

Department of Climate Change, Energy, the Environment and Water

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Water for bushfire preparedness and firefighting – background paper

Background information

March 2024



Acknowledgement of Country

The Department Climate Change, Energy, the Environment and Water acknowledges that it stands on Aboriginal land. We acknowledge the Traditional Custodians of the land and we show our respect for Elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

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More information

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Background

The NSW Department of Climate Change, Energy, the Environment and Water has been considering whether changes could be made to the regulatory settings that would allow landholders take relatively small volumes of water to prepare for and fight bushfires¹.

The work started in response to concerns raised by community groups, who found the cost of needing to obtain a water access licence and approvals to take and store small amounts of water was inhibiting their capacity to install and use small-scale firefighting infrastructure like:

- spearpoints
- roof sprinklers
- dedicated water tanks.

There are no provisions in NSW allowing landholders to take water from a water source for bushfire preparedness or firefighting without a licence or relevant approvals. Domestic and stock rights that are available to landholders with waterfront land or an underlying aquifer are limited as they only extend to residential use and for stock watering; not preparing properties for bushfires or fighting bushfires. In emergency fire situations, landholders need to be able to draw on all sources of water, immediately, to help protect life and property.

Under current laws, a person can take water without a licence for the purpose of controlling, suppressing or extinguishing a fire, but only when acting under the direction of an authorised fire brigade officer.

The department has been considering options to allow landholders to take small volumes for bushfire preparedness and firefighting and has arrived at a proposed approach that, if implemented, would see changes made to current laws.

The key objects of this project are to:

- find a cost-effective way for landholders (including community groups) to be able to take small volumes of water for bushfire preparedness and firefighting
- identify any risks and how to manage them
- develop an approach that is equitable, accessible, simple, and enforceable.

¹ **bushfire** and **firefighting** should be read broadly to include all types of fire emergencies, including bushfires, grassfires, shrubland fires, electrical fires, fires in residences and on industrial premises, etc.

landholders throughout this document means the owners and/or occupiers of land.

A range of broader issues raised by landholders during the 2019 Black Summer Bushfires have been considered in the NSW Bushfire Inquiry Final Report (published July 2020) and are under active consideration by the NSW Rural Fire Service and the NSW Reconstruction Authority. This includes issues relating to recompense for water taken from farm dams by emergency service agencies to fight fires, which are therefore not included in the scope of this project.

The purpose of this background paper is to:

- give an outline of why this work is happening and the context
- outline the process the department has taken to identify and analyse the options
- outline the rationale for the positions included in the department's proposed policy approach.

Work done to date

Review of regulatory settings in NSW and other States

One of the first things the department did was review:

- the current regulatory settings in NSW, including the *Water Management Act 2000*, *Water Management (General) Regulation 2018* and other relevant legislation relating to firefighting and emergency services
- how other Australian jurisdictions manage access to water for bushfire fighting and preparedness.

NSW legal context

The *Water Management Act 2000* recognises the powers conferred by the:

- *Fire and Rescue NSW Act 1989*
- *Rural Fires Act 1997*.

These Acts allow authorised officers of a fire brigade to take and use water from any water source, without payment, for the purpose of suppressing, controlling, or extinguishing a fire.

The *Water Management (General) Regulation 2018* provides an access licence exemption for any person taking water for the purposes of complying with a direction given under the *State Emergency Service Act 1989* or the *State Emergency and Rescue Management Act 1989* in an emergency (including a bushfire). These directive powers are aimed more at making sure pressure in water supply systems is maintained during an emergency by preventing water being taken for other purposes.

The existing exemptions only apply to imminent or actual emergency events, not activities needed to prepare for such events. The exemptions also only apply to authorised officers or persons acting under the direction of an authorised officer.

Inter-agency technical advisory group

An inter-agency group was formed in August 2023 involving staff from the department, Rural Fire Service (RFS), WaterNSW and the Natural Resources Access Regulator (NRAR).

The group contributed valuable knowledge and practical insights in identifying and analysing 4 broad policy options for providing water for bushfire preparedness and firefighting.

Peak stakeholder consultation

In December 2023, the project team held preliminary consultation sessions with a range of peak stakeholder groups to discuss the options and draw out any further issues needing consideration.

The participating groups were:

- Local Government NSW
- Nature Conservation Council of NSW
- NSW Aboriginal Land Council
- NSW Farmers Association
- NSW Irrigators Council
- Water Directorate
- several community groups who have encountered issues with the current framework.

Based on the work of the inter-agency technical advisory group and discussions with peak stakeholders, the department has identified a preferred option which has been further developed to become the proposed approach.

Options to provide water for bushfire preparedness and firefighting

The main options considered were:

1. create a water access licence exemption
2. create a new subcategory of specific purpose access licence
3. expand basic landholder rights
4. create a licence exemption, with a future review phase to consider the merits of expanding basic landholder rights.

1. Licence exemption

To take and use water, a person must hold an appropriate:

- water access licence – authorises a person to take a specified volume or share of water from a specified water source, such as a river, lake or aquifer
- water supply work approval – authorises a person to construct and use a work (such as a pump, dam and bore) that takes water from a water source
- water use approval – authorises a person to use water for a particular purpose (such as are irrigation, town water supply, power generation and mining).

A water access licence and relevant approvals are not required if the person can rely on appropriate exemptions, or if they take water under a basic landholder right².

Exemptions can include conditions requiring a person to do certain things if they want to rely on the exemption (such as notifying the department of activities or recording and reporting water take).

Conditions on access help manage the impacts of that water take.

If a water access licence exemption is in place allowing the take of water for any purpose, then an exemption from the need to hold a water use approval for that purpose also automatically applies³.

² As mentioned under Option 3, water supply work approvals are needed for domestic and stock dams and bores.

³ As provided for by clause 34(1) of the Water Management (General) Regulation 2018.

2. Specific purpose access licence

Specific purpose access licences enable the holders to take water for the specific purpose for which the licence was granted. These types of licences have a volume limit and additional conditions may apply, such as limits on the locations where water can be taken. The holder of a specific purpose access licence must also comply with any restrictions in the relevant water sharing plan.

A specific purpose access licence cannot be granted unless no more than minimal harm will be done to the water source(s) the licence applies to. The licence must be cancelled when the specific purpose for which it was granted no longer exists.

3. Basic landholder right

Landholders can take water under a basic landholder right without a water access licence or approvals in certain circumstances. There are three types of basic landholder right under the *Water Management Act 2000*:

- **domestic and stock rights:** where a landholding has river, lake, or estuary frontage, or is overlaying an aquifer, the landholder can take water for domestic and stock purposes. A water supply work approval is not needed for a river pump but is needed if constructing a bore or a dam. Water taken under this right cannot currently be used for bushfire preparedness and firefighting. However, landholders sometimes do use this water if it is an accessible source in a fire emergency.
- **harvestable rights:** landholders can capture and store a portion of rainfall runoff in a dam without a water access licence, water supply work approval, or water use approval. Restrictions on the size and location of dams apply. Harvestable rights water can be used for any purpose but must be used on that landholding.
- **native title rights:** anyone holding a native title with respect to water can take and use water in the exercise of their native title rights without a water licence, water supply work approval (unless the work is a dam or bore), or water use approval.

A new basic landholder right category could be created, or one of the above categories expanded, to include water for bushfire preparedness and firefighting.

4. Exemption with a review to determine if basic landholder rights should be expanded

An exemption could be introduced in the short-term allowing landholders to take and use water for bushfire preparedness and firefighting without needing a water access licence or water use approval (similar to option 1). A review would then be carried out in the medium-term (approximately 3-5 years' time) once sufficient information was available to get an understanding of how the exemption is being used and whether it would be appropriate to transition this form of access into a basic landholder right.

Advantages and disadvantages of the options

#	Options	Advantages	Disadvantages
1	Create a licence exemption	<ul style="list-style-type: none"> No application fees or ongoing costs. Conditions can apply, including limits on volume and use to safeguard against the misuse of water access. A licence exemption would be exempt from the non-urban water metering requirement (but bespoke requirements could be applied if necessary). Can be implemented relatively quickly. 	<ul style="list-style-type: none"> Generally, the department is not aware of who is taking water or how much is taken. This creates issues for compliance, monitoring and evaluation, as well as resource assessment and management. If conditions are applied, there is no way of recovering associated costs. Water taken under an exemption does not need to be accounted for in the long-term average annual extraction limits set in water sharing plans.
2	Create a new specific purpose access licence	<ul style="list-style-type: none"> Clear application and approval process. The number of specific purpose access licences in use is known, assisting with compliance and enforcement. 	<ul style="list-style-type: none"> Licence fees and ongoing costs act as a barrier to the use of licences for fire preparedness and firefighting. Waiving or reducing fees has resourcing implications. Specific volume limit must be assessed for each application and applied to the licence (not simple). A specific purpose access licence would need to comply with the non-urban water

		<ul style="list-style-type: none"> • Conditions can apply, including limits on volume and use to safeguard against the misuse of water access. • Annual fees and charges contribute toward the cost of providing water management services. 	<ul style="list-style-type: none"> • metering requirements, incurring additional fees and charges. • Consideration would need to be given to rules relating to water allocations and accounting, including carryover rules. • Longer implementation times.
3	Expand the basic landholder rights provisions	<ul style="list-style-type: none"> • No application fees or ongoing costs. • Conditions can apply, including limits on volume and use to safeguard against the misuse of water access. • Often accounted for within the long-term average annual extraction limits set in water sharing plans. 	<ul style="list-style-type: none"> • Generally, the department is not aware of who is taking water or how much water they take. This creates issues for compliance, monitoring and evaluation, as well as resource assessment and management. • Water taken is exempt from metering requirements, so would need to be estimated to assess compliance with long-term average annual extraction limits. • If conditions are applied, there is no way of recovering reporting/compliance costs. • Could create actual or perceived inequity amongst water users if it resulted in reduced access by other forms of take. • Changing basic landholder rights would be a lengthy process (requiring legislative changes).
4	Hybrid option: Short-term exemptions with a future review to inform possible transition to a basic landholder right	<ul style="list-style-type: none"> • No application or ongoing costs. • Conditions can apply, including limits on volume and use to safeguard against the misuse of water access. • Non-urban metering does not apply to exemptions or basic landholder rights, so less costs for proponents (noting bespoke requirements could be applied if necessary). • Can be implemented relatively quickly, whilst informing a longer-term approach. 	<ul style="list-style-type: none"> • Some minor duplication of effort amending the Regulation to create an exemption, then amending the Act. • A shift from an exemption to basic landholder rights may confuse water users unless good communications are put in place. • If conditions are applied, there is no way of recovering associated costs. • Set review phase (in say 3-5 years' time) needs to be resourced.

Other considerations

Conditions

Conditions are often applied to exemptions, specific purpose access licences and basic landholder rights to manage the potential impacts of water take on water resources, the environment and other water users. Some examples of previously used conditions include setting maximum permitted volumes of take, adding requirements for water users to keep records and report their water take, and to notify agencies when an activity is or has been carried out.

Volumetric limit

Applying an annual limit on the volume of water that can be taken and used by landholders when preparing for or fighting bushfires is one way of limiting the overall scale of this form of take and discouraging any misuse of the water for other purposes. For example, the maximum allowable volume could be set at 1 megalitre per landholding per year.

A range of issues have, however, led the department away from proposing a limit on *total volume* taken and used; instead relying more on purpose-based restrictions that set out what the water can and cannot be used for. These include:

- the anticipated volumes and frequency of use for these purposes and overall risks to water sources and water sharing is likely to be low, especially compared with other forms of use
- achieving compliance and enforcement with total limits on take and use would be difficult to achieve noting:
 - the large number of landholders the condition would apply to
 - the need for timely and accurate landholder reporting, placing an extra burden on people during/after stressful natural disasters
 - it would be unreasonable to expect landholders to ‘turn the tap off’ if in the midst of fighting an active fire because a volume limit was reached
 - difficulties for landholders in knowing how much water they might have taken and used for these activities, particularly if they have a low level of water literacy⁴.

⁴ Meaning they may not understand water management laws, governance, terminology, volumes, pumping rates, etc, compared with a commercial water user who regularly interacts with water licensing and planning.

A limit on the volume of water that can be taken from a water source to be stored in dams or tanks for later use is proposed – at 100,000 litres per landholder per year – to ensure dams or tanks cannot simply be refilled with river water or groundwater to replace water that is used for other purposes. Such a measure is necessary to ensure the ordinary water licensing arrangements are not bypassed and they can be adequately enforced by the Natural Resources Access Regulator. The volume proposed is generous, being larger than the water storage capacity required for larger rural landholdings under the NSW Rural Fire Service *Planning for Bushfire Protection* standards.

Reporting

Landholders could be required to record when and how much water is taken for bushfire preparedness and firefighting and to report this information to the department. Options would include requiring landholders to report:

- each time water is taken, including the volume taken (estimated or measured)
- at the end of each water year, with estimates of the volume taken during the year and the date/s that water was taken
- at the end of each water year, by simply giving notice that they relied on the exemption during the year without details of the volume of water taken or the dates of use.

Water take reports could help us to understand the total volume and nature of water taken for these purposes and facilitate compliance with any volume-based or time-based restrictions on take. However, for small-scale and intermittent water take the disadvantages of this type of condition include:

- creating an additional burden on landowners during and/or after stressful times
- difficulties in landholders being able to measure or estimate volumes taken and used, resulting in incomplete and/or unreliable reports and information
- considerable resources including costs associated with:
 - communicating the requirements to a large and widely dispersed range of landholders
 - establishing systems and processes to collect, store, share and analyse the data
 - using data to secure successful enforcement actions in cases of non-compliance.

For these reasons, the department proposes not to require landholders to record or report water taken for bushfire preparedness or firefighting. Instead, compliance can be effectively and efficiently achieved through carefully worded limitations on the purposes for which this water can be used. Monitoring of the overall extent and scale of water use can be achieved through periodic landholder surveys (see next section).

Targeted landholder surveys

An option to assist in assessing the extent and scale of water take and use for bushfire preparedness and firefighting is to carry out periodic surveys of landholders, say every 3-5 years. Surveys would provide important information on the number of landholders using water for this purpose and the general level of use.

Using NSW Rural Fire Service data, the department could carry out or commission stratified, random surveys in areas that have experienced bushfire events in the preceding years.

Targeted surveys could supply broadscale information about the extent of water use for bushfire preparedness and firefighting without adding to the burden of landholders when they are in stressful situations. They would also likely be less resource intensive and costly for water agencies compared with handling mandatory reports provided by a potentially large number of landholders.

To bolster the integrity of data collected, care would need to be taken with the survey design to maximise the number of responses and glean the most accurate information possible from landholder's memories of events and activities that occurred in the prior period.

Water supply work approvals

A water supply work approval authorises the construction of a 'work', usually a pump, dam or bore. The rules in place and assessments done when deciding whether to grant a water supply work approval all help to ensure the sustainable and equitable use of water.

The department expects that many landholders would use their existing works to take and use water for bushfire preparedness and firefighting. If, however, new works were proposed, a water supply work approval and assessment process are key tools for managing potential risks and impacts, particularly for groundwater.

Given the sporadic nature of the use of any new works built solely for bushfire preparedness and firefighting the application process would not need hydrogeological assessment (in the case of a new bore application) and could be streamlined. The assessment would focus on interactions with the following:

- Aboriginal and European heritage sites/objects and native title interests
- biodiversity, including threatened species and endangered ecological communities
- contaminated lands
- exploration or mining titles
- acid sulphate soils
- any distance conditions in the applicable water sharing plan.

The Independent Pricing and Regulatory Tribunal (IPART) sets the maximum fee that may be levied for water supply work approval applications. WaterNSW however, can elect to charge a lower fee if deemed appropriate to the circumstances. This discretion permits WaterNSW to reduce, lower, or to charge the minimum fee for work approvals for bushfire preparedness and firefighting.

Accordingly, while a water supply work approval would be needed for any new dam or bore constructed solely to provide water for bushfire preparedness and firefighting, the application could have the lowest fee apply. For example, a new bore could be charged the same fee as a basic landholder right bore (approximately \$1,000) instead of the higher fees for a commercial bore approval. If a new work was to be used for multiple purposes, such as bushfire preparedness and irrigation, then the standard water supply work approval application processes and fees would apply for the larger use.

Additionally, WaterNSW intends to include in their next Pricing Proposal to IPART, that an appropriate fee structure be established for work approvals associated with bores for bushfire fighting purposes. If approved by IPART, this would set a specific maximum charge for this type of work approval and replace the proposed process of relying on a discretionary fee reduction. An IPART determination would provide an independently verified fee structure that reflects the costs of processing these types of applications.

Defining bushfire preparedness and firefighting

An important way of avoiding the overuse or misuse of water would be by setting tight restrictions on the purpose for which the water is taken, setting out precisely what water can (and cannot) be used for. Integral to this is providing clear definitions and understanding of key terms such as ‘imminent fire’, ‘fire preparedness’ and ‘firefighting’.

Imminent fire

In allowing water to be used to prepare for an actual or imminent bushfire threat to a landholding, it is necessary to understand what is meant by imminent. The Macquarie dictionary defines imminent as *likely to occur at any moment, impending (about to happen)*. To understand how the definition of imminent might apply in practice in a bushfire context, the department considered a number of options for prescribing when a landholder could start to use water to prepare their properties, including:

- distance based – start watering down assets and surroundings when a fire is a specified distance away, for example 5 kilometres
- fire danger rating – permitted to prepare on days with ‘extreme’ or ‘catastrophic’ ratings

- bushfire alert level – permitted to prepare when a ‘watch and act’ or ‘emergency warning’ alert has been issued by the NSW Rural Fire Service.

However, imposing prescriptive settings does not account for:

- people having different risk appetites – some people may want to start preparing early, well before a fire front is near, whilst others may be content to ‘wait and see’
- each fire behaves differently – depending on weather conditions (temperature, humidity, wind) and fuel loads, fires have different levels of intensity, speed of fire front/s, ember attack, etc.
- fires can start at any time – a fire can start irrespective of a fire danger rating or alert level. Likewise, time lags can occur between when a fire starts and when fire brigades or emergency services become aware of it. People need to be able to independently react to a fire.

For these reasons, the department proposes not to specify in detail when a landholder may start preparations, which means the ordinary meaning of ‘imminent’ would apply. This approach has been used in other legislation, such as the *State Emergency and Rescue Management Act 1989*, which provides powers for an ‘imminent’ emergency. Furthermore, the Courts have contemplated the meaning of imminent, so case law exists that can help narrow down its interpretation if the need arises.

Fire preparedness

The NSW Rural Fire Service has a lot of information available on how to plan and prepare for a bushfire. Actions to prepare a property against fire include:

- wetting down houses, buildings and other structures
- wetting down ground directly surrounding buildings or structures
- blocking downpipes on houses and filling gutters with water.

Firefighting

This is mostly self-explanatory, with firefighting activities being any action/s taken to control, suppress or extinguish an active fire.

Restriction on how water for bushfire preparedness and firefighting is used

To minimise burden on landholders, the department wants to limit the number and extent of conditions placed on the use of water for bushfire preparedness and firefighting. However, to ensure water is used for the purpose it was intended, it is vital that specific purpose-based restrictions apply. In essence, a landholder should not be able to use water taken for bushfire

preparedness and firefighting for domestic or stock purposes, commercial purposes or refilling dams or tanks if water is taken from a dam or tank by an emergency services agency during a bushfire. These matters are further explained in the paper outlining the [proposed approach](#).

Non-urban water metering

The [non-urban metering framework](#) commenced in December 2018 with staged deadlines for installing compliant equipment. Non-urban water metering refers to measuring the volume of water taken under an access licence. Some works are exempt from the metering equipment requirements, such as works used solely to take water under a basic landholder right. There is no need for mandatory metering equipment if there is an exemption from the requirement to hold an access licence to take water⁵.

Extraction limit impacts

In NSW, all water sharing plans include long-term average annual extraction limits. Water sources located within the Murray Darling Basin are also subject to a sustainable diversion limit, as set by the Basin Plan 2012.

Extraction limits are designed to protect water resources, dependent ecosystems and communities from the impacts of over-extraction in the longer term. They manage extractions at a whole of water source (or extraction management unit) scale, depending on the type of water source.

Water taken under a specific purpose access licence, or under domestic and stock or native title rights, is counted as part of the overall amount of water extracted in a water source when assessing compliance with the extraction limits. Water taken under licence exemptions is not included in the calculation of the amount of water extracted in a water source. As extraction in water sources is managed to ensure compliance with extraction limits, providing more water through a specific purpose access licences or basic landholder right may reduce the amount of water available for other users, particularly licence holders, in a water source.

⁵ As provided for by clauses 231(1)(e) and (g) of the Water Management General Regulation 2018