



1. Introduction.....	1
2. Current operation of the Dam.....	2
3. Regulatory changes required.....	2
4. Legal liability issues.....	6
5. Summary.....	8

Operating Warragamba Dam for flood mitigation: current legal and regulatory barriers

by Cristy Gelling

1. Introduction

In March 2022, the Hawkesbury River at Windsor rose to 13.8 metres, which at the time was its highest level in more than 40 years.¹ The floodwaters damaged hundreds of houses and more than \$67 million worth of infrastructure.² Just months later the river exceeded its March levels, reaching 13.9 metres³ and inundating homes and businesses for the second, third, or in some cases fourth time in two years.^{4,5}

The Hawkesbury-Nepean Valley (the Valley) faces one of the highest flood risks in New South Wales in part because it is home to a large population and has unusual topography that slows the draining of floodwaters.^{6,7} This risk is not always apparent because of an alternating pattern of decades-long drought-prone and flood-prone periods.⁸ After 28 years without a major flood, there have been three major floods in the past three years.⁹

In 2019 the [Hawkesbury-Nepean Flood Risk Management Strategy Taskforce](#) (the Taskforce) published their evaluation of a wide range of infrastructure and other options to manage flood risk in the Valley. Several of these involved use of Warragamba Dam (the Dam), a water supply dam in the Hawkesbury-Nepean catchment that stores around 80% of Sydney's water.¹⁰ These flood mitigation options included:¹¹

- pre-releasing stored water in advance of a forecast flood;
- permanently lowering the amount of stored water; and
- raising the Dam wall.

The Taskforce did not support the pre-releasing water option because it would “not provide significant, regional reduction of flood risk”¹² and risked loss of water supply. They did not support lowering the water level by 12 metres because it would have “high net cost due to high costs of addressing water supply security and water quality.”¹³

The Taskforce instead recommended raising the Dam wall by 14 metres, and this project is currently being assessed as State significant infrastructure under the [Environmental Planning and Assessment Act 1979 \(NSW\)](#) and as a controlled action under the [Environment Protection and Biodiversity Conservation Act 1999 \(Cth\)](#).¹⁴ The Legislative Council Select Committee on the Proposal to Raise the Warragamba Dam Wall is inquiring into the proposal and published an interim report on 5 October 2021.¹⁵ The interim report recommended¹⁶ inclusion of detailed analysis of all the infrastructure options in the project's final Environmental Impact Statement (the EIS). Released for public consultation on 29 September 2021¹⁷, the EIS included additional analysis of the options and reached the same overall conclusions as the Taskforce.¹⁸

However, if approved, raising the Dam wall would take some years to complete.¹⁹ Fearing more damage from above-average rainfall predicted for this spring and summer²⁰, a community group has recently been advocating for urgent flood mitigation through changed operation of the existing Dam.²¹ The Member for Hawkesbury, Robyn Preston, has taken the issue to Parliament²², and the Hawkesbury City Council has also called for the Dam "to be immediately used as a Flood Mitigation Dam".²³

In public discussion of potential flood mitigation uses of the Dam, reference is sometimes made to legislation that requires the Dam to be used for water supply and not flood mitigation.^{24,25,26} However, the specific legislation referred to is rarely identified. This e-brief identifies legal and regulatory constraints that currently prevent the Dam from being used for flood mitigation. It does not consider the advantages and disadvantages of the various flood mitigation options.

2. Current operation of the Dam

Warragamba Dam is operated by WaterNSW as a water storage dam, and WaterNSW states that "the purpose is to store the maximum amount of water to ensure the longest possible time of water supply".²⁷ An operational protocol governs the automatic opening of the gates to release flood water above full supply level.²⁸ Infrastructure NSW notes that "under strict operating rules, WaterNSW is only authorised to make controlled releases when the dam reaches full supply level, to draw the storage down by up to 1 metre for operational purposes".²⁹

Unlike Warragamba Dam, flood mitigation dams (and dual-purpose dams) have a flood mitigation 'airspace' of empty capacity that allows capture and management of flood waters.

3. Regulatory changes required

Changes to various subordinate instruments under the [Water NSW Act 2014](#) ('*Water NSW Act*') and the [Water Management Act 2000](#) ('*Water Management Act*') would be required for the Dam to be used for flood mitigation. None of the changes listed in this section would require amendments to either of the two Acts.

WaterNSW provided an answer to a question on notice from the Select Committee on the Proposal to Raise the Warragamba Dam Wall that implies such regulatory changes would be sufficient to give it the legal authorisation

to undertake flood mitigation activities using the Dam (which is located in Greater Sydney):

The *Water NSW Act* already grants WaterNSW the legislative power and some statutory protections to undertake flood mitigation activities. However, changes to subordinate instruments (including the WaterNSW operating licence and works approval) are required for WaterNSW to execute this responsibility in Greater Sydney.³⁰

3.1 Operating Licence under the *Water NSW Act 2014*

WaterNSW is a State-Owned Corporation that was created by the *Water NSW Act* from the merger of the Sydney Catchment Authority and the State Water Corporation. WaterNSW's functions are listed in [section 7\(1\)](#) of the *Water NSW Act*. These include “to supply water to the Sydney Water Corporation” and “to undertake flood mitigation and management”.³¹ Section 7(3) provides that these functions:

(a) may only be exercised under the authority of, and in accordance with, one or more operating licences, and

(b) are subject to any applicable requirements under the *Water Management Act 2000* or the *Water Act 1912*.³²

The operating licence is granted under [section 11](#) of the *Water NSW Act*. Under [section 56](#), the Independent Pricing and Regulatory Tribunal (IPART) makes recommendations to the relevant Minister regarding the granting, amendment or cancellation of WaterNSW's operating licence and its conditions.

WaterNSW's current operating licence includes authorisation for flood mitigation and management functions “in all areas of New South Wales, except for the Sydney catchment area”.³³ This means that WaterNSW is not authorised by the licence to carry out flood mitigation or management functions at Warragamba Dam or any other dam in the [Sydney catchment area](#).

This exclusion from flood mitigation functions of the Sydney catchment area reflects the past statutory functions of the former Sydney Catchment Authority.³⁴ Whether or not to retain this Sydney catchment exclusion in the new operating licence granted to WaterNSW in 2017 was considered during IPART's end-of-term review of the previous licences.³⁵ In their final report, IPART recommended removing the flood mitigation and management authorisation for all areas in NSW (including the Sydney catchment area) because:

We consider that the water management work approvals are sufficient for this purpose. The Minister can amend the relevant water management work approval for any dams where Water NSW is not currently authorised to undertake flood mitigation or management, as appropriate. We consider that any amendments should be based on individual circumstances for each dam and the information available at the time of making that decision. This may be particularly relevant for the dams in the Sydney Catchment Area for both flood mitigation and management.³⁶

In other words, IPART considered that the operating licence did not need to authorise WaterNSW to carry out flood mitigation and management activities

because these activities are regulated by subordinate instruments made under the *Water Management Act*.

In WaterNSW's submission to the review, they also observed that flood mitigation had been removed from the 2013-2018 State Water Operating Licence after IPART's last review to avoid duplication of regulatory functions, and because WaterNSW's flood management and mitigation functions were already regulated through:

- (1) works approvals under the *Water Management Act* (see [section 3.2](#));
- (2) the [State Emergency and Rescue Act 1989](#) and, in particular, the State Flood Plan which requires WaterNSW to "advise the downstream community of prospective and actual releases, except in those circumstances where the Bureau would issue flood warnings"³⁷;
- (3) the [Dams Safety Act 2015](#). Maintaining the safety of dams is an essential part of flood risk management. The Act places legislative dam safety requirements on the owners of declared dams; and
- (4) the [Water Act 2007 \(Cth\)](#). This and accompanying regulations create obligations on and potential risks for WaterNSW in relation to flood warning and forecasting and environmental water releases.³⁸

In accordance with IPART's recommendation, the original version of the 2017-2022 operating licence contained no flood mitigation and management function authorisation.³⁹ However, the licence was amended in 2021 to re-insert the authorisation with an exclusion of the Sydney catchment area.⁴⁰ The Research Service was unable to find documentation of the reasons behind this amendment. This provision remains in force in the current operating licence (2022-2024).⁴¹

3.2 Subordinate instruments under the *Water Management Act 2000*

WaterNSW is also subject to the [Water Management Act](#) and as such the Dam operates under its relevant:

- water sharing plan (the [Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011](#) (the Greater Metropolitan Region WSP));
- water supply works and water use approvals;⁴² and
- water access licences.⁴³

Water sharing plans (WSPs) "define the rules for sharing the water resources of each regulated river valley, between consumptive users and the environment".⁴⁴ The Greater Metropolitan Region WSP includes rules specifying the share of water that WaterNSW is entitled to take for its customers (such as Sydney Water Corporation⁴⁵) and the volume required to be released downstream for environmental flows and other purposes.⁴⁶ It does not include any provisions related to floods.

In contrast, the WSPs that govern Burrendong⁴⁷ and Glenbawn⁴⁸ Dams, which are both operated by WaterNSW with a "prescribed flood mitigation role",⁴⁹ have provisions that regulate dam operation during floods and spills

as well as the operation of a flood mitigation zone (i.e. airspace above full supply level).

Where appropriate, rules specified in a WSP are given effect by mandatory conditions for water use approvals, water management work approvals, activity approvals and water access licences.⁵⁰

A water use approval “confers a right on its holder to use water for a particular purpose at a particular location”.⁵¹

Water management work approvals fall into three categories: water supply works, drainage works and flood works. A water supply works approval “authorises its holder to construct and use a specified water supply work at a specified location”.⁵²

The Dam operates under a combined water supply works and water use approval.⁵³ Another combined water supply works and water use approval separately specifies environmental flow and other releases from the Dam via the Warragamba Pipeline.⁵⁴ The specifications of the Dam are listed as the authorised works in an attachment to the Dam’s approval.⁵⁵ An agreed operating protocol is included in a package of multiple related licenses and approvals.⁵⁶ Consistent with the Greater Metropolitan Region WSP, neither of the relevant sets of approvals include flood-related conditions.

The Dam’s water access licences stipulate that the water taken under the licence “must be used for urban water supply purposes”.⁵⁷

In summary, under the *Water Management Act*, the Dam has the appropriate approvals and licence to be operated as a water supply dam from which a specified amount of water can be taken for water supply purposes and a specified amount of water must be released downstream. To also be operated for flood mitigation purposes, these instruments would need to be modified in ways that would depend upon the particular type of flood mitigation and operation proposed.

With regards to the proposed raising of Warragamba Dam for flood mitigation, the [EIS](#) indicated that it would not be necessary to modify the water access licence for the project to proceed, but it would be necessary to adjust the water supply works and water use approval. The reasoning was that:

The water access licence, which specifies the volume of water captured and used for drinking water supply, would not require modification. Even though the Project would result in the capture of additional water, any water above the full supply level would be released into the downstream receiving water once the rain event had ceased. Therefore, its capture would be temporary. The water supply works and water use approval would need to be changed to reflect the revised design and operation of Warragamba Dam.⁵⁸

In their advice to the Department of Planning, Industry and Environment (DPIE) Planning and Assessment Group regarding the EIS, DPIE Water indicated that if the proposal in the EIS were to go ahead, the work approval would need to be modified to include new specifications, such as structural changes to the dam, changed retention times and changed release strategies.⁵⁹

In the case of flood mitigation by either pre-releasing water supply in anticipation of flooding or permanently lowering the full supply level, it appears likely that changes would need to be made to the WaterNSW operating licence (see [section 3.1](#)), Greater Metropolitan Region WSP, the Dam's water supply works and water use approvals and the associated operating protocol in order to allow for and regulate the changed operation of the Dam.

3.3. Power to amend the subordinate instruments

WaterNSW's operating licence can be amended by the Governor on the recommendation of the Minister for Lands and Water.⁶⁰ IPART has the statutory function of making recommendations to the Minister about granting, amending or cancelling the WaterNSW operating licence.⁶¹ IPART's end-of-term review of the current operating licence is due to commence in the first quarter of 2023 with a view to recommending a new licence in 2024.⁶²

WSPs can be amended by the Minister for Lands and Water, with the concurrence of the Minister for the Environment and Heritage, for several reasons including if satisfied it is in the public interest to do so.⁶³ The Department of Planning and Environment follows a [WSP amendment protocol](#) in considering whether to progress a proposed amendment; a public consultation is involved for amendments with significant effects. Once included in a WSP, the implementation of flood-related provisions may also involve ongoing consultation; for example, in operating the flood mitigation airspace of other dams, WaterNSW appears to consult with airspace reference panels made up of key stakeholders such as the State Emergency Service, landholders and local councils.^{64,65}

The Greater Metropolitan Region WSP will expire in July 2023.⁶⁶ The Natural Resources Commission completed its review of the WSP in 2021 and recommended its replacement with a new plan (rather than extension of the existing plan).⁶⁷ A draft replacement plan has been developed and the public exhibition period is completed.⁶⁸

Water supply works and water use approvals conditions may be added or changed by the Minister for Lands and Water, including to give effect to the relevant WSP.⁶⁹

4. Legal liability issues

In a 2016 submission to the IPART end-of-term review of its operating licences, WaterNSW argued that the new operating licence should not authorise it to undertake flood mitigation and management in the Sydney catchment area without changes to the Act to provide statutory protection to WaterNSW and its employees against any legal liability that might arise:

WaterNSW has recently considered whether it should undertake flood mitigation and management within the Sydney catchment area as a result of the proposal to raise the Warragamba Dam wall.

This resulted in the recognition that, should WaterNSW be conferred a flood mitigation and management function within the Sydney catchment area, both WaterNSW and its employees would be exposed to substantial legal liability, for which there was inadequate statutory protection.

Specific reference was made to the recent Queensland experience as a result of the 2010-2011 and subsequent floods, including, amongst other things, expensive legal action post event and considerable stress and trauma for staff involved in managing flood operations. As a result, substantial amendments to the Queensland *Water Supply (Safety and Reliability Act) 2008* were made to include specific provisions regarding the content and approval criteria and processes for flood mitigation manuals and limitations on liability.

As such, should a flood mitigation and management function within the Sydney catchment area be conferred upon WaterNSW, it will seek amendments to the Act to ensure that both WaterNSW and its employees benefit from adequate statutory protection.⁷⁰

The liability issues were also described in a leaked⁷¹ 2015 document from the Hawkesbury-Nepean Valley Flood Management Taskforce⁷²:

The current statutory protections have been adequate given the dam's operating environment. However, this level of protection is inadequate in an operating environment which includes a flood mitigation function for Warragamba Dam.

The increased risks faced by the WaterNSW relate to negligence, a duty to warn, trespass, nuisance (both public and private), breach of statutory duty and vicarious liability.

At a high level, WaterNSW would require:

- amendment to its enabling legislation to provide a complete statutory limitation of liability to the operator, its directors, officers and employees for actions taken by WaterNSW in discharging its statutory functions.
- a comprehensive dictionary / set of definitions as a part of the amendment of legislation is required to provide clear direction in the Act and provide a clear construction of the dam operator's objectives and functions (ie. what it means when WaterNSW is performing its flood mitigation and flood management functions.)
- the creation of a comprehensive suite of subordinate documentation including but not limited to detailed Flood Manuals, new operating protocols and other instruments of control including a process for amendment and departure from those operational protocols as might be required when the dam is operating in flood mitigation mode.
- Ministerial responsibility for approving the Flood Manual, subject to the Minister's satisfaction that the contents meet with best practice and that the manual had been independently peer reviewed.⁷³

These liability issues may make it risky for WaterNSW to operate the Dam for flood mitigation without changes to the relevant Acts. The operators of the Wivenhoe and Somerset Dams in Queensland (which are dual-purpose water supply and flood mitigation dams) faced significant legal action relating to their operation of the dams during the 2011 Brisbane floods.^{74,75,76}

5. Summary

It appears that there are at least three changes to subordinate instruments required before the Dam could be used for flood mitigation as well as water supply:

- WaterNSW's operating licence would need to be amended to authorise it to carry out flood mitigation and management functions in the Sydney catchment area ([section 3.1](#));
- relevant provisions would need to be added to the *Greater Metropolitan Region WSP* ([section 3.2](#)); and
- the water supply works and water use approvals that govern the Dam's operation would need to be amended to include new specifications, together with the associated operating protocol ([section 3.2](#)).

None of the above changes would require amendment of the Acts under which these instruments have been made – the *Water NSW Act 2014* and the *Water Management Act 2000*. However, under current legislation a lack of statutory protection could expose WaterNSW to heightened liability risk from using the Dam for flood mitigation ([section 4](#)).

-
- ¹ Infrastructure NSW, [Flood probabilities – Frequently Asked Questions](#), July 2022, p 3.
- ² Templeman S and Preston R, [Hearing Transcript](#), Select Committee on the Response to Major Flooding Across New South Wales in 2022, 3 June 2022, p 2-4.
- ³ Infrastructure NSW, [Flood probabilities – Frequently Asked Questions](#), July 2022, p 3.
- ⁴ Daoud E, [No power, shin-high water, and a \\$100,000 bill: What it's like when flooding becomes the new normal](#), 7 News, 10 July 2022.
- ⁵ Osborne K, [Devastation returns to Camden in fourth flood of year](#), *Hawkesbury Gazette*, 5 July 2022.
- ⁶ Infrastructure NSW, [Hawkesbury-Nepean Valley Flood Risk Management Strategy Taskforce Options Assessment Report](#), January 2019, p 2-9.
- ⁷ Hannen M, [The greatest flood risk of all](#), *Insurance News*, 1 August 2011, p16-20.
- ⁸ Warner R, [Secular Regime Shifts, Global Warming and Sydney's Water Supply](#), *Geographical Research*, 2009, 47(3), p 227-241.
- ⁹ Infrastructure NSW, [Flood probabilities – Frequently Asked Questions](#), July 2022, p 3.
- ¹⁰ WaterNSW, [Warragamba Dam](#) [website - accessed 31 August 2022].
- ¹¹ Infrastructure NSW, [Hawkesbury-Nepean Valley Flood Risk Management Strategy Taskforce Options Assessment Report](#), January 2019, p 86-147.
- ¹² Infrastructure NSW, [Hawkesbury-Nepean Valley Flood Risk Management Strategy Taskforce Options Assessment Report](#), January 2019, p 203.
- ¹³ Infrastructure NSW, [Hawkesbury-Nepean Valley Flood Risk Management Strategy Taskforce Options Assessment Report](#), January 2019, p 203.
- ¹⁴ Department of Planning and Environment, [Warragamba Dam Raising](#) [website - accessed 31 August 2022].
- ¹⁵ Select Committee on the Proposal to Raise the Warragamba Dam Wall, [Interim Report No 1](#), 5 October 2021; [NSW Government response to the interim report of the Select Committee on the Proposal to Raise the Warragamba Dam Wall](#), March 2022.
- ¹⁶ Select Committee on the Proposal to Raise the Warragamba Dam Wall, [Interim Report No 1](#), 5 October 2021, p 18.
- ¹⁷ Department of Planning, Industry and Environment, [Have your say on Warragamba Dam](#), Media Release, 29 September 2021.

- ¹⁸ SMEC on behalf of WaterNSW, [Environmental Impact Statement – Warragamba Dam Raising, Chapter 4 Project Development and Alternatives](#), 10 September 2021.
- ¹⁹ SMEC on behalf of WaterNSW, [Environmental Impact Statement – Warragamba Dam Raising, Chapter 5 Project description](#), 10 September 2021.
- ²⁰ Doyle K, [BOM declares La Niña alert, signalling strong chance of another sodden summer](#), ABC News, 16 August 2022.
- ²¹ Falson S, [Hawkesbury flood mitigation forum hears Warragamba Dam levels need to be lowered now](#), *Hawkesbury Gazette*, 3 August 2022.
- ²² NSW Legislative Assembly House Papers, [Notice of Motion: Warragamba Dam](#), 11 August 2022.
- ²³ Hawkesbury City Council, [Council Resolution – Warragamba Dam](#), Media Release, 27 July 2022.
- ²⁴ [MP '100% committed' to lowering Warragamba Dam level but packed meeting hears it needs to happen now](#), *Hawkesbury Post*, 21 August 2022.
- ²⁵ Hutchinson S and Moore G, [Residents call for better dam management in Sydney flood disaster](#), *Australian Financial Review*, 5 July 2022.
- ²⁶ [Mayors raise meeting with Water Minister over Warragamba wall](#), *Inside Local Government*, 28 July 2022.
- ²⁷ WaterNSW, [Operating Warragamba when at 100% capacity](#), 20 August 2020 [website – accessed 16 August 2022].
- ²⁸ Infrastructure NSW, [Hawkesbury-Nepean Valley Flood Risk Management Strategy – Taskforce Options Assessment Report](#), January 2019, p 21.
- ²⁹ Infrastructure NSW, [Hawkesbury-Nepean flooding and Warragamba Dam – Frequently asked questions](#), December 2021.
- ³⁰ Water NSW, [Answers to Questions on Notice](#), Select Committee on the Proposal to Raise the Warragamba Dam Wall, 21 February 2022.
- ³¹ [Water NSW Act 2014, s 7\(1\)](#).
- ³² [Water NSW Act 2014, s 7\(3\)](#).
- ³³ [WaterNSW Operating Licence 2022-2024, cl 1.2.1\(k\)](#).
- ³⁴ The former Sydney Catchment Authority and the former State Water Corporation had different statutory functions. The State Water Corporation had a flood mitigation and management function under the (repealed) [State Water Corporation Act 2004](#) and the Sydney Catchment Authority did not have a flood mitigation or management function assigned to it under the (repealed) [Sydney Water Catchment Management Act 1998](#). This difference in authorised functions in the Sydney catchment area was maintained through transitional provisions in [Schedule 2](#) of the [Water NSW Act](#). These provisions allowed the continuation (after the merger) of the pre-existing operating licences separately granted to the Sydney Catchment Authority and State Water Corporation. These transitional provisions specifically excluded flood mitigation and management functions from the authorised “Sydney catchment functions”. In their [submission](#) to the operating licences review in August 2016, WaterNSW took the position that these provisions of the Act prevented them from carrying out their flood mitigation functions in the Sydney catchment area even if the operating licence/s were amended to authorise them. In [response](#), IPART observed that, once the existing operating licences were replaced, WaterNSW could undertake its functions in different areas or circumstances than what historically may have been the case.
- ³⁵ Independent Pricing and Regulatory Tribunal New South Wales, [Water NSW operating licences review final report](#), May 2017, p 72-77.
- ³⁶ Independent Pricing and Regulatory Tribunal New South Wales, [Water NSW operating licences review final report](#), May 2017, p 72.
- ³⁷ NSW Government, [NSW State Flood Plan](#), A Sub Plan of the State Emergency Management Plan (EMPLAN), 2 December 2021, p 42.
- ³⁸ WaterNSW, [Submission to the Independent Pricing and Regulatory Tribunal Review of the WaterNSW Operating Licences](#), 30 August 2016, p 28.
- ³⁹ In the [2017-2022 Water NSW operating licence archived on 15 March 2021](#) there is no flood mitigation and management function in the list of licence authorisations in clause 1.2.1.
- ⁴⁰ In the [2017-2022 Water NSW operating licence archived on 19 March 2022](#) a flood mitigation and management function (except for the Sydney catchment area) is listed in clause 1.2.1(k).
- ⁴¹ At the completion of the previous operating licence (2017-2022), IPART deferred the end-of-term comprehensive review and recommended a short-term operating licence with a 2-year term (2022-2024). This decision was made “in recognition of the NSW Government’s

- ongoing policy work, which could affect WaterNSW". Policy examples given by IPART include the [NSW Water Strategy](#), which was published in August 2021; and the [Greater Sydney Water Strategy](#) which was yet to be finalised at the time (but is now final). Independent Pricing and Regulatory Tribunal NSW, [Report to the Minister – WaterNSW operating licence review](#), May 2022.
- ⁴² WaterNSW, [NSW Water Register](#), Water Supply Works and Water Use Approvals 10CA117212 and 10CA117213.
- ⁴³ WaterNSW, [NSW Water Register](#), Water Access Licences 27431 and 27434.
- ⁴⁴ WaterNSW, [Water Sharing Plans](#) [website – accessed 12 August 2022].
- ⁴⁵ Supplying water to the Sydney Water Corporation is one of WaterNSW's listed functions under the *Water NSW Act* (s 7) and the two corporations are required to enter into arrangements that are to deal with, among other matters, the continuity of water supply and the maintenance of adequate reserves of water by WaterNSW (s 25). [The agreement](#) (originally between Sydney Catchment Authority and Sydney Water Corporation, but now carried over to WaterNSW) states that if water is released from the Warragamba Pipeline into Megarritys Creek (the method by which releases are made downstream for North Richmond water supply) it must be released only in that quantity that is required to be released under the Water Sharing Plan or as directed by the minister (cl 11).
- ⁴⁶ [Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011](#).
- ⁴⁷ [Water Sharing Plan for the Macquarie and Cudgegong Regulated Rivers Water Source 2016](#), cl 62-63.
- ⁴⁸ [Water Sharing Plan for the Hunter Regulated River Water Source 2016](#), cl 36-37.
- ⁴⁹ WaterNSW, [WaterNSW Submission to the Independent Pricing and Regulatory Tribunal – WaterNSW Draft Operating Licence](#), 7 April 2017, p 22.
- ⁵⁰ [Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011](#), cl 7.
- ⁵¹ [Water Management Act 2000](#), s 89(1).
- ⁵² [Water Management Act 2000](#), s 90(2).
- ⁵³ WaterNSW, [NSW Water Register](#), Water Supply Works and Water Use Approval 10CA117212.
- ⁵⁴ WaterNSW, [NSW Water Register](#), Water Supply Works and Water Use Approval 10CA117213.
- ⁵⁵ WaterNSW, [NSW Water Register](#), Water Supply Works and Water Use Approval 10CA117212.
- ⁵⁶ Although the attachments and operating protocol are not publicly available through the NSW Water Register, a previous version of the [Water Licences and Approvals Package](#) was archived on Trove and indicates the type of information included. Note that these approvals were originally granted to Sydney Catchment Authority but were carried over to WaterNSW on its formation.
- ⁵⁷ WaterNSW, [NSW Water Register](#), Water Access Licence 27431 and 27434.
- ⁵⁸ SMEC on behalf of WaterNSW, [Environmental Impact Statement - Warragamba Dam Raising, Chapter 2: Statutory and planning framework](#), 10 September 2021, p 6.
- ⁵⁹ DPIE Water, [Warragamba Dam Wall Raising \(SSI-8441\) - Environmental Impact Statement \(EIS\)](#), advice to DPIE Planning and Assessment, December 2021.
- ⁶⁰ [Water NSW Act 2014](#), s 13.
- ⁶¹ [Water NSW Act 2014](#), s 56.
- ⁶² Independent Pricing and Regulatory Tribunal NSW, [Water NSW operating licence review final report](#), May 2022.
- ⁶³ [Water Management Act](#), s 45.
- ⁶⁴ Langdon A, [WaterNSW's Adrian Langdon on challenges of managing state's water supplies](#), *The Daily Advertiser*, 22 August 2021.
- ⁶⁵ Mangelsdorf A, [Major releases from Burrinjuck, Blowering Dams as MIA braces for first major Spring rain event](#), *The Area News*, 8 September 2022.
- ⁶⁶ *NSW Government Gazette*, No 154, 16 April 2021, p 4.
- ⁶⁷ Natural Resources Commission, [Final report – Review of the water sharing plans for the Greater Metropolitan region](#), February 2021.
- ⁶⁸ Department of Planning and Environment, [Draft replacement of the Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources – components for consultation](#) [website – accessed 8 September 2022].
- ⁶⁹ [Water Management Act 2000](#), s 102.
- ⁷⁰ WaterNSW, [Submission to the Independent Pricing and Regulatory Tribunal Review of the WaterNSW Operating Licences](#), 30 August 2016, p 27-28.

- ⁷¹ Maddison M, [Flood of issues in raising Warragamba Dam wall](#), *The Australian*, 30 September 2021.
- ⁷² In a Budget Estimates hearing on 27 October 2021, then Minister for Jobs, Investment, Tourism and Western Sydney, and Minister for Industry and Trade, Stuart Ayres, responded to a question about whether there was a need to “[bring in additional legislation to enable Warragamba Dam to be operated as a flood mitigation dam](#).” In summary, the Minister’s response indicated that, were the Dam wall to be raised, current legislation would need to be changed to allow maintenance of a flood mitigation airspace. He stated that the liability referred to in the leaked document is “[the liability of protecting an asset that is owned by the taxpayer, and that asset is its drinking water supply](#)”. He denied that the document was about complete statutory limitation of liability, but no further clarification was included to explain this interpretation of the text.
- ⁷³ Hawkesbury-Nepean Valley Flood Management Taskforce, [Managing a Flood Mitigation Zone at Warragamba Dam](#), July 2015.
- ⁷⁴ Powell R, [Queensland flood victims win class action against state, Seqwater and Sunwater over dam negligence](#), *ABC News*, 29 November 2019.
- ⁷⁵ Siganto T, [Queensland water utility wins appeal against 2011 flood damages ruling](#), *ABC News*, 8 September 2021.
- ⁷⁶ Nally A and Austin S, [Brisbane 2011 flood class action win of \\$450 million to be distributed by early 2023](#), *ABC News*, 2 June 2022.

Information about Research Publications can be found on the [NSW Parliament's Website](#).

Advice on legislation or legal policy issues contained in this paper is provided for use in parliamentary debate and for related parliamentary purposes. This paper is not professional legal opinion.

© 2022

Except to the extent of the uses permitted under the *Copyright Act 1968*, no part of this document may be reproduced or transmitted in any form or by any means including information storage and retrieval systems, without the prior consent from the Manager, NSW Parliamentary Research Service, other than by Members of the New South Wales Parliament in the course of their official duties.

ISSN 1838-0204