Groundwater extraction in the NSW Northern Rivers

Groundwater has been bottled for commercial use in the Northern Rivers region of NSW for a number of years at approved facilities. Members of the Tweed community recently expressed concerns about the impact of the local water bottling industry’s demands on groundwater supplies.

What will the Chief Scientist & Engineer look at?

The NSW Chief Scientist & Engineer has been asked to undertake an independent review of the impacts of the bottled water industry on groundwater resources in the Northern Rivers region of NSW. The Terms of Reference can be found on the website of the NSW Chief Scientist & Engineer. Visit www.chiefscientist.nsw.gov.au and search for ‘Impacts of the Bottled Water Industry on Groundwater Resources’.

How is water shared among different users in NSW?

Surface water (such as rivers, lakes and dams) and groundwater in NSW are managed under statutory water sharing plans (WSPs). WSPs set the sustainable limits of water ‘take’ by defining average annual extraction limits and setting the rules for trading access licences. These plans share water between users and the environment. To take either surface water or groundwater for purposes other than stock and domestic use (called ‘basic landholder rights’), water users require a licence, which entitles them to a specified amount of water or share of available water. All new licence applications are examined possible impacts on water resources, wetlands and neighbours.

Is there a shortage of groundwater in the NSW Northern Rivers?

In general, we don’t consider groundwater reserves near the coast in the Northern Rivers region to be under stress. The amount being taken is estimated to be significantly less than the amount that the groundwater sources can support. We estimated the total amount of groundwater used in the NSW Northern Rivers region by all users is less than 2% of water entering the system each year.

There are four groundwater sources in the Northern Rivers region. The North Coast Volcanics and the New England Fold Belt groundwater sources are considered the most likely sources for the bottled water industry. The current level of extraction by the water bottling industry is small in comparison to the sustainable extraction limit. Overall, these two groundwater sources are under-allocated. NSW Department of Industry is making water available in these areas through a controlled allocation process. You can find more information on the controlled allocations process at industry.nsw.gov.au/water/allocation-availability/controlled

How are recharge rates determined?

Groundwater systems are complex. Recharge to groundwater is estimated in these areas and in many other parts of NSW as a percentage of rainfall. The percentage of rainfall estimated to recharge groundwater is dependent on the aquifer type—in these two sources it is ‘fractured rocks’.

Who is monitoring the groundwater and its use?

NSW Department of Industry is responsible for managing groundwater in NSW. In areas of high groundwater use or where there are specific management requirements, the department and WaterNSW install and monitor groundwater monitoring bores.
There are no monitoring bores measuring levels of extraction because the current resource use is low (less than 2% of the sustainable extraction limit). There are monitoring bores in the area for purposes such as water-quality monitoring associated with projects and sites.

While the overall level of extraction in the Northern Rivers region is considered to be low, the management framework recognises that localised impacts could occur. This risk is managed through distance conditions imposed in the water sharing plan, together with individual assessments undertaken by the department’s hydrogeologists prior to granting work approvals. Local councils also have the power to require proponents to install monitoring infrastructure as a condition of development consent.

The take of groundwater in the Northern Rivers must be measured—either by way of meters attached to the bores, or by licence holders recording their extraction in logbooks. Licence holders must produce logbooks for inspection by the Natural Resources Access Regulator (NRAR) on request.

The NSW Government has brought in a new metering regulation (see industry.nsw.gov.au/water-reform/metering-framework) that improves the standards of metering for all users across the state. The regulations commenced on 1 December 2018.

Who will undertake compliance?

The NRAR recently investigated four NSW water-bottling operations in the Northern Rivers and found that all operations took water well within their water licence limits. The NRAR also found that the method used to measure water take for three of the four operators could be improved.

These three operators have agreed to install accredited water meters on individual extraction bores, making for a more transparent and consistent water monitoring practice. The NRAR is actively monitoring compliance of other similar water take activities in the area.

More information

More information is available on the NSW Department of Industry website: industry.nsw.gov.au/water

To make a confidential report on suspected water misuse, contact the NRAR Hotline on 1800 633 362 or email nrar.enquiries@nrar.nsw.gov.au