
Progress Report 2021-22

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September 2022



Lake Cawndilla, Menindee. Photo: NRAR



Acknowledgement of Country

At the Natural Resources Access Regulator, we acknowledge that we stand on Aboriginal Land. We acknowledge the Traditional Custodians of the land, and we show our respect for Elders of the 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.

Letter of submission

The Hon. Kevin Anderson

Minister for Lands and Water, Hospitality and Racing

52 Martin Place

Sydney NSW 2000

Submission of Progress Report – Natural Resources Access Regulator

Dear Minister,

I am delighted to submit the Natural Resources Access Regulator's Progress Report for the financial year ended June 30, 2022, to be presented to the Parliament of New South Wales.

The report has been prepared as required and in accordance with the *Natural Resources Access Regulator Act, 2017*.

Yours sincerely,



The Hon. Craig Knowles AM

Chair, Natural Resources Access Regulator

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Message from the board



The NRAR Board is pleased to present this, our fourth progress report, in which we celebrate the achievements of 2021-22 and outline the changes and plans that will shape the year ahead.

The organisation now goes beyond its start-up phase and enters a new era as a mature regulator with the confidence that comes from expanded capabilities in its people and processes, and the benefit of years of experience and learning.

The board has ratified a revised set of regulatory priorities that will guide NRAR's activities for the coming year and continue to build public trust in the regulatory system.

Critical among them is the ongoing rollout of non-urban water metering reforms, which is one of the most significant changes to water management in NSW over the last few decades. The metering changes mean water use has never been more measurable or water users more accountable.

NRAR will also continue to prioritise its activities around irrigated agriculture, which accounts for 60 per cent of all licenced water use in NSW. Improvements in water use measurement and accounting in the state's mines and extractive industries will be the third regulatory priority for NRAR in the coming year.

Major changes to the structure and function of NRAR were achieved this year after months of careful planning and consultation.

The previous four directorates have been replaced with six new ones with even greater alignment to NRAR's goal of positive outcomes for the people, environment, and economy of NSW.

The transfer of NRAR's licencing and approval functions to Department of Planning and Environment - Water was another milestone and is expected to improve and simplify pathways for people seeking to comply with water use regulations.

NRAR's commissioning of a report this year - that put a dollar value on the state's water allocations for the first time - was an important step in changing public discourse around fair access to water and the need for effective metering.

The report found that the value of water is already high and that demand for access is rising, particularly for high value crops

like blueberries, cotton, nuts and grapes. This understanding enhances and supports NRAR's efforts to ensure water users don't take more than their fair share of this valuable and finite resource.

The board thanks the NSW Water Minister Kevin Anderson for his ongoing commitment to NRAR as it continues to effectively and efficiently regulate water use and uphold water laws.

We also thank the whole NRAR team for 12 months of excellent work. Their dedication and adaptability through a challenging year of COVID-19 and unusually wet weather has kept the organisation on track to meet its goals.

A handwritten signature in black ink, appearing to read 'Craig Knowles'. The signature is fluid and cursive, with a long horizontal stroke at the end.

**The Hon. Craig Knowles
Chair, Natural Resources Access
Regulator**

Message from the Chief Regulatory Officer



NRAR has ended its fourth full year of operation and looks toward an even more future-focused, proactive phase of operations as a mature and experienced regulator.

There is no denying the challenging impacts on day-to-day activities in the last year caused by COVID-19 and one of the longest, wettest periods in decades. Despite it all, we've come a long way since NRAR's formative years.

One crucial part of this transition from start-up to mature regulator has been a major organisational restructure this year, which aligns the activities of staff in six new directorates even more closely with our purpose, vision, and strategic goals.

Formal consultation on the restructure began in April 2022, and through all the uncertainty this entailed, staff continued to deliver, perform, and maintain the momentum of our operations. I cannot commend the NRAR team highly enough.

NRAR continued to get strong results in court when we prosecuted significant breaches of NSW water laws. In February, the NSW Court of Appeal upheld a \$252,000 fine on a company that built and used an unlawful irrigation canal. In April, another company was fined \$250,000 for offences that damaged environmentally sensitive land near Great Lakes Marine Park. In May, satellite images revealed the extent of illegal water take on a Brewarrina property, resulting in \$57,000 in fines.

Among the achievements of this period are some far reaching enforceable undertakings (EUs), which have highlighted why this legally binding sanctioning option has become such an important enforcement tool for NRAR.

EUs allow restitution to be negotiated that offsets the harm caused to the system and environment. They frequently deliver worthwhile community-building projects in the region in which they occur. A new park to be built at Hay, numerous land restoration projects, and social programs at Oberon are examples from the past year.

Another significant change in the 2021-22 financial year was the transfer of NRAR's previous licensing and approvals functions to DPE Water – a step which should simplify the system for water users.

We have set our regulatory priorities for 2022-23 with continued focus on the all-important non-urban metering rollout. We will also keep looking at compliance in irrigated agriculture, while adding a new area of priority focusing on how water is used in mining and extractive industries.

NRAR will keep building on its use of technology in investigations and enforcement. This has already transformed the speed and accuracy of our work. Ongoing training and development of staff in this area will be crucial.

Our world class methods were featured in ABC TV's respected rural program, Landline, in June. It was a highlight, but just one of hundreds of mentions of NRAR achievements in the media during 2021-22. Such positive exposure is critical to maintaining public confidence in the work we do and in water management in NSW.

A handwritten signature in black ink, appearing to read 'Grant Barnes'. The signature is fluid and cursive, written on a white background.

Grant Barnes
Chief Regulatory Officer, Natural Resources Access Regulator

NRAR achievements

About NRAR

> **800,000** sqm
land area regulated

166 staff over
21 offices

156,000
licensed works in NSW

Environmental benefits



4977+ML
of **water returned to the environment**
(equivalent to 2 days urban Sydney water consumption)

Community wins



\$80,000
upgrade of a recreational park because of an enforceable undertaking

Key water values



\$29 billion
calculated as the **estimated value of all water access licences** in NSW



\$5.25 billion
estimated as the **total flow-on impact from irrigated agriculture production** for regional economies

Compliance outcomes



99%
of **properties** inspected for overdrawn accounts **were compliant**

Regulation activities



300 letters
sent to **help water uses in Lachlan, Lower Murrumbidgee and Namoi** comply with bore extraction limit compliance

Technology



1
bathymetric boat added to NRAR's tech suite, so **dam volume and stream flow** can be very accurately measured



1400km
of the **Murrumbidgee River** analysed using remote sensing to **identify irrigated agriculture activities**

Law enforcement



87
the **average number of enforcement actions** taken by NRAR in each quarter

Education activities



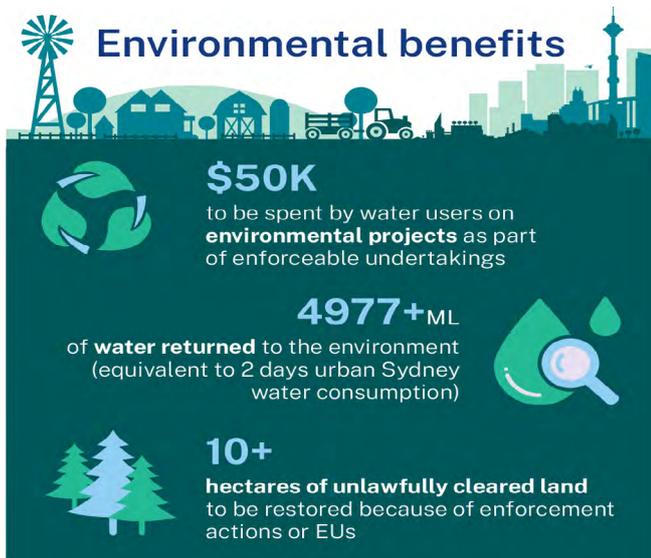
4
Field days attended

6
6 more planned

01

A year of
progress

Environmental benefits



Water is critical to a healthy and sustainable natural environment. It supports a variety of ecosystems and habitats that maintain many animals and plants - fish, birds, threatened species and endangered ecological communities, to name a few.

The health and sustainability of water resources depend on NSW water laws being properly enforced to ensure the environment gets its share. Delivering positive environmental outcomes is a key area in NRAR's strategic goals 2021-2023. Here are some of NRAR's wins for the environment in the past financial year:

Native fish

It's a sad fact that NSW native fish populations are in poor health and have suffered serious reductions in distribution and abundance. That is why NRAR acted in August 2021 to have two rock block banks built across the Macintyre River on the NSW-QLD border removed. They were impeding the migration of native fish including Murray cod, golden perch, silver perch, freshwater catfish and many other smaller native species known to inhabit this river. The banks had been built without approval to boost access to irrigation water for two nearby farms.

Fish populations in the Namoi River will also get some help after an enforceable undertaking was reached in June 2022 with a landholder who pumped too much water from their bores within the Lower Namoi Groundwater Source. This groundwater source feeds into the Namoi River catchment. As part of the legally enforceable agreement to make good on the over-extraction, thousands of juvenile fish will be released into the river to increase native fish stocks. The landholder will pay \$15,000 to Narrabri Fish Farm to conduct the release. The farm is an accredited hatchery with the NSW Department of Primary Industries.



Murray cod, Photo: NSW Department of Primary Industries

Land restoration

As well as regulating the lawful use of both surface and groundwater in NSW, NRAR is responsible for enforcing laws governing activities on land within 40 metres of the banks of a watercourse. Any work carried out in this area requires a special approval due to the risk of damage to sensitive environments.

NRAR acts on illegal waterfront land activity, and in the last 12 months this has resulted in court orders to have remediation carried out. In August 2021, a Lismore landholder was ordered to restore land damaged by unauthorised vegetation clearing on 3.5 hectares of land along the banks of a creek on their property. The land clearing had increased the risk of erosion, damaged fish habitat, reduced water quality and risked more impacts further down the catchment.

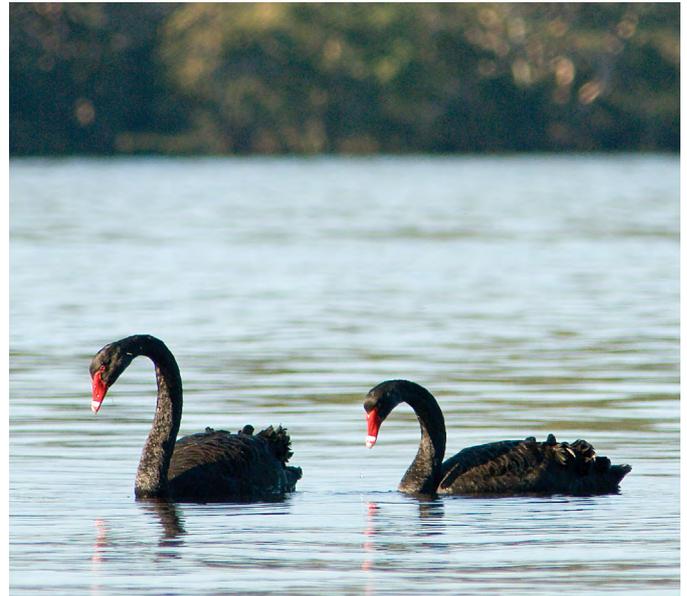
In April, the NSW Land and Environment Court ordered a Tea Gardens landowner to restore and widen riparian vegetation along a significant creek that had been illegally cleared. The clearing removed about six hectares of Swamp Sclerophyll Forest (an endangered ecological community) and threatened the sanctuary zone of nearby Great Lakes Marine Park.

Read more about this in the case study on page 10.

Supporting conservation

In July 2020, NRAR successfully prosecuted Whitehaven Coal for taking water without an access licence. NRAR reached a legally binding agreement (an enforceable undertaking) with the company, which amongst other conditions, required them to submit an improved biodiversity conservation plan for the mine site to NRAR and the Department of Planning and Environment.

The importance of protecting endangered ecological communities was emphasised by a court case initiated by NRAR in August 2021.



Black swans. Photo: Michael Van Ewijk, NSW Department of Planning and Environment

The court fined two market gardeners for illegally pumping water from Bushells Lagoon at Freemans Reach. The lagoon supports up to 133 species of birds including waterfowl, pelicans, black swans, ibis, egrets, falcons, kites, sea eagles, spoonbills, cockatoos, rosellas, corellas, swallows, several duck species, doves, wrens, and migratory birds. Managing water in the lagoon is critical to both plants and animals.

A \$10,000 donation to Western Landcare for an environmental project, and a \$25,000 donation to Landcare for restorative work on South Creek near Oran Park, are further steps towards our strategic goal of good environmental outcomes for NSW. The contributions were parts of other enforceable undertakings reached with NRAR over alleged rule breaches. Enforceable undertakings are an alternative to prosecution and regularly result in specific benefits for the region in which they occur.

Case study

During April 2022, the NSW Land and Environment Court (LEC) ordered a company to pay fines totalling more than \$250,000 for a series of offences that damaged environmentally sensitive land next to a sanctuary zone of the Great Lakes Marine Park.

NRAR brought the case in the LEC for offences that took place between 2016 and 2020 on a property at Tea Gardens.

The offences impacted Station Creek and some of its tributaries joining Bundabah Creek, which is part of the North Arm Cove Sanctuary Zone of the marine park.

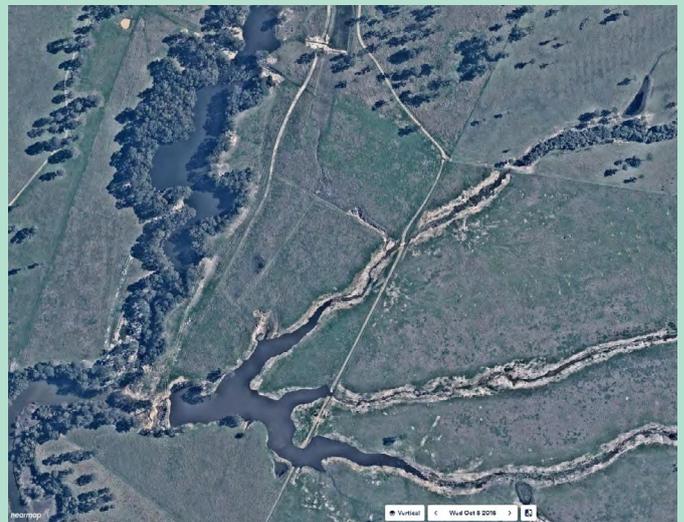
The company was found guilty of four offences under the *Water Management Act 2000*. This included building two unauthorised dams and clearing vegetation, which also contained an endangered ecological community (Swamp Sclerophyll Forest).

Protecting the health of watercourses and waterfront land is a key focus of NRAR and important to the community and environment. The court further ordered that the stream bank vegetation corridor around the dam be widened by the landholder.

The photos below illustrate the creek both before and after the removal of the vegetation. These spatial images are a critical support to our investigations and demonstrate our ability to examine historical satellite data to ascertain the extent of unlawful works.



Vegetation along creek lines before the offences took place



Vegetation has been unlawfully cleared

Wins for the community



Being collaborative and creative are key NRAR values as it seeks not just to enforce NSW water law, but also to deliver benefits to NSW communities. While NRAR can and does prosecute wrongdoing when required, it also seeks good community-based outcomes in regions where rule breaking has occurred.

Park plan

A good example of this is in the case of an enforceable undertaking (EU) reached with a Riverina farming enterprise in May 2022. Owners of the mixed cropping operation near Carrathool agreed to the legally binding agreement with NRAR after overdrawing their water accounts by 2,280 ML between October 2018 and November 2020, including a period of severe drought. One of the terms of this agreement was to pay \$80,000 to Hay Shire Council for the redevelopment of a small park beside the Mid Western Highway at Hay (Murray Street Park).

Helping hand

In another example of seeking good community outcomes, an Oberon business offered to set up community programs focusing on mental health, education, and prisoner rehabilitation as an alternative to other enforcement action for water law breaches.

Pegela Pty Ltd, trading as Mayfield Garden, entered into the agreement with NRAR in September 2021, after the company was found to be operating bores without the correct approvals.

Firm and fair

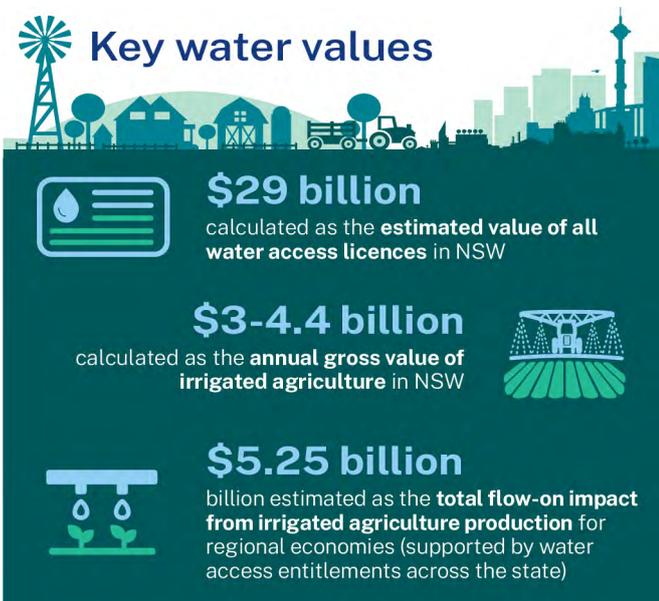
A Walgett company was ordered to stop pumping water in June after it had still failed to install a fully compliant water meter 18 months after new metering rules were introduced. Like many across the state with large pumps, bores and water entitlements, this company needed to install accurate meters and telemetry that had been independently validated by a certified meter installer by 1 December 2020.

The rules aim to ensure all water taken across the state is accurately accounted for and protected for the whole community.



Murray Street Park, Hay. Photo: NRAR

Economic achievements



Funding certainty

In September 2021, the Independent Pricing and Regulatory Tribunal (IPART) released its final report on the pricing of water services, including compliance services provided by NRAR, for the period 2021 to 2025. This final report provides NRAR with approximately \$16 million a year to undertake water compliance services, with this funding being sourced from both water users (approximately 30%) and government (approximately 70%). This IPART determination is important for NRAR as it provides NRAR with funding certainty to 2025, allowing NRAR to better plan and implement ongoing programs to ensure water compliance and underpinning our independence as a regulatory agency.

Putting a value on water

Determining the financial value of water allocations in NSW is integral to how water is managed and how and why water laws are enforced. Having the right regulatory systems and information is a key strategic goal of NRAR, to inform and guide our work.

This year NRAR commissioned a special report to articulate the link more clearly between water access and commercial activity in the state. The report's analysis focused on water entitlements subject to the NSW non-urban water meter reforms that are currently being introduced. Under these reforms, water take must be measured by meters that are accurate, tamper-proof, and auditable.

The report by natural resource economics consultants, Marsden Jacobs, found water has a significant monetary worth, and taking it unlawfully has a measurable economic impact on other water users, which may in turn impact the state's overall productive output.

Given the value of production and the increasing demand for water access, metering reforms are vital to underpin the efficiency, effectiveness, and equity of the system.

Metering funding

In June 2022, NRAR received additional funding to ensure compliance with the ongoing roll-out of the NSW non-urban metering regulations and floodplain harvesting licensing framework. In total this funding is approximately \$12.4 million and is spread across three years to 2025. This funding allows NRAR to better plan and implement projects to ensure compliance with these critically important NSW Government water policies.



Checking meters. Photo: NRAR

Compliance outcomes



When it comes to NSW water laws, NRAR would always prefer to help water users to understand their rights and obligations, and to comply willingly because they know the importance of water to communities, the environment, and the economy.

We seek to gain this understanding and voluntary compliance in various ways - through outreach and education programs, through routine visits to speak with water licence holders, and through public campaigns to raise awareness.

On the other side of the compliance equation is public confidence. We seek compliance so that people can be confident that the water laws are applied firmly and fairly to all.

Metering

The rollout of non-urban water metering rules in NSW is a key focus for NRAR. We've inspected more than 200 properties to ensure people have complied with the non-urban water metering rules deadline on 1 December 2021. We will continue to check compliance with this group. On-ground inspections found 80% of those in the first tranche of the roll-out were on the pathway to compliance, which is a promising result.

Read more about this in the section on our regulatory priorities on pages 25-26.

Bore extraction limits

The bore extraction limit (BEL) project covers the groundwater sources for the Lower Murrumbidgee, Lachlan, and Namoi.

Bore extraction limit audits for the 2020/21 water year have been completed. By comparing actual water used to the bore extraction limit set for the licence holder, nine cases were identified which warrant further scrutiny. These cases will be reviewed before on-site follow up by field staff.

Audits looking at compliance will start once the desktop review of the 2021/22 water year has been finalised. Regulatory responses will then be determined.

NRAR saw a sizable shift in compliance with bore extraction limits in the period, with issues found on less than 1% of audited bores.

We found that most water users wanted to do the right thing but were either not aware of the rules or weren't sure where to find their extraction limit. We sent over 300 letters to the target regions of Lachlan, Lower Murrumbidgee and Namoi to help water users get into compliance.



Focusing on bores. Photo: NRAR

Overdrawn accounts

Water licence accounts are like bank accounts. You can't "spend" the water until it's been deposited in the water account. To ensure fairness and sustainability, NRAR focuses closely on keeping water licence holders in the black through its state-wide overdrawn accounts project. This covers all NSW water sources.

Each quarter, over 26 thousand access licences are reviewed and to date the overall compliance rate is 99%.

Overdrawn account audits for the first and second quarter of the 2021-22 water year have been finalised, the team have commenced audits for the third quarter.

As a result of the audits conducted during this period, NRAR identified 9 cases of potentially overdrawn water accounts. We sent 16 advisory and 19 warning letters to licence holders. Almost 50 cases needed no further action, but 13 cases were referred for possible further investigation and enforcement.

Case study

Regular systematic auditing is one of the many ways NRAR ensures compliance with water rules and boosts public confidence in the integrity of the regulatory system. A potential area of risk is determined, then officers conduct an audit. Audits are more formal than routine monitoring inspections.

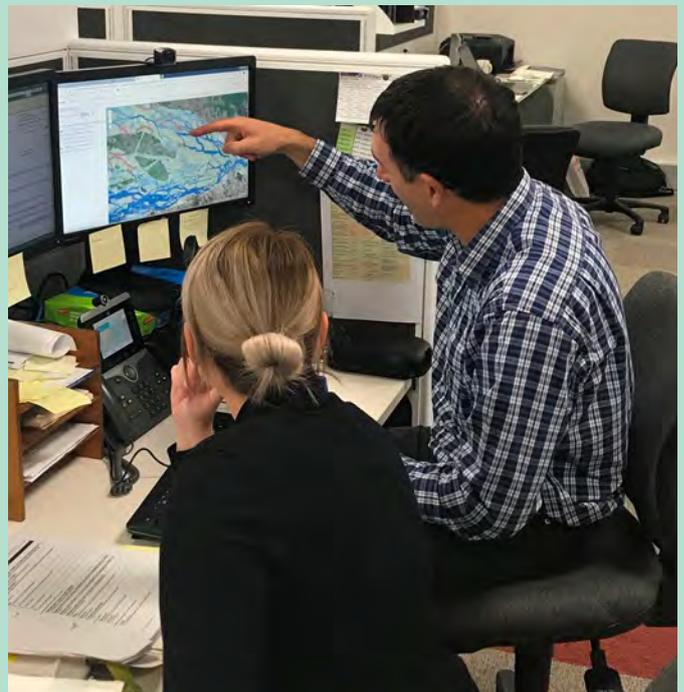
In August 2021, a bore audit pilot project called Operation Drawdown was completed, which led to the development and implementation of a set of new standards for effective processes around auditing. Through a process of comparing digital records with on-site evidence, properties in Griffith Leeton, Coleambally, Hillston, Dubbo, Narromine and Narrabri were examined for compliance with bore extraction limits. This audit showed most licence holders were doing the right thing, with just 10 per cent found to have committed potential breaches.

Irrigated agriculture

NRAR used satellite imagery and associated data analysis to identify locations where irrigation was occurring and assist NRAR's offices to undertake desktop audits of irrigated agriculture in the Hunter Valley.

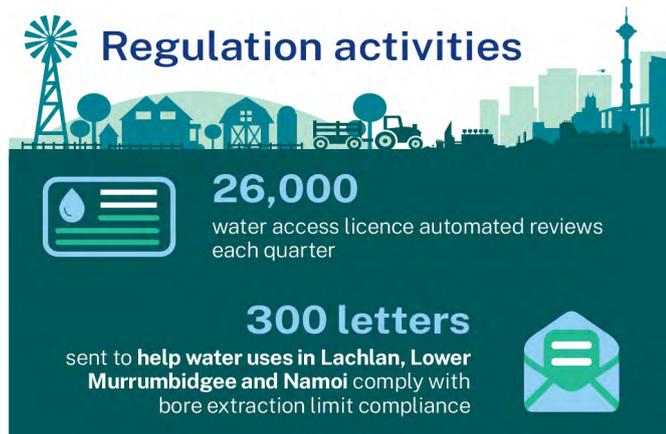
The common compliance issues that were identified included incorrect water ordering, overdrawing accounts and non-compliant methods used to measure water take (including meters). NRAR has a continued focus on irrigated agriculture this year and will be checking compliance on properties in the Murrumbidgee, Murray and Far North Coast.

Despite COVID-19 related staffing issues and widespread flooding, NRAR undertook nearly 300 desktop assessments, identified 10 properties we would like to inspect further, and identified a round 20 properties where alleged indiscretions warranted investigation by the Investigation and Enforcement Branch. Using satellite imagery, spatial data and analysis was critical to continuing our work during the pandemic and is now an invaluable tool to direct fieldwork and inspections.



Staff use remote sensing to audit water compliance. Photo: NRAR

Boosting transparency and public confidence



Streamlining processes

NRAR has a reputation for championing improvements in the way natural resources are managed and continues to look for ways to improve the effectiveness and efficiency. This also supports public confidence in the overall efficiency of the water management regime.

An example of this has been the recent transfer of NRAR's licencing and approval functions to Department of Planning and Environment -Water.

This change will provide a smoother pathway for people applying for certain types of water licenses and approvals, including:

- controlled activity approvals
- integrated developments for works on waterfront land
- licences and approvals for larger water users such as irrigation corporations, mining operations and government entities.

This change has simplified service delivery by aligning it more closely with the technical, scientific and water planning expertise in the Department of Planning and Environment's water group. The transition is a simple change of reporting lines that will have minimal impact on service delivery.

NRAR will continue to provide education on how to comply with the licensing obligations and to focus on enabling and encouraging people to comply with the water rules. If a water user persistently does not comply, NRAR will enforce the law and may take legal steps to do this.

Reporting every quarter

The Natural Resources Access Regulator (NRAR) was established in April 2018 to bring greater focus on enforcement of water laws in NSW. NRAR's function is to provide fair, transparent, efficient and accountable water law enforcement.

Key to that transparency is regular reporting of compliance outcomes and results through our Quarterly Reporting mechanism. This online tool allows people to see NRAR activities in their area at a state, regional and local government scale.

In the final quarter of the 2021-22 fiscal year (April to June) the quarterly data showed 177 desktop inspections, 378 site inspections, and 289 investigations finalised across NSW. There were 22 formal warnings issued, 16 penalty notices and 26 orders to stop work or carry out other directions.

NRAR will continue to share reports of our activities on a quarterly basis.

Making enforcement public

As part of providing transparent and accountable enforcement of NSW water laws, NRAR also publishes the details of its more serious regulatory enforcement actions. The reporting of this information is intended to act as a deterrent to those who might consider non-compliance and to increase public confidence in the regulator by showing that laws are being enforced.

How we enforced the law



NRAR is a risk-based regulator, which means we examine each case on its merits. We consider the potential harm caused to the environment or other water users, the offender's culpability and compliance history, and their attitude to compliance with water laws.

While NRAR would always prefer to encourage voluntary compliance from water users, when serious and wilful law breaking happens, we act. In situations where the most egregious breaches are detected we won't hesitate to use our most potent enforcement tools. In the 12 months from June 2021 to June 2022 NRAR started four new prosecutions. Two of these ended in convictions with fines. One was resolved outside the court through an enforceable undertaking, and one is ongoing.

Nine other cases begun in previous years were finalised in the 2021-22 financial year. Eight ended in convictions with penalties issued. One was resolved by an enforceable undertaking, and another case was unsuccessful, but may be the subject of an appeal.

Many of the findings that arose from those court cases have far reaching implications for how we continue to regulate water, and for how we achieve a culture of compliance across NSW.

Landmark case

In February 2022, the NSW Court of Criminal Appeal upheld a fine of \$252,000 against a Moree-based company for constructing and using a channel to convey water without approval.

The fine had originally been imposed by the NSW Land and Environment Court in 2020 after the company constructed the unlawful two-kilometre-long channel during a period of intense drought, to carry water from the Macquarie River.

The defendant appealed the decision on grounds that included that they believed the fine was excessive.

However, the Court of Criminal Appeal dismissed the appeal commenting that the Land and Environment Court was entitled to conclude that the defendant had failed to establish genuine remorse and contrition for constructing the channel.

The court also found that building the channel without consent "undermined the objects of the regulatory scheme for the management of water resources".

The judgment sends a clear message about the gravity of offences such as this.

Significant fines

Courts have imposed many other significant fines for water law breaches in the past 12 months. Whitehaven Coal was fined \$200,000 in November 2021 for taking water without an access licence at its mine near Boggabri. A Lane Cove based company was fined more than \$250,000 in April 2022 for offences that damaged environmentally sensitive land near Great Lakes Marine Park.

Read more about this in the case study on page 10.

A Brewarrina landholder was fined \$57,000 in May 2022 for breaching the conditions of their water licence and pumping when their water meter was not working.

Read more about this in the case study on page 19.

A landholder and an earth moving company it contracted to build several unlawful bores were fined more than \$30,000 in July 2022.

Alternative to prosecution

If a company or individual breaches water laws in a significant way, they sometimes propose to NRAR that we consider accepting an enforceable undertaking (EU) to remedy the breach as an alternative to court action. An enforceable undertaking must contain actions to address the rule breaking and to acknowledge the breach of the *Water Management Act 2000*. An EU is legally binding.

In deciding if an EU is the right course of action, NRAR considers what happened, how serious it was and whether there is a history of rule breaking. An EU will not be accepted unless NRAR considers it can deliver positive outcomes in the public interest in accordance with its guidelines.

There have been five EUs finalised in the past financial year with a range of outcomes and conditions.

One case involved a Narrabri coal mine, which took water without an access licence. Under this agreement, runoff on the site would be returned to environmental flows and the company would produce an improved biodiversity management plan for the site.

In June 2022, a north-western NSW irrigator who breached their bore extraction limit entered an EU with NRAR. This entailed, among other things, forfeiting a third of the next year's water allocation and paying for fish stocking in the Namoi River.

Most recently in June 2022, a Riverina almond grower breached their bore extraction limit and entered an EU with NRAR. The EU requires the company to make a payment of \$53,880 for the volume of water allegedly taken unlawfully, install approved water meters on its bores, make contributions to a community project and also pay NRAR's investigation and legal costs.



Emu Lake, Kinchega National Park. Photo: NRAR

Case study

One of the most significant EUs agreed to by NRAR was finalised with Leppington Pastoral Co Pty Ltd in November 2021. The company operates a dairy farm at The Northern Road at Oran Park in Sydney's south-west. The company faced potential prosecution under Sections 60A and 91B of the *Water Management Act 2000* for allegedly taking water without an access licence and for constructing or using a water supply work without an approval.

The property has three large capacity dams (constructed in the 1980s) that can hold around 1,680 megalitres of water. Water in the dams had been used to irrigate feed crops for the operation's dairy cows, an estimated 1,000 and 2,000 megalitres a year.

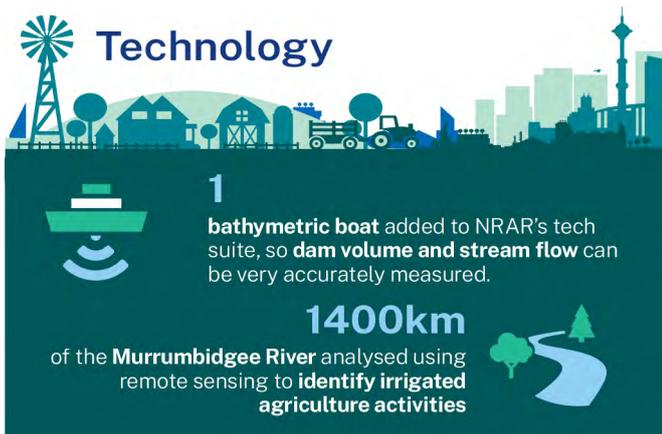
The \$425,000 undertaking is the largest EU NRAR has accepted to date and included \$300,000 for water take, \$100,000 for NRAR's legal and investigation costs and a \$25,000 donation to Landcare for work on South Creek as well as removal of one of the large dams.

That dam was removed in the first half of 2022, returning more than 900 megalitres of water to the South Creek system as illustrated in the aerial photograph below.



Large dam removed to return water to South Creek. Photo: NRAR

Technological advancement



Float your boat

An acoustic profiler to enhance monitoring capabilities. These devices are sometimes known as bathymetric boats.

The device is remotely piloted from the shoreline and uses sound waves to measure the size and shape of a dam to determine its storage volume. This technology can detect changes to how much water is and can be held in a dam, for example if it has been deepened.

Depth sounders

Castable depth sounders have been purchased to help front line staff as a quick and cost-effective way of measuring farm dam water depth. This information is then used to estimate water volumes in storage.

First used by the fishing industry, these robust and waterproof floating instruments can be cast from the shore or towed behind a kayak providing GPS position, time and date, water depth, surface temperature and can link by wi-fi to smartphone or tablet.

There are currently 33 in use with an aim of having up to 50 in the future.

The use of technology is transforming the way NRAR monitors and assesses compliance with water laws across NSW.

Satellites, drones, high-definition aerial photography and smart data have made it more possible than ever before for staff to see what is happening on the ground, identify potential wrongdoing, launch further investigations, and gather evidence. There is no part of the state where we can't see water movement at anytime - both in the present and historically.

NRAR is constantly looking for new tech that can support our activities, boost our efficiency and enable field staff to cover even greater areas. In the last 12 months, NRAR has added the following to its tech suite:

Case study

The capacity of technology to boost NRAR's ability to gather accurate evidence of wrongdoing was demonstrated by a court case that was finalised in the NSW Land and Environment Court in May 2022.

Satellite technology that measured the rise and fall of water in a dam played an important role in the prosecution of a Brewarrina farmer who had pleaded guilty to illegally pumping at least 734ML of water while a water meter was not working.

The farmer was fined more than \$57,000, and a further \$135,000 in court costs for the offences.



Satellite image of water in dam. Photo: NRAR

Educating and enabling people

NRAR's preferred approach is to help people comply with water laws through effective engagement and education. Both are key goals in our 2021-23 Strategic Plan that help promote transparency and accountability in natural resources management in NSW.



NRAR field day. Photo: NRAR

Face to face

Meeting to talk with water users and other stakeholders has been challenging at times during the last 12 months due to COVID-19. Four out of seven field days we would normally have attended were cancelled. When things returned to something closer to normal in the first half of 2022, our education and engagement staff set up sites at AgSmart, Tocal and Riverina field days. More than 300 people visited our displays.

Visitors were keen to discuss topics like licencing, approvals, stock and domestic water use, bores and metering. Staff ran them through some new online tools and made sure they received the answers to their questions. Visitor surveys found that 96% of people found the information provided by NRAR staff was useful.

Staff expect to attend a further six field days during the remainder of 2022.

Sharing expertise

Building strong relationships with partner and other stakeholder organisations not only helps build the profile of the independent water regulator, but also delivers benefits for both parties. NRAR staff presented to 150 delegates at the NSW Rangers Conference at Parramatta in July 2022. They shared information about the activities and functions of NRAR and examined ways local government rangers could collaborate with NRAR to share intelligence and boost compliance for the benefit of the community.

Education project

We are working toward making understanding water laws part of relevant education curriculums, including partnerships with TAFE NSW and Tocal Agricultural College.

Presentations were delivered to TAFE lecturers who teach subjects that require knowledge and understanding of water resources management. Development of education packages for this is ongoing.

Presentations were also delivered to Tocal Agricultural College students studying Certificate III Agricultural and Certificate III Equine Studies. In these interactions, we talked to students about key elements of NSW water regulation and the importance of compliance and also demonstrated the use of online tools.

Knowledge exchange

With more than 38,000 water access licences in NSW and just 166 total staff at NRAR, it makes sense to collaborate closely with other organisations to amplify our reach, better understand the needs of water users and identify education gaps.

The education team made initial contact with three key organisations to identify ways they could help NRAR expand knowledge of the water laws with their stakeholders. These include Freshcare, Biodiversity Conservation Trust and the Australian Institute of Conveyancers.

In the case of the conveyancing organisation, for example, the plan is to educate them about water law so that when they have property transactions involving water entitlements or dams on the property, they can inform their clients of their obligations and the rules around water.

Campaigns

The education team has supported several regulatory priority campaigns in the last year, including on irrigated agriculture, bore extraction limits and overdrawn accounts. A range of fact sheets, letters and media releases have been developed for these campaigns.

The ongoing Know the Rules campaign remains one of NRAR's most important – focusing on ways to educate, enable and encourage people to understand both their rights and obligations under water laws. It began as a call to action and now has become a wider brand and a common theme in our interactions with water users.

The team has made Know the Rules a strong theme on NRAR's website and produced two educational videos. Know the Rules has also been communicated through traditional and social media, direct letters and surveys throughout the year.



Working with stakeholders at a field day. Photo: NRAR

Changing the conversation

Part of NRAR's purpose has always been to champion improvements to the management of natural resources. Changing public discourse around fair access to water and creating a culture where compliance with water law is an accepted norm is a big part of this work.

NRAR has effectively highlighted its activities regularly through the work of our communication team. NRAR staff work hard to ensure vital messages are delivered to the broader public via traditional media, social media, in person on-farm and at various stakeholder engagement events.

In the past year, stories about the work of NRAR have been published in both major metropolitan and regional news outlets. In a one-month period in May—June 2022, 250 media mentions of NRAR activities were recorded. This included stories on the results of court prosecutions, outcomes from legally binding agreements, campaigns to raise awareness and detect breaches, and other achievements that helped make water regulation a regular topic of discussion.

Case study

One of the best opportunities for NRAR to tell its story came on June 19, 2022, when its work featured in an episode of respected regional-rural TV program, ABC Landline.

The episode focused on the rise of technology and how it was benefiting agriculture and the environment.

NRAR's 14-minute segment explained how drones, satellites and the application of other innovative

tech were expanding its capacity to efficiently and effectively regulate water resources and detect unlawful activities.

ABC Landline presenter Pip Courtney and her crew interviewed various NRAR staff in regional offices and locations and also included an interview with an irrigator who welcomed NRAR's efforts to fairly regulate water use in NSW.

Landline has been running for 30 years and is considered a leader in rural and regional news.



NRAR staff taking part in Landline shoot. Photo: NRAR

02

How NRAR will
progress in
2022-23

Our new structure

NRAR enters its fifth year of operation with a clear focus on the needs of the future - and that is encapsulated in a recently completed major restructure.

The organisation has passed through its start-up phase and moved to a more proactive, intelligence led approach to water resources regulation in NSW. The new structure aligns with changed demands and functions.

Among these changes are moving from four directorates to six and removing emphasis on the geographical east-west divide that previously guided the work of NRAR.

New branches



Regulatory coordination - provides governance support, performance analysis and reporting, front of house services including an in-house call centre, and communications and media relations.



Investigation and enforcement - provides expert advice and leadership to complex and responsive investigations ensuring effective and efficient regulatory outcomes in line with NRAR priorities.



Innovation, systems and intelligence - ensures the intelligent use of analytics and systems to inform, guide and increase NRAR's reach and impact.



Regulatory initiatives - solves important and manageable compliance problems aligned with NRAR's annual regulatory priorities. Also progresses complex problems aligned with NRAR's enduring regulatory priorities.



Engagement and education - expands NRAR's regulatory presence and reach by enabling, encouraging, and educating the regulated community by leveraging the influence of industry, key stakeholders, and the public.



Regulatory excellence - champions improvements to the regulatory framework, providing assurance for and driving continuous improvement of our own processes and systems and our staff capabilities.

Our regulatory priorities

NRAR has set its operational course for the coming year through its 2022-23 regulatory priorities. Deciding exactly where to focus our attention involves careful analysis and lots of planning. These key strategic directions are ultimately ratified by our independent board with input from the executive team and other staff.

Priorities for the next year involved revision of some of our existing important priorities, and the introduction of new areas of focus. Our regulatory priorities for the next year are:

Non-urban water meters

Supporting the implementation of the NSW Non-Urban Metering Regulations, which will ensure accurate measurement and accounting of water taken from NSW water sources has been a key priority for NRAR since its early days.

Pattern-approved meters for surface water pumps 500mm and above were required to be installed by 1 December 2020, across all of NSW.

For pumps 100mm and above and bores 200mm and above in the Northern Inland the deadline for compliant metering was December 1, 2021; the Southern Inland December 1, 2022 and Coastal zone, 1 December 2023.

NRAR will continue to work with water users to become compliant and has now added a special focus on the people who install these meters-known as duly qualified persons (DQPs). Their work is crucial to accurate measurement and therefore public confidence in the system. NRAR will check DQPs' installation and verification of metering equipment to ensure consistency and accuracy of work during the next year.



NRAR will continue to focus on non-urban metering. Photo: NRAR

Water for irrigated agriculture

NRAR will target a range of irrigated agriculture activities as a priority. This may include certain high value crop types such as nuts, grains and berries and agricultural activities that typically extract large volumes of water. The geographical focus for this will be the Murray, Murrumbidgee, and the Far North Coast (Richmond, Brunswick and Tweed) regions.

Water reporting in mining and extractive industries

Water use in mining and extractive industries is a new priority for NRAR, driven by the need for more accurate measurement, accounting and reporting of water use in these operations in some areas of NSW.

How water take is measured and reported in mining and extractive industries has sometimes been inconsistent in the past. A standardised reporting framework will provide clear requirements and ensure water taken is accurately measured, modelled, and accounted for.

NRAR will consult with relevant operators, associations, and industry experts, and with key stakeholder groups and other government agencies, when designing the reporting framework.

Enduring priorities

Some of NRAR's overarching priorities remain in place over the long term—an enduring guide for all our activities. Those long-term priorities are to:

- account accurately for water taken
- protect and prioritise Aboriginal cultural and spiritual values in water regulation
- stop and deter unlawful activity that causes significant harm to the environment and other water users
- remove unauthorised structures that prevent water from getting to where it should on the floodplain.



Irrigated agriculture will be a focus area. Photo: Getty

03

People,
structures and
processes

NRAR and the big picture

NRAR's role in water management

The management of water in NSW is complex, involving three bodies or agencies, each with a different role. NRAR is the water law compliance arm of the NSW Government and is a statutory authority that forms a constituent part of the Department of Planning and Environment.

Our compliance and enforcement functions are separate and distinct from the department itself, which is responsible for making water management policy. Another agency - WaterNSW - manages NSW's rivers and water supply systems.

NRAR is run by an independent four-member board, which is responsible for strategic decision-making and oversight of the organisation. NRAR's day-to-day operations are managed by the Chief Regulatory Officer and the executive team.

Our independent board

NRAR's Board consists of four independent part-time members including a Chair.

The current board members are Chairman Craig Knowles, and members Ilona Millar, Bruce Brown and Phil Duncan.

Board members must have experience and expertise in law, natural resources management, compliance and regulation, or other areas related to NRAR's work.

The board is appointed by the relevant portfolio minister (the NSW Minister for Water) based on advice from NRAR staff. The *NRAR Act 2017* heavily restricts ministerial direction of NRAR activities to only general direction that is not related to a specific matter under consideration by the board and only when in the public interest to do so. The minister has no input or influence into day-to-day operational activities of NRAR.

This independence is critical to supporting public confidence in how water law is enforced.

Board members are appointed for a three-year term but are eligible to be reappointed. They meet at least monthly.

Read more about them and what they bring to the board on [page 33](#).

How the organisation is structured

Day-to-day operations of NRAR are directed and shaped by the Chief Regulatory Office, and the executive team with guidance and input from the board.

NRAR currently employs 166 staff across six directorates, which were created in a recent restructure designed to take the organisation into the future. NRAR staff work from 21 offices including the head office in Parramatta, and various regional offices.

Guiding principles and legislation

The Act

The Natural Resources Access Regulator (NRAR) was established in 2017 after an independent review into allegations of mismanagement of water resources and misconduct. The review was conducted by a former senior Commonwealth public servant and delivered a series of recommendations to the state government about how to respond - the Water Reform Action Plan.

A key step in that broad plan was setting up an independent authority, NRAR, which would take on all the water law compliance and enforcement functions previously dispersed between several other government departments.

The way the organisation functions is governed by the *Natural Resources Access Regulator Act 2017*. In this document are set down the constitution and management rules for NRAR and its functions and responsibilities.

NRAR's purpose

From its beginnings, NRAR's purpose was to make the NSW water compliance and enforcement system more transparent, more independent, and more effective and those broad principles remain at the centre of NRAR's approach.

NRAR's purpose is outlined in the 2021-23 Strategic Plan, focusing further on the how to build public trust in NSW water regulation. NRAR's purpose is to:

- educate, enable and encourage people to actively comply with natural resources laws
- deter rule breaking by enforcing the law, while also ensuring a fair go for people who do the right thing
- champion improvements in the way natural resources are managed in NSW.



Gara River, New England region. Photo: NRAR

Strategic Plan 2021-23

NRAR's operations are guided by its Strategic Plan spanning the years from 2021 to 2023. This document is a clear statement of the organisation's purpose, strategic goals, and key targets. It helps ensure resources are applied in the most efficient and effective way to short and longer-term goals. The document defines NRAR's five strategic goals, as well as more specific targets. The goals are:

- Achieve good outcomes and benefits for the people, environment, and economy of NSW. This will flow from sound enforcement of water laws and from helping people to voluntarily comply with the rules.
- Develop the right regulatory systems, analytics, information, and technology to support and guide NRAR activities and to continually improve our reach and our results.
- Build strong relationships with stakeholder communities, organisations, and individuals with an interest in effective enforcement of the state's water laws. These external relationships will grow from our commitment to being transparent and accountable in all our activities.

- Lead the way when it comes to being an effective regulator and a role model for others.
- Learn, innovate, achieve and continuously improve through a collaborative, kind and inclusive culture that values both daring and integrity.

Other strategies

NRAR's regulatory priorities help it focus available resources on the most important outcomes. The regulatory priorities are also part of a much bigger picture of water management in NSW – and align with the NSW Water Reform Action Plan and the NSW Water Strategy. They will also align with the NSW Groundwater Strategy, which is currently being developed.

Read more about our regulatory priorities on pages 25-26.



Macquarie River at Warren. Photo: NRAR

How NRAR operates

Operational principles

NRAR's overall approach to regulating the use of the state's water resources is informed by our vision that by working together, we can create thriving environments, communities, and economies. We are a firm but fair regulator. We would prefer to educate and empower water users to comply with the rules, but we will act decisively against those who wilfully and recklessly disregard the law.

Our approach to regulation

When we decide what to investigate, we consider two main questions. Does the evidence show there is a high risk that water rules are being broken? How much harm will be caused by that rule breaking? This approach means less inconvenience to water users from unnecessary monitoring or investigation of smaller issues.

Our presence

Our compliance offices across NSW actively monitor and audit the use of surface water and groundwater. They have the power to enter premises and gather evidence, take photos, and collect samples. They can compel the individual or entity under investigation to provide records and answer questions relating to that investigation.

Our techniques

NRAR uses a variety of methods, including property inspections and the application of innovative technology to enforce NSW water laws. Our tool kit includes satellites, drones, bathymetric boats that can measure the volume of a dam and devices that can

"listen" to how much water is passing through a pipe.

Read more about this on page 19.

We have many staff on the ground in regional NSW working with water users, undertaking routine monitoring, checking compliance, and inspecting properties.

Together, all these techniques give us continuous intelligence about what is happening on the ground and informs our actions around protection of water resources and making sure everyone understands both their rights and their obligations under the water laws.

When rules are broken

NRAR responds to breaches of water laws in several ways. How we respond depends on the severity of the breach, the degree to which the offender is responsible for the breach, their attitude to compliance and the public interest.

By responding to illegal activities in a proportionate way, we seek to change offenders' attitudes and behaviours, rather than simply applying a punishment. This is how we build public confidence in NRAR as a trusted, effective, and transparent regulator.

However, NRAR will take strong regulatory action when required. Those who commit serious, substantiated and wilful acts of non-compliance will face the full force of the law.

NRAR's most serious sanctions are prosecutions or licence suspension/cancellation, as well as the alternative of an enforceable undertaking (EU) agreement. This firm approach to serious and deliberate breaches of the water laws sends a clear message to others who may be tempted to break the

rules and ensures fairness to those comply.

When NRAR issues a direction or penalty notice, agrees to an enforceable undertaking, or prosecutes a person or company, we publish the details on the NRAR Public Register on our website.

Engaging with the community

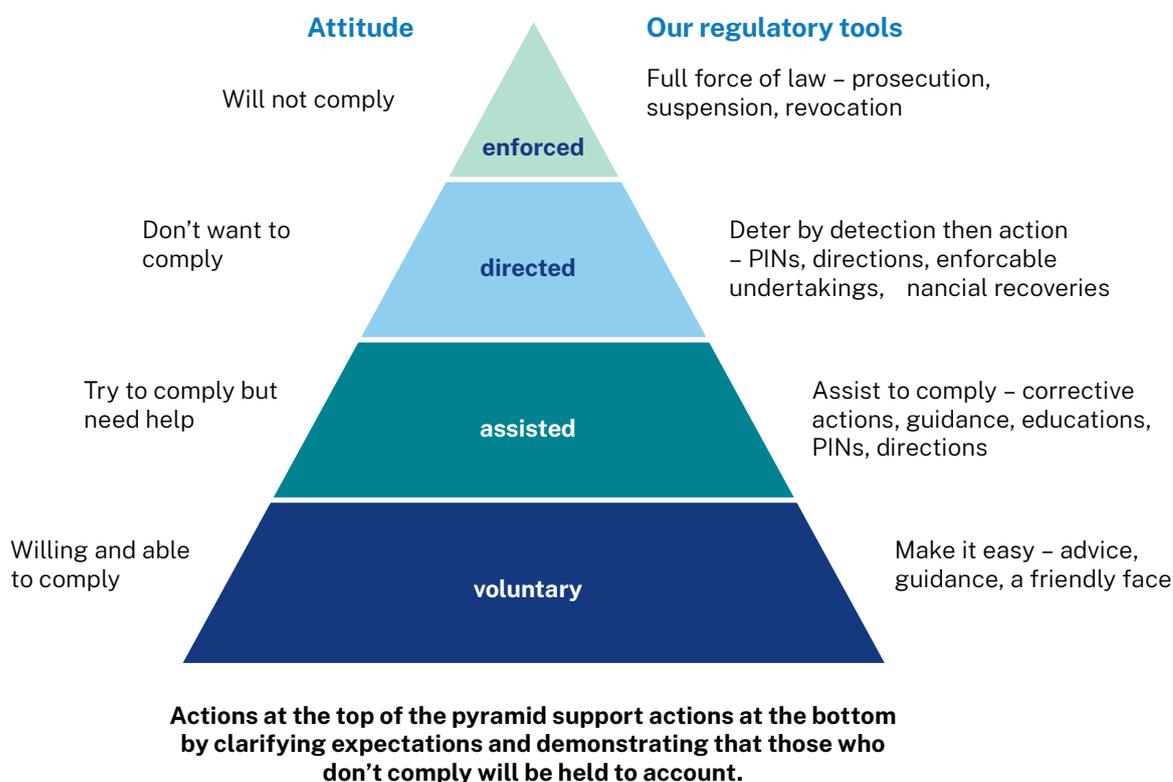
NRAR is committed to interacting with our stakeholders and the community in a way that is open and transparent. We listen to and acknowledge the perspective of our stakeholders to encourage a two-way relationship.

NRAR regularly meets and consults with NSW water users to encourage voluntary compliance and to ensure people know what the rules are and follow them for the benefit of communities, the environment and industry.

Some of the ways we reach out include:

- Field days where water users can talk with our officers about their water use obligations, metering rules, constructing a bore, waterfront works, and how to understand and follow the rules.
- Conferences that provide industry bodies with direct access to NRAR regulatory officers to build open and collaborative relationships.
- Customer Advisory Groups are held regularly and provide an opportunity for exchange of information between NRAR staff and water stakeholders.

Our approach to compliance



Our people

Board members



Craig Knowles (Chair): His previous statutory appointments include a four-year period as Chair of the Murray Darling Basin Authority (MDBA) from 2011-2015. In that role, Craig represented Australia at the 2014 United Nations General Assembly Forum on Water and Energy as part of the UN mission to develop Sustainable Development Goals in the context of climate change.



Ilona Millar: She has more than 20 years' experience advising on natural resources law, including innovative responses to climate change and sustainability problems. Ilona has been involved in legislative and policy reviews and advises on the implementation of the *Water Management Act 2000* (NSW) and the *Water Amendment Act 2008* (Commonwealth).



Bruce Brown: He has served as both a director and member of several government committees at state and federal level, including the National Rural Advisory Council (1999-2005). Bruce was also a university lecturer in agricultural economics and farm management prior to transitioning to the private sector via a lobbying role with a farmer organisation.



Phil Duncan: He joined the NRAR Board in 2020. He also serves as chair of the Basin Community Committee of the Murray Darling Basin Commission. Throughout his career and volunteer community work, Phil has worked extensively with Indigenous groups and government to improve the lives of First Nations people. He also provides high-level policy, strategic advice, and leadership to key Indigenous representative organisations, universities, and state and federal government agencies.

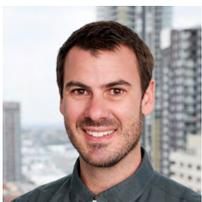
Executive team



Chief Regulatory Officer, Grant Barnes: As NRAR's Chief Regulatory Office , he is responsible for the day-to-day operations of NRAR. This includes building NRAR's regulatory capacity and capability to deliver on the NSW Government's commitment to best practice regulation, as well as building and sustaining effective relationships with key stakeholders, establishing good governance and high levels of ethical practice within NRAR, and working with the board to progress its agenda.



Director Education and Engagement, Gregory Abood: Passion for environmental protection, years of regulatory experience, a thorough understanding of the Natural Resource Access Regulator's purpose, vision and values and a natural connection with people are among the skills and qualities Gregory Abood brings to the role of Director Education and Engagement. Gregory has led to solve complex regional, industrial, and statewide regulatory issues.



Director Regulatory Initiatives, Ian Bernard: He has played a pivotal role in leading NRAR on the path to becoming a best practice regulator and continues to build on this work as Director of Regulatory Initiatives. Ian has been instrumental in setting NRAR's priorities, building its regulatory expertise and developing a reputation as a problem solver across the organisation. He has designed approaches to solve some of our most complex compliance issues, including non-urban metering, floodplain harvesting and irrigated agriculture.



Director Investigations and Enforcement, Lisa Stockley: Lisa Stockley joined NRAR as Director Investigations and Enforcement in 2022 and is responsible for leading investigations into alleged offences and non-compliance with the Water Management Act. Lisa was previously the Assistant Director (Industry Regulation) for the NSW Police Force Security Licensing & Enforcement Directorate (SLED) and is well-versed in overseeing complex investigations, regulatory programs, interpreting legislation and instructing solicitors.



Director Regulatory Coordination, Ila Lessing: Ila Lessing joined NRAR as the Director Regulatory Coordination in 2022. With an Executive MBA focused on business and financial management, Ila has managed teams responsible for governance, budget management and portfolio management across the government and banking sectors. Ila is responsible for leading the corporate services function for the agency including communications, front-of-house and call centre, financial management, business performance, PMO & project governance.



Director Legal, Sarah-jane Morris: As Director Legal, from the Department of Planning and Environment, Sarah-jane Morris supports NRAR's crucial work in enforcement of the state's water laws, ensuring positive outcomes for people, the environment and economy. Sarah-jane is a highly experienced government lawyer and manager who values a collaborative approach to solving the complex problems of water regulation. As a former Director and Special Counsel at the NSW Crown Solicitor's Office she has 20 years' experience providing legal advice and representation.



Director Innovation, Systems and Intelligence, Margaret Sexton: Margaret Sexton is Director Innovation, Systems and Intelligence and leads development of NRAR's regulatory policy and regulatory priorities and builds organisational capability in intelligence, spatial and data analytics, innovation and technology. Margaret is responsible for setting strategy by identifying and solving important compliance problems and directing the operational efforts of the agency.



Director Regulatory Excellence, Tim Gilbert: Tim leads the Regulatory Excellence Branch to champion improvements in the water resource management framework where it impacts on compliance and enforcement, and on providing assurance of and continuous improvement in NRAR's processes and staff capabilities and funding base to ensure NRAR remains efficient and effective. Tim brings a wealth of knowledge and pragmatism to this role, having a Masters degree in Environmental Management focussed on soil, water and irrigation.

Our culture and values

It can be easy to dismiss organisational core values as lofty ideals with little connection to day-to-day operation.

At NRAR we remain committed to building a strong culture where our core values are part not only of what we think but of what we do.

We aspire to be daring and creative in our approach, to work with integrity, and to be collaborative, kind and inclusive. Here are some of the ways we are putting those people-related values into practice:

Mentoring program

NRAR's staff mentoring program has continued to build the capacity of our staff.

The program has built 15 mentor-mentee relationships since it was launched by the NRAR Board in March 2022 and has progressed positively, connecting and supporting participants through a period of structural change at NRAR.

NRAR partnered with the Australian Institute of Management to develop the program to align with our specific functions, goals and values. It has benefits for the mentor and the mentee and for the whole organisation.

Participants can gain new perspectives on how to progress their career, solve problems, communicate well and maintain strong work relationships. It also helps them to maintain and improve a healthy work-life balance.

For NRAR, the program promotes and supports diversity by connecting different people in different ways. It is also a sound platform for the future that will flow into effective succession planning and management of knowledge.

The Resilience Project

NRAR is committed to the development of staff wellbeing through programs that can make a difference.

As part of NRAR's 2022 wellbeing program we partnered with The Resilience Project, which delivers emotionally engaging programs and mental health strategies for resilience and happiness.

Team members kept a journal for six months to track their journey and took part in a ten-part wellbeing series of video events. Wellbeing focused on mindset, diet, exercise and connectedness.

The course finished in September and participants can download a resilience app on their work phone so they can continue to work on and improve their psychosocial health and wellbeing.



Staff development day. Photo: NRAR

How you can help

We are here to ensure the safe management of our precious water resources in NSW. We can't do it alone – water users and the community have a vital role to play in water management. Here are some of the things you can do to help.

Learn more

 Visit our website nrar.nsw.gov.au

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 [Natural Resources Access Regulator](https://www.youtube.com/NaturalResourcesAccessRegulator)

Report suspicious water activities

 1800 633 362  nrar.enquiries@nrar.nsw.gov.au

Contact us

Natural Resources Access Regulator
Locked Bag 5022
Parramatta NSW 2124

 1800 633 362  nrar.enquiries@nrar.nsw.gov.au

www.nrar.nsw.gov.au

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