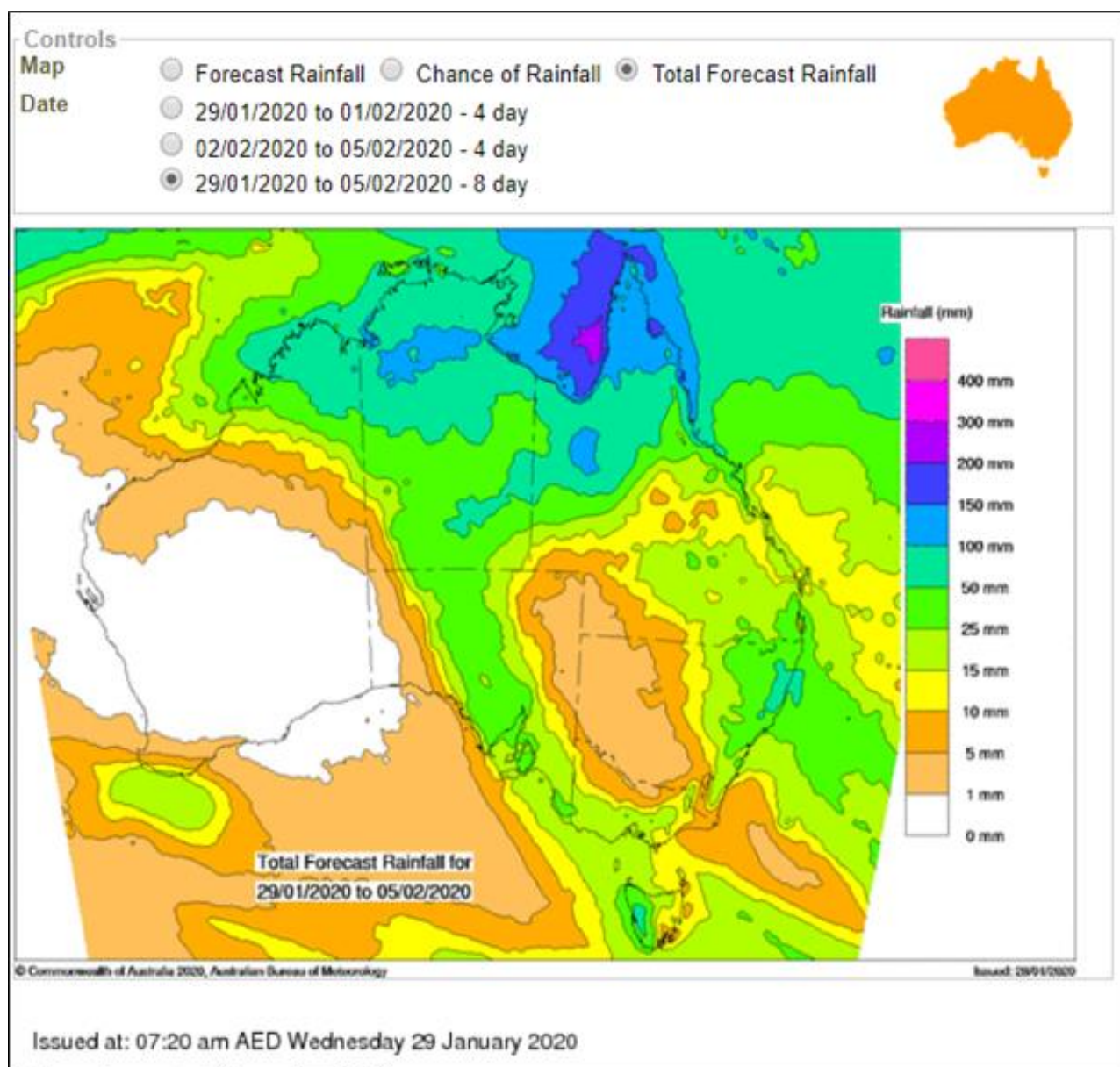
Objectives and targets

- Initially to meet local critical needs along the river and if possible provide at least 12 months essential supply in the major storage.
- Once flows were forecast to reach Barwon-Darling, an interim target of 60 to 70 GL for the Lower Darling - sufficient to provide a single flow along the Lower Darling and small drought refuge in Lake Wetherell.
- When sufficient flows passed from the northern valleys into the Barwon-Darling, normal pumping rules were reinstated.
- With further rain in Queensland forecast to contribute further good flows, target inflow to Menindee Lakes increased to 200 GL - sufficient to provide at least 12 months' supply along the Lower Darling.



Process

- Consistent application of principles in deciding whether to lift restrictions (except floodplain harvesting infrastructure damage).
- Working group of DPIE-Water, WaterNSW and DPI Fisheries on call. All decisions made, and agreed to by this group.
- Flows and forecasts assessed constantly to determine contribution to local triggers and Lower Darling targets and whether local pumping could be permitted without compromising targets.



Priorities under the *Water Management Act 2000*

In most times, the Act prioritises the allocation of water in the following order:

1. Protection of the water source and water for basic landholder rights
2. Town water, domestic and stock, major utility licences
3. Regulated river high security licences
4. General security licences and other licence categories
5. Supplementary licences (and floodplain harvesting)

The department must take all reasonable steps to promote the protection of the water source and its dependent ecosystems, and basic landholder rights.

When a water sharing plan has been suspended or a town water supply is critically low, core domestic and essential town water needs become first priority, then environment.

These priorities must be considered when also making decision under temporary water restrictions.

Factors

- Rainfall and flows generated were patchy - some areas received good rainfall and even minor flooding and others no rainfall.
- Rain events were not continuous - generally lasted only a day or two at a time.
- Dry catchments meant that flows took some time to re-start, losses were high and it was difficult to predict the size of flows that would extend to downstream areas.
- First time access to floodplain harvesting restricted.
- Difficult to estimate the size of overland flows that would contribute to river flows.
- Working with ‘forecasts’ of rain, flows and how far they would reach.
- Working with estimates of likely take if pumping permitted.



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