

Water law frameworks: International lessons for NSW

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The below views are the author's initial learnings from her first four weeks of a Churchill Fellowship. They are continuing to evolve and do not represent the author's place of work.

Background

In 2019, during a drought of record across a number of NSW catchments, I was awarded a Churchill Fellowship to travel in 2020 and explore international water law and policy for water security. My focus was three-fold: drought frameworks, water markets and indigenous rights to water. More than three years after being awarded the Fellowship, I finally departed in October 2022 for a whirlwind 8 week international tour. The itinerary: England (Oxford and London), USA (California, Washington State, Colorado and Nevada), and Chile (San Pedro de Atacama, Petorca, Cabildo, San Jose, Valparaiso and Santiago).

Each jurisdiction is facing severe drought. Much of the Western USA and Chile are in prolonged droughts (up to 22 and 13 years, respectively) and despite Autumn rainfall, much of England remains in drought conditions. Each jurisdiction is also facing a 'new normal' of drier conditions or changed hydrological patterns. Consequently, each jurisdiction is planning for a water future different to its past.

At its core, my Churchill Fellowship was premised on one particular question: how do NSW and Australian water law frameworks compare on the international stage? During critical water shortages in 2019, I posited that other countries responding to water insecurity must have measures that our legal, policy and management frameworks could learn from.

Important lessons

Throughout my journey I have learned that our frameworks continue to garner respect worldwide. This is at each of the local, state and Federal levels, for both domestic and on-farm water use. We have a number of measures aimed at improving water use efficiency and conservation that other countries have only recently pivoted towards or are only now considering. These include building codes with mandatory efficiency measures, incentivising rainwater tanks, and metering (both domestic and on-farm). Our legal frameworks allow for some of the most flexible approaches to managing water pursuant to conditions and availability, and it is structurally easier for our government to impose restrictions during times of water shortages.

This is not to say our frameworks cannot be improved. They can and they must. Areas of opportunity include securing indigenous rights to water beyond Native Title, climate preparedness, protecting environmental water, and water and market equity.

Indigenous rights to water

We must recognise, improve and secure indigenous rights and access to water, including the ability for economic use. Despite their own jurisdictional challenges, Chile and the USA offer valuable lessons for NSW in empowering Indigenous communities through water resources. This includes granting rights that permit self-determination over use and expand to have a market value.

Both Chile and the USA provide examples of Indigenous communities reserving water rights for non-consumptive use (eg cultural flows), using water rights for local agricultural production, or trading water rights for financial return. Our frameworks need to be amended to recognise this right and facilitate Indigenous access to and use of water rights. Closer to home, Victoria has moved forward in this area.

Climate preparedness

International jurisdictions are connecting water resources with broader meaningful climate frameworks. Although the NSW water law framework might not need a complete overhaul to face the challenges of the future, its effectiveness will be greatly improved if it is explicitly intertwined with related areas. As we re-learned during the 2017-2020 NSW drought, water does not operate in isolation of the environment, threatened species, or planning legislation. Similarly, responding to drought is more than just providing water solutions. It includes considerations of community, livestock and mental health. Australia should look to developing a Climate Framework that connects the areas of natural resources, public policy and climate projections to secure a viable future.

The National Water Initiative is nearly two decades old. For some time there has been talk about reviewing and revitalising it to update and progress Australian water policy. A Climate Framework has the potential to go one step further and integrate key related areas and provide a way forward in one of the most pressing areas impacting Australia. The UK, Chile, and parts of Western USA all have climate legislation that Australia can learn from. Most recent among them is Chile's *Climate Change Framework Law* from June 2022, which sets mandatory implementation requirements for carbon neutrality by 2050.

Protecting environmental water

Reserving environmental water was a core purpose of the NSW licence clawback scheme in the early 2000s. Consistent with the National Water Initiative, the purpose of the NSW reforms benefited both the environment and irrigators alike. It set a program to return catchments to sustainable yields, quarantined further water for environmental flows and allocated water for consumptive use through a secure entitlement (although not quite as strong as the proprietorial water use rights in Chile and the Western US).

Yet environmental water protections are often relaxed during drought when difficult decisions need to be made to share a diminishing supply. Climate science indicates droughts will be longer, more frequent and more severe. In these circumstances we must quarantine this water during dry times especially, when the environment is also suffering.

Water and market equity

From Chile's past, we learn that intent matters. In creating water markets, NSW had already prioritised human and environmental water before allocating to the consumptive pool. In Chile, the neo-liberal approach of the Pinochet regime (1973-90) prioritised water markets and profit over all other considerations, including human consumption. In communities like Petorca, the water inequity is real and heartbreaking. In April 2022 Chile reformed a crucial element of its 1981 *Water Code* to prioritise water for human use. But with 92% of Chile's water allocated, entrenched private property water use rights, and water selling for upwards of USD\$15,000 litre flow/second, the challenges of resolving retrospective framework approaches are real. Assuming the above price applies to a 1 L/s flow rate for one day, this translates to roughly AUD\$250,000 per ML.

Whether NSW has sufficient water to supply growing populations while facing increased climate pressures cannot be in question. Australia must learn from Chile and prioritise water equity. This means augmented supply, mitigation and adaptation measures, long-term efficiency programs and embedded conservation mindsets to ensure water for all. It also means transparent water markets and giving indigenous communities self-determination over cultural water, including for its trading value.

Water is political worldwide. Water conflicts are happening at the inter and intra national levels, from Bolivia and Chile in the World Court, to Western US states re-determining how to share the diminishing Colorado River resources. Australian politics is only different from its international

counterparts in its multi-decadal debate over climate science. In my view, the biggest area for growth in Australian water resources is moving beyond 'just water' and connecting water to a Climate Framework, grounded in climate legislation.

Final thoughts

Like the Peter Cullen Trust Science to Policy leadership program, my Churchill Fellowship is proving formative. The international water and water law community is generous and eager to share and learn from each other. I'm reinvigorated by Australian water law, policy and management and excited for its future. There is much work to do, but our water sectors are well-placed to tackle the challenges head on.



Photos: Dry rivers and wells next to water dammed for large-scale agricultural production in Petorca, Chile

I was hosted by a community water rights activist in the Petorca region of central Chile. The community has two hours' running water a day. All domestic water is bottled (and expensive). Water trucks are unreliable, as is the water quality.

Mass avocado production and the 13 year drought have caused the river to run dry and groundwater to become the primary agriculture water source, but those wells are also beginning to dry.

The challenges in this community are multi-faceted and government distrust is generational. Petorca is a well-known example of water inequity and perverse water market outcomes, and one that Australia must learn from.

Photos: Building a water mindset and Oraville Dam, California

California is in its second major drought in a decade, after a slight interruption that included record flooding between 2017-2019. Water conservation (short-term) and (long-term) efficiency measures are an important part of the drought response strategy. Lake Oraville, the largest reservoir in California's State Water Project and supply water to over 27 million Californians, is at 36% capacity.



Interviewing Peter Gleick in Oakland.