



Natural Resources Access Regulator

Progress Report 2018-19



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Letter of submission

The Hon. Melinda Pavey
Minister for Water, Property and Housing
52 Martin Place
Sydney NSW 2000

Submission of Progress Report—Natural Resources Access Regulator

Dear Minister

I am pleased to submit this Progress Report for the Natural Resources Access Regulator for the financial year ended 30 June 2019 for presentation to the Parliament of New South Wales. The report has been prepared as required by and in accordance with the *Natural Resources Access Regulator Act 2017*.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Craig Knowles', written in a cursive style.

The Hon. Craig Knowles AM
Chair—Natural Resources Access Regulator



**The Natural
Resources Access
Regulator has laid
the foundations
for becoming
a world-class
regulator.**



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Glossary

AELERT—Australasian Environmental Law Enforcement and Regulators neTwork

CAA—Controlled Activity Approval

CIRaM—Compliance Incident Reporting and Management system

DA—Development Application

GTA—General Terms and Conditions

HEVAE—High Ecological Value Aquatic Ecosystems

ICT—Information and Communications Technology

IDAS—Integrated Development Assessment System

MDBA—Murray–Darling Basin Authority

NRAR—Natural Resources Access Regulator

QRSI—Quality Regulatory Services Initiative

WAL—Water Access Licence

WRAP—Water Reform Action Plan

NOTE: On 1 July 2109, the NSW Department of Industry and its Lands and Water Division became part of the NSW Department of Planning, Industry and Environment. References to the Department of Planning, Industry and Environment incorporate the former entity.

01

Message from the board

NRAR is now established. Its first year of operation has put us on the path to achieving our mandate of ensuring compliance with water management legislation. We will achieve this through effective and transparent regulation that maintains the confidence of our stakeholders and the broader community.

What strikes me most when looking back on NRAR's establishment year is how far the organisation has come over that time. Much has been achieved and we have moved rapidly from being a startup to an organisation regarded as 'best of breed'. I know I speak for the members of the independent NRAR Board when I say how proud we are of the NRAR team, the leadership shown by Grant Barnes, our Chief Regulatory Officer (CRO) and his executive and the many positive testimonials that we receive for our work.

I am firmly of the view that the foundations laid since our inception, coupled with the results achieved to date, offer a regulatory and compliance framework that should set the benchmark standard for jurisdictions across the Murray-Darling Basin and beyond.

But there is always more to be done. A year on and our work is still just as important. Improving compliance with water management legislation and building confidence in the regulatory practitioners charged with its enforcement are critical ingredients in making effective water management work. Plans for water sharing and water resources only function if there is certainty about how much water is in the system and that water users take only the water to which they have rights. Effective compliance is key to the success of these plans and indeed the broader Murray-Darling *Basin Plan 2012*.

Much work has been done this year to get operations underway. NRAR has built its staff from 69 to 146 to deliver on-the-ground compliance across the state. Our approach is multi-faceted and we have recruited expertise to assist our efforts—including highly experienced investigators, auditors, water-law practitioners, innovative technology experts, educators and communicators.

As outlined in this Progress Report, we are undertaking more compliance work across NSW than ever before—we have more than 60 compliance staff in the field and more than 90 frontline staff in total. Their work is assisted by the use of innovative techniques and bringing new technology to bear. This improves the effectiveness and efficiency of our efforts—we are getting more from every hour spent in the field than in the past. This is borne out by the compliance outcomes of our first year's work: 324 individual property inspections, nearly 500 compliance actions undertaken and over 800 investigations finalised.

The year ahead brings new compliance challenges for us to manage, such as the roll-out of the non-urban metering and floodplain harvesting frameworks. Our staff are our greatest asset and their capability will continue to be developed. The NRAR Education Strategy 2019-2024 will reach further into the regulated community to explain how to abide by the law and inform the community about our work to encourage compliance. Innovative regulatory methods will be brought online and we will continue our shift from reactive to proactive compliance strategies.

NRAR's ongoing success relies on the maintenance of our independence, a robust legislative and regulatory framework and a strong team of dedicated staff led by our CRO and his experienced executive leaders.

The NSW Government has been clear in its mandate and it is our privilege and responsibility to ensure it is delivered. In that regard we would like to place on record our great appreciation to both former Minister Niall Blair and current Water Minister Melinda Pavey for their strong commitment and support. We would not be able to do our work if it were otherwise.



The Hon. Craig Knowles AM

Chair—Natural Resources Access Regulator

02

Message from the Chief Regulatory Officer

I commend to you NRAR's first annual Progress Report. As the Chief Regulatory Officer of NRAR, I am privileged to work with a skilled team of regulators.

The first year has been busy as we have established a sound foundation on which to build this new organisation while also ensuring the delivery of outcomes as demanded by local communities and the public. We have doubled our frontline officers, located in key sites around NSW. These frontline staff are dedicated to ensuring the appropriate and legal use of our precious water resources in NSW.

The drought has seen the spotlight heavily focused on our waterways and the use of water in rural NSW. There has been significant water trading activity and changes to land use as a result. As it should, this has led to significant public interest in the activities of NRAR, which has required staff to step up to another level. I am pleased to say that we have done just that.

We have completed approximately 500 individual compliance actions and have substantially reduced cases inherited from previous water regulation entities. We are adapting our use of technology to better focus our activities on high-risk areas and preventative campaigns.

I am proud of our achievements to establish a transparent and ethical organisation. We will maintain our focus on the needs and expectations of the people of NSW. I believe we have established the momentum to achieving our mission of becoming a world-class, best-practice regulator.



Grant Barnes
Chief Regulatory Officer
Natural Resources Access
Regulator

03

About this report

The Natural Resources Access Regulator (NRAR) was created to address alleged systemic failures of the water management compliance regime in NSW as identified by Ken Matthews AO and the NSW Ombudsman. NRAR commenced operations on 30 April 2018 and has now achieved the targets identified in its establishment plan and the recommendations arising from the independent inquiries—which were accepted in full by the NSW Government.

NRAR has laid the foundations for becoming a world-class regulator and is now expanding its capability. We will shift from responding to compliance issues to proactively enforcing a strong compliance regime. We will use intelligence to direct activities that address hotspots of high risk and harm.

This Progress Report is an overview of our activities during the first year as an independent regulator for the state of NSW. This report will complete our Establishment Plan obligations and outline NRAR's plans to build and embed capability over the coming years.



Staff build - capability

04

The organisation and how we work

Operational principles

In addition to the key objectives outlined in its legislation, NRAR was established to implement the recommendations of the reports by Ken Matthews AO.

Independent investigation into NSW water management and compliance—interim and final reports, also known as the Matthews Reports, available from www.industry.nsw.gov.au

The aim is to improve and restore public confidence in NSW water compliance and enforcement.

The three key principles originating from the Matthews report that guide all NRAR actions are summarised as:



Independence

Decisions about compliance and enforcement should be conducted independently of water policy, planning and regulation-making processes, and water delivery services.

NRAR forms part of the Department of Planning, Industry and Environment and its staff and management are departmental employees. The NRAR Board reports directly to the minister when required, and

is subject to limited ministerial direction through the NRAR Act.

As NRAR's ultimate governor, the board will direct operations on advice from staff and any other external source it consults. The board fiercely defends NRAR's independence and sees it as a critical component of restoring public confidence in the NSW water compliance and enforcement.



Transparency

In the pursuit of transparency, NRAR publishes its guiding policies, all board minutes, stakeholder engagement records, speeches made by the Chief Regulatory Officer (CRO) and, importantly, compliance and enforcement activities and outcomes.

NRAR has a range of responses to non-compliance including directions to remediate impacts to watercourses, stop-work orders, directions to remove illegal structures such as dams, and directions to install meters. NRAR can also issue cautions, penalty notices or initiate legal proceedings as an outcome of investigations into alleged non-compliance.

NRAR provides reports and data on the website, including compliance outcomes and a public register that outlines the results of prosecutions.

NRAR fulfils its obligations under the *Government Information (Public Access) Act 2009* (GIPA Act). The GIPA Act replaced the *Freedom of Information Act 1989* on 1 July 2010. In NSW, you have a legally enforceable right to access most government information under the GIPA Act, unless there is an overriding public interest against disclosure.

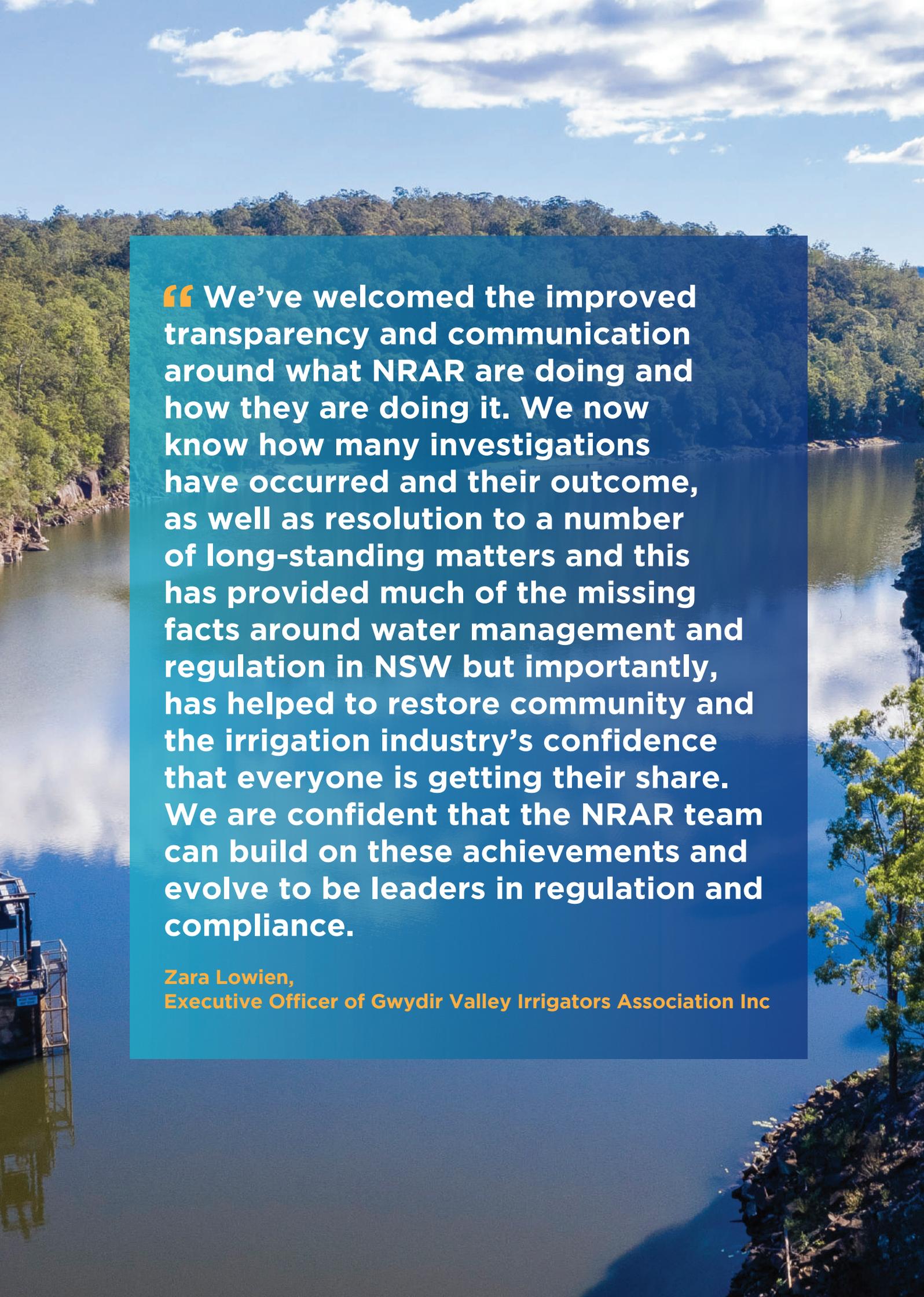


Effectiveness

Effectively managing water compliance in NSW is vital to delivering on NRAR's statutory mandate, and can only be achieved with sufficient and efficient resource allocation. Public support for and confidence in NRAR's activities and the confidence of stakeholders and the broader community are key measures.

In addition to resourcing, a targeted communications effort is a significant contributor to overall effectiveness. Active and timely communications of NRAR's compliance and enforcement efforts act

as a deterrent to those who might be motivated toward non-compliance. The consequences of doing the wrong thing must be clearly understood by the majority water users.



“ We’ve welcomed the improved transparency and communication around what NRAR are doing and how they are doing it. We now know how many investigations have occurred and their outcome, as well as resolution to a number of long-standing matters and this has provided much of the missing facts around water management and regulation in NSW but importantly, has helped to restore community and the irrigation industry’s confidence that everyone is getting their share. We are confident that the NRAR team can build on these achievements and evolve to be leaders in regulation and compliance.

**Zara Lowien,
Executive Officer of Gwydir Valley Irrigators Association Inc**

NRAR timeline



26 July 2017 | Appointment of Ken Matthews AO to conduct an independent investigation into water management and compliance in NSW



24 November 2017 | Matthews Final Report released—all recommendations of this and the interim report accepted by NSW Government



30 November 2017 | NRAR Act assented to and in force



15 December 2017 | NRAR Board appointed



February 2018 | Signed Murray–Darling Basin Authority Memorandum of Understanding (MoU) to strengthen water compliance and enforcement regimes in Murray–Darling Basin



20 March 2018 | NRAR Executive Team appointed



March 2018 | NRAR Establishment Plan published



March 2018 | Successful transfer of WaterNSW and NSW Department of Industry Water staff and resources to NRAR



April 2018 | Launch of NRAR compliance hotline on go-live date 30 April 2018, supported by published guidance on public reporting of a breach



30 April 2018 | NRAR starts operations



May 2018 | the first NRAR targeted compliance campaign focused on the Murray and Murrumbidgee river areas



April–June 2018 | Northern Connectivity Event—protection of environmental flow in the Northern Basin under temporary water restrictions



17 August 2018 | NSW Ombudsman ‘Water: compliance and enforcement – a special report to parliament’ tabled in the NSW Parliament—all recommendations accepted by NSW Government



19 September 2018 | 100 days of NRAR with over 100 compliance actions taken to September 2018



October 2018 | Review by MDBA/NRAR of the Northern Rivers Connectivity Event during the temporary water restrictions



10 October 2018 | First local court guilty plea and conviction for breaches of the *Water Management Act 2000*



30 October 2018 | First Land and Environment Court conviction for breaches of the *Water Management Act 2000* resulting in \$24,000 fine



12 December 2018 | Council of Australian Governments endorsed MDBA Compliance Compact—NRAR a signatory to the compact and involved in its development throughout 2018



February 2019 | Signed MOU with WaterNSW to provide a framework for co-operative relationship between WaterNSW and NRAR



February 2019 | Proactive Monitoring and Audit teams in both east and west start operations



30 April 2019 | Anniversary 1st year of operation



June 2019 | NSW Government announces additional \$5.1 m allocation to NRAR in 2019–20 budget

The Natural Resources Access Regulator is an independent government body established under the *Natural Resources Access Regulator Act 2017*.

NRAR was created to deliver effective, transparent and accountable compliance and enforcement, and to maintain public confidence in enforcement of the state’s natural resources management legislation. NRAR became operational on 30 April 2018 and works closely with other parts of the Department of Planning, Industry and Environment.

These laws govern water take and use, environmental water, the safety of dams and related issues. NRAR also approves and regulates works on waterfront land and manages the water licences and approvals of larger entities.

[1] The *Natural Resources Access Regulator Act 2017*, the *Water Management Act 2000*, the *Water Act 1912*, and their associated Regulations.

NRAR has responsibility for regulating compliance with water and dams safety laws in NSW [1] to enable secure and sustainable sharing of water between users and the environment.

The Natural Resources Access Regulator Bill 2017 was passed by the NSW Parliament on 22 November 2017. The resulting Act clearly specifies the two key objectives of NRAR are:



1. to ensure effective, efficient, transparent and accountable compliance and enforcement measures for the natural resources management legislation



2. to maintain public confidence in the enforcement of the natural resources management legislation

Establishing NRAR

Matthews Reports

The NSW Government commissioned Ken Matthews AO to independently review water management and compliance following the ABC's Four Corners program 'Pumped'. The episode went to air in July 2017 and exposed issues with NSW water compliance and enforcement. The NSW Government's response to Ken Matthews AO's interim and final reports, released on 8 September and 24 November 2017 respectively, was to accept and implement all of the recommendations. The vehicle for this implementation project is the NSW Government's Water Reform Action Plan (WRAP)—a key deliverable of which was the establishment of NRAR as a new and independent water regulator.

The steps in acting on the recommendations of the Matthews' Reports are detailed in the NRAR Establishment Plan and are a subset of the broader WRAP. As outlined, the Establishment Plan guided NRAR's development over its first year of operations and is now considered business-as-usual activity.

NRAR Chief Regulatory Officer Grant Barnes and NRAR Board member Bruce Brown informally met with Ken Matthews on 4 December 2018 and provided an update on progress against the recommendations arising from both the interim and final reports.

Of the 51 recommendations relevant to NRAR, the only one that remains to be implemented is the development of an online public register of water licensing data. Projects are underway to meet the remaining recommendations and activities, some of which are undertaken in collaboration with the Department of Planning, Industry and Environment.

The NRAR Board and executive are confident that the organisation they have developed is the strong, independent and effective regulator called for in the Matthews Report. NRAR will maintain and build on the community's confidence in the NSW water management regime.

NSW Ombudsman's Report

The NSW Ombudsman's 'Water: compliance and enforcement – a special report to parliament' was tabled in NSW Parliament on 17 August 2018. The NSW Government accepted all the report's recommendations. The recommendations compel WaterNSW, and the Department of Planning, Industry and Environment to action. Implementation updates have been provided to the NSW Ombudsman every two months.

Of the 36 recommendations made by the NSW Ombudsman, 24 related directly to NRAR and all have been completed. Some recommendations are embedded in ongoing NRAR practices.

NRAR wrote to the NSW Ombudsman in June 2019 to confirm we had completed the report recommendations. We also provided extra information about NRAR's establishment year and our progress against other outcomes not specifically mentioned in the report's recommendations.



Controlled activity

NRAR Establishment Plan

The NRAR Establishment Plan embodied a commitment made by the NSW Government to fully implement the recommendations raised in the Matthews Reports. The plan contained a series of actions that would take place before, during and beyond NRAR’s first year.

We published a progress report about the plan’s implementation in June 2018. NRAR has now largely completed the work within the Establishment Plan and any ongoing action items or long-term activities are incorporated in the NRAR Strategic Plan, in particular:

All obligations and recommendations implemented



Ombudsman/
Matthews



Establishment
Plan

4.4 KPI/Metrics, Monitoring Evaluation and Feedback—the NRAR Quality Management System is under development and will incorporate the requirements of this item.

5. IT system rebuild—many of the deliverables under this item have deadlines in Q3/4 2019–2020 and are part of an Information and Communications Technology (ICT) roadmap.

6.2.2 Apply successful new monitoring, metering and measurement technology that informs enforcement and strategic intelligence activity—NRAR is successfully using spatial data to target deployment, and will use metering, telemetry and floodplain harvesting measurement as this becomes available over coming years to inform its enforcement and monitoring/audit functions.

The Establishment Plan and the Progress Report are available on the NRAR website.

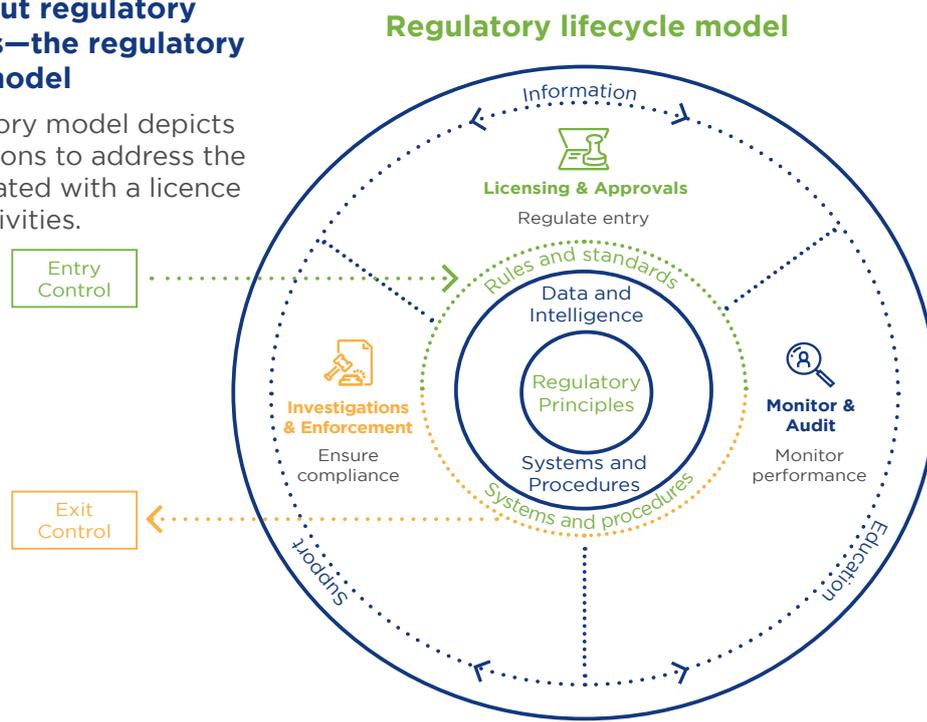
Strategic Plan – Major Program Streams



What we do

Carrying out regulatory operations—the regulatory lifecycle model

The regulatory model depicts NRAR’s actions to address the risks associated with a licence holder’s activities.



Licensing and approvals

NRAR issues licences and approvals to entities to establish the conditions with which the regulated entity must comply. NRAR also assesses applications for controlled activity approvals and issues approvals for activities carried out in, on or beside rivers, lakes and estuaries.

Monitoring and audit

Information gained during monitoring helps detect instances of non-compliance quickly. Analysis of this information also provides indicators to the level of and trends in compliance. This guides NRAR in identifying appropriate responses, ranging from education to enforcement, which may be needed to avoid or mitigate harm. It also enables NRAR to assess and review the effectiveness of regulatory projects, education and information programs.

Investigation and enforcement

NRAR employs a graduated and proportionate approach based on the severity of the non-compliance (its impact on the environment and potential harm to people or property), the regulated entity’s culpability, cooperation and approach to the non-compliance, and the public interest.

Education and information

NRAR seeks to maximise voluntary compliance through a cooperative and collaborative approach, and promotes engagement with the community and regulated entities as an important way to influence compliance behaviours.

Regulatory framework

NRAR Regulatory Policy

The NRAR Regulatory Policy has been published to set NRAR's strategic approach to administering regulation.

In addition, the NRAR Regulatory Policy satisfies the NSW Government Quality Regulatory Services Initiative (QRSI).

The QRSI requires regulators to:

- adopt an outcome-focused and risk-based approach
- prioritise resources towards the highest risk, and
- promote flexible and innovative responses to non-compliance.

The NRAR Regulatory Policy incorporates regulator best practice and includes:

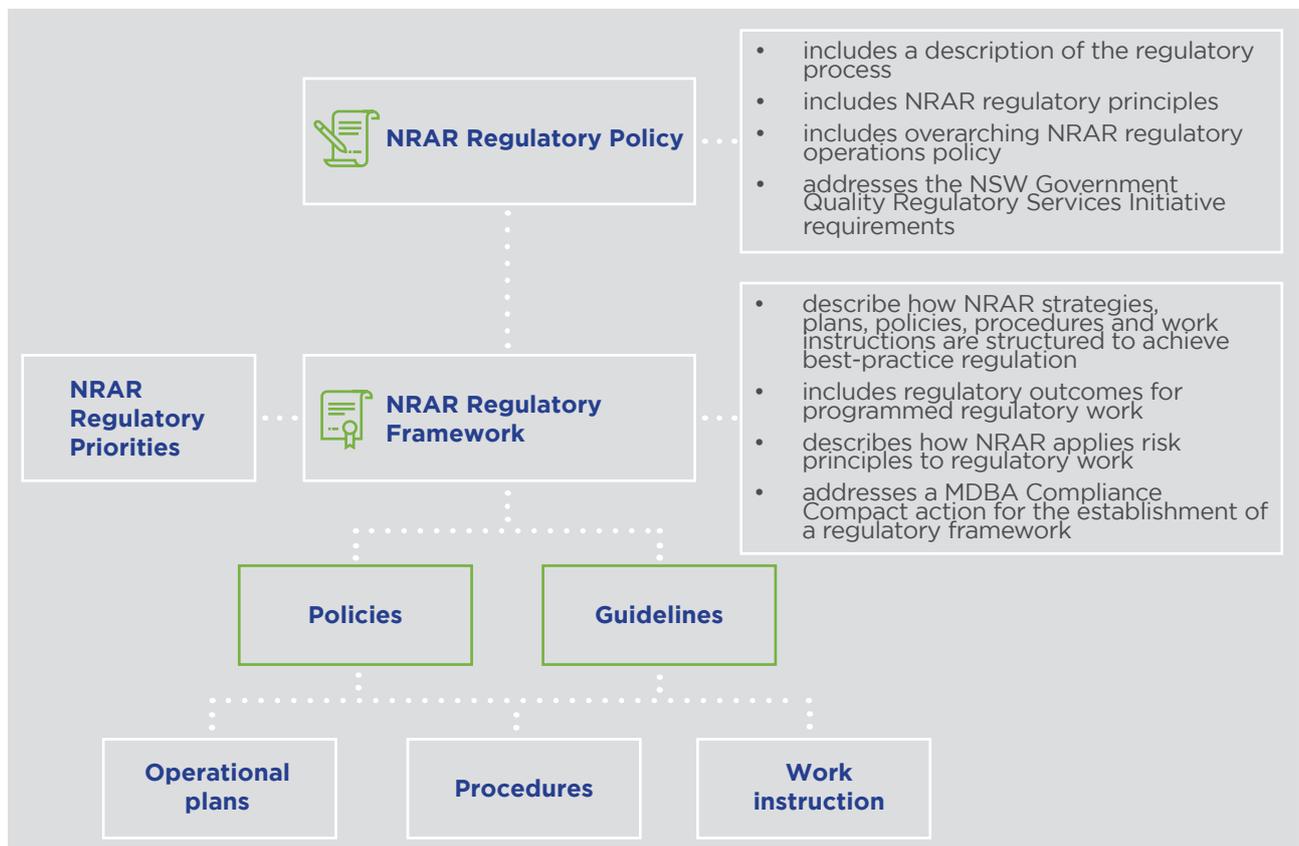
- a regulatory process that sets risk-based priorities:
 - to ensure efforts focus on issues that are the most important or have the highest potential consequences. This is done through the ongoing analysis of regulated entities or activities, firstly according to the consequence of non-compliance (impact or harm) and secondly according to the likelihood of non-compliance.
- clear regulatory outcomes that NRAR seeks to achieve:
 - NRAR describes the reasons for selecting a particular initiative, program or project and the rationale for how the initiative, program or project contributes to the required regulatory outcome.
- NRAR regulatory principles that set the behavioural expectations for the regulator and its staff:
 - committing to regulatory best practice
 - taking a risk-based approach to regulation and decision-making

- taking an outcomes-focused approach to regulation
- accepting accountability
- providing transparency
- acting in a timely way
- balancing the need for consistency with the need for flexibility
- demonstrating proportionality and discretion in regulatory decision-making
- acting within the law
- NRAR regulatory lifecycle processes: licensing, education, monitoring compliance and dealing with non-compliance
- NRAR regulatory decision-making for dealing with non-compliance:
 - taking regulatory action that is proportionate to the circumstances of the regulatory breach
- striving to achieve fairness when making regulatory decisions, taking into account the:
 - seriousness of the non-compliance—the actual or potential impacts on the community and the environment
 - timeframe over which the offence was committed
 - voluntary remedial action taken by the person involved
 - cooperation demonstrated by the person involved
 - compliance history of the person
 - person's willingness and ability to comply with requirements
 - mitigating or aggravating circumstances
 - public interest aspects and community expectation about the action taken (to provide specific or general deterrence).

NRAR Regulatory Framework

The NRAR Regulatory Framework:

- provides a key link between NRAR Regulatory Policy and NRAR planning and operational documents
- describes, in more detail, how NRAR achieves outcome-focused and risk-based regulation
- enables regulatory priorities to be set within the strategic framework
- fulfils a Murray–Darling Basin Compliance Compact action item.



NRAR risk-based compliance approach

NRAR uses four factors to decide on the appropriate compliance action to address any breach/situation it is dealing with, including:

-  1. extent of harm or risk
-  2. extent of the conduct
-  3. public interest and the attitude towards compliance
-  4. water users' attitude towards compliance

These decision factors inform NRAR’s compliance intervention options, which range from education to criminal prosecution.

Regulatory priorities

Risk-based approach to assessing regulatory priorities

NRAR's risk-based approach means we prioritise regulatory efforts toward areas posing the greatest impact from non-compliance and the highest likelihood of non-compliance occurring. NRAR's two-level prioritisation process is summarised in the diagram below. This approach is based on the National Compliance Framework, and is consistent with MDBA Compact commitments.



First level

- Separate analysis for western, eastern and groundwater water sources
- Ecological and hydrological analysis



Second level

- Licence holder profile
- Compliance history
- Spatial and remote sensing data
- Water use history
- Community feedback
- Change drivers
- Policy issues

Ongoing review of regulatory priorities

NRAR's regulatory priorities need to respond to new developments, including new technology, community feedback, environmental and social changes. We intend to review and update regulatory priorities as needed, to allow for new developments and improvements in our data and analytical tools.

NRAR is currently finalising a stakeholder engagement strategy. Engaging with stakeholders on our regulatory priorities is important in building understanding of our approach, gathering information, and reviewing the impact of our regulatory activities.

NRAR's initial focus for the next two years will be on unauthorised water extractions and controlled activities at locations where there is high ecological and hydrological value.

NRAR's top priorities, based on risk assessments of the Murray-Darling Basin, will be coastal surface water and groundwater systems.

Specific regulatory issues have also been identified as priority projects for the next two years.

- **Protection of environmental flows**—including targeted compliance programs to ensure water take during environmental flow events is in accordance with water sharing plan rules, and stated licence and approval conditions.
- **Legacy mining**—addressing compliance issues under the *Water Management Act 2000* for some legacy mining projects where previous interpretations of the *Water Act 1912* have meant 'incidental' water take was not taken into account in licences issued.
- **Irrigation corporations**—working with irrigation corporations to review the large number of structures without a current approval as a result of the conversion from the *Irrigation Corporation Act 1994* to the *Water Management Act 2000*.
- **Floodplain management**—evaluating the effectiveness of the self-reporting system for floodplain harvesting and alternative monitoring technologies once the licensing regime is in operation.
- **NSW non-urban water metering policy**—working closely with the Department of Planning, Industry and Environment on the design of appropriate measures to ensure compliance with the new non-urban metering policy as it is rolled out between now and 2023.

Governance

NRAR Board

The NRAR Board is a statutory body representing the Crown.

The board is independent and any directions by the minister must be made in accordance with the provisions of the *Natural Resources Access Regulator Act 2017*.

The board consists of three members appointed by the NSW minister. The NSW minister approved the appointment of the inaugural members of the board on 15 December 2017.

Members (including the chairperson) hold office for the period specified in their instrument of appointment.

The board operates under the NRAR Board Charter and its members adhere to the NRAR Board Code of Conduct. The board's governance and working arrangements are outlined in the NRAR Board Operating Manual.

The NRAR Board meets monthly, or more frequently as required.

Any decision of the regulator is done under the authority of the board.



**The Hon. Craig Knowles AM,
Chair**

The Hon. Craig Knowles AM joined Austrade in July 2018 as Senior Trade Commissioner Auckland, with responsibility for Austrade operations in New Zealand, PNG, and Pacific Islands. Mr Knowles also holds the position of Consul General of Australia to Auckland.

Mr Knowles' statutory appointments include Chair, Murray-Darling Basin Authority (MDBA) (2011-15) and member of the Central Sydney Planning Committee (2009-15). In his role as Chair of the MDBA, Mr Knowles 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.

In 2015, Mr Knowles was awarded The Member of the Order of Australia (AM) for 'significant service to local government, to the Parliament of New South Wales, and to the community through a range of health initiatives'. In the same year, he was also awarded the River Murray Medal for 'outstanding service toward restoring the health of the River Murray'.

Mr Knowles was a senior minister in the New South Wales Government, holding a variety of portfolios including Planning and Housing (1995-99), Health (1999-03), Infrastructure, Planning and Natural Resources (2003-05) and Forests and Lands (2003-05).

Mr Knowles was a Member of the NSW Parliament for 15 years (1990-05) representing the electorates of Macquarie Fields and Moorebank. He was also a Member of Liverpool City Council for 13 years (1982-94) serving as Mayor during that period. Prior to these roles, Mr Knowles worked in the NSW Premier's Department (Office of State Development), the Department of Business and Consumer Affairs, the Macarthur Development Corporation and in private practice as a valuer.



Ilona Millar

Ms Millar has more than 20 years’ experience advising on natural resources law, including complex, multi-jurisdictional

transactions as well as the development of innovative responses to climate change and sustainability problems. She 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* (Cwlth). Ms Millar was previously the Principal Solicitor at the Environmental Defenders Office New South Wales, overseeing strategic litigation work related to natural resource management.

Ms Millar joined Baker McKenzie in May 2008 and is currently a Partner in the Environmental Markets team. Ms Millar has worked at the Foundation for International Environmental Law and Development (FIELD) and the International Institute for Environment and Development (IIED) in London. She has been a Commissioner of the NSW Independent Planning Commission since 2015 and was a board member of the Australian Youth Climate Coalition from 2010-15.



Bruce Brown

Mr Brown is currently a Director of Coleambally Irrigation Co-operative Ltd (also Chair, Finance and Risk Management

Committee) and Coleambally Irrigation Mutual Co-operative Ltd. He has served as both Director and member of a number of government committees (state and federal), including the National Rural Advisory Council (1999-05). He was a university lecturer in Agricultural Economics and Farm Management prior to transitioning to the private sector via a lobbying role with a farmer organisation between 1986 and 2003 .

Mr Brown worked in various General Manager roles with major agribusiness and finance entities including NZI Securities, Elders Pastoral, Commonwealth Development Bank, ANZ Banking Group and Queensland Cotton Holdings Ltd. Mr Brown also held General Manager roles in the Namoi Catchment Management Authority and the North Coast Local Land Services which were involved in natural resource management, agricultural advisory services, biosecurity and emergency management activities between 2005 and 2017.

NRAR Chief Regulatory Officer



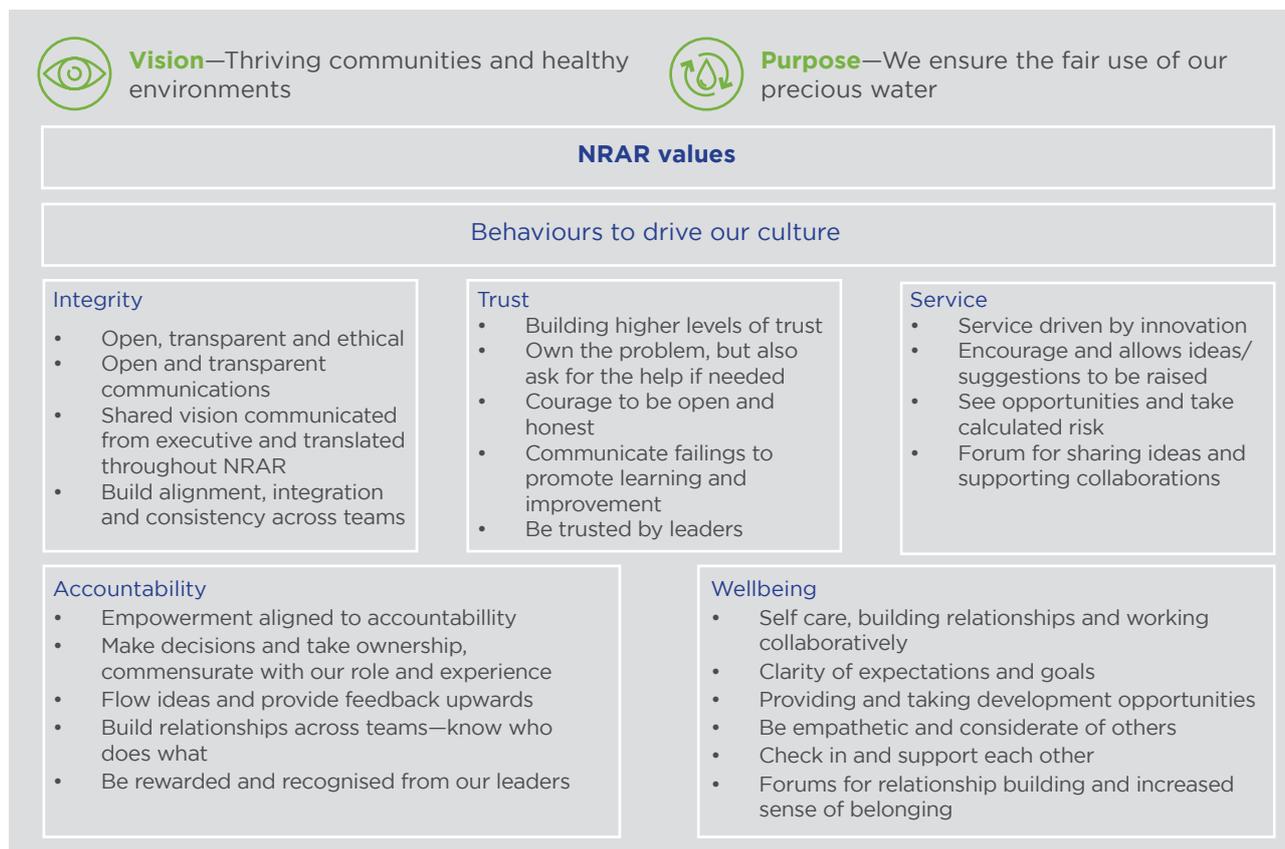
Grant Barnes

Grant has more than 10 years’ experience in senior leadership roles in freshwater science, strategic planning and science

leadership in both established organisations and startups. As General Manager Licensing & Regulatory Compliance Services for Auckland Council, Grant was responsible for ensuring compliance across a wide range of building consent, environmental protection and resource management matters.

As NRAR’s Chief Regulatory Officer, Grant is responsible for the day-to-day operations of the regulator, which is charged with adding transparency and building community confidence in water compliance and enforcement in NSW. This includes building the NRAR’s regulatory capacity and capability to deliver on the NSW Government’s commitment to best-practice regulation, 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.

Vision and values



NRAR ethics framework

NRAR has taken a proactive approach to building an ethical culture, which has been a priority for the board and executive. In March 2018, the NRAR Board published its Code of Conduct that sets the standards of conduct expected of board members. Recruitment for senior investigators has included the requirement to demonstrate integrity and an ethical approach to compliance and enforcement, and this requirement is now a fixture in all NRAR recruitment. All staff have participated in workshops to strengthen their knowledge of the core ethical values expected of NRAR staff: trust, integrity, service, accountability and wellbeing.

Embedding Ethics in NRAR's DNA—the NRAR Ethics Framework, is the ethical framework that guides NRAR's policies, practices and employee performance. The NRAR Ethics Framework establishes the values and principles of behaviour to be applied in the design and

operation of NRAR policies and programs, and in the conduct of employees, when implementing the *Water Management Act 2000*, *Natural Resources Access Regulator Act 2017*, *Dams Safety Act 2015* and other relevant legislation.

The NRAR Ethics Framework:

- recognises the role of NRAR in preserving the public interest, defending public value and adding professional quality and value to the commitments of the NSW Government of the day
- establishes an ethical framework for a merit-based, apolitical and professional government agency that implements the decisions of the government of the day.

The core values of NRAR and the principles that guide their implementation are outlined in the NRAR Values. There is no hierarchy among the core values and each is of equal importance.

A photograph of two men standing in a grassy field. In the background, there are several large, cylindrical blue water storage tanks. The man on the left is wearing a blue button-down shirt, dark pants, and orange shoes. The man on the right is wearing a light blue t-shirt with a logo, blue shorts, and red shoes. A semi-transparent blue rectangular box is overlaid on the image, containing white text.

NRAR uses education to help water users comply with their obligations. In our first 14 months of operation we have developed and started implementing our five-year education strategy.

NRAR Code of Ethics and Conduct

The purpose of the Code of Ethics and Conduct is to identify mandatory requirements and best-practice conduct for NRAR employees. The code is also expected to be demonstrated by contractors, casuals, consultants and others working for NRAR. The code is to be demonstrated when working with NRAR employees, regulated entities (individuals, businesses and others who are subject to water regulation requirements), stakeholders, the general public and the government of the day. The code applies at all times when employees are acting in the course of, or in connection with, NRAR employment. The code also specifies actions to be taken if there are breaches, or allegations of breaches, of the code.

The NRAR way—building a high-performance culture

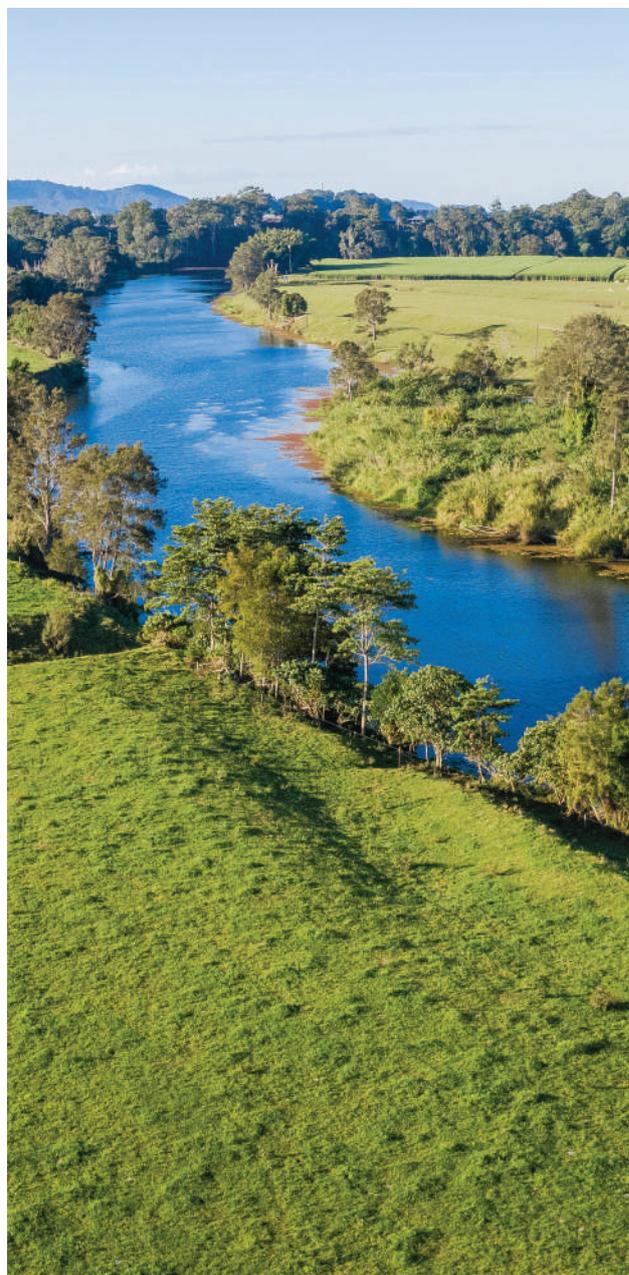
In April this year, NRAR embarked on a culture development program to both map the existing and preferred culture of NRAR, and gain commitment across the agency to the culture development process.

The program engaged the executive, managers and staff in developing the whole team culture across NRAR. The executive team discussed and documented their view on the current and ideal culture for NRAR, then focus groups were held with more than 50 staff at all levels to gather a broader perspective on the existing and preferred NRAR culture.

The combined culture map was showcased at the strategic planning day on NRAR's first birthday. This forum provided an opportunity to discuss and agree to the development actions we would focus on first as an organisation so we could address any culture gaps and build the culture required for NRAR's success. This 'town hall' session aimed to build commitment from all staff and helped us explore the links between culture and NRAR's strategic goals and alignment with our values and engagement results.

The result is two culture pillars which are our immediate focus:

- Open, transparent and ethical—linked to our value of integrity
- Self-care, building relationships and collaboration—linked to our value of wellbeing



05

Achievements and actions

Staff growth in 12 months



	1,285 Allegations logged
	483 Cases of alleged breaches inherited from previous agencies
	845 Cases received for investigation
	310 Murray-Darling Basin cases received for investigation
	182 Northern Rivers cases received for investigation
	809 Investigations finalised
	595 Active cases
	324 Property inspections conducted
	239 Advisory letters issued
	88 Formal warnings issued
	107 Statutory notices issued
	50 Penalty infringement notices issued
	9 Prosecutions commenced

Controlled Activity Approvals	
 341 Applications received	 312 Applications completed
State-significant development/infrastructure referrals	
 486 Applications received	 442 Applications completed
Integrated development	
 913 Applications received	 768 Applications completed

Comparison year to year

 No. of cases received for investigation	651 → 845 2017-18 2018-19
 Investigations finalised	538 → 809 2017-18 2018-19
 Breach allegations received	690 → 1,285 2017-18 2018-19

 Hotline enquiries received 5,500+	
 Licensing 3,200+	 Organisational enquiries 700+
 Access to water 1,300+	

Operational activities

Licensing and Approvals

Responsibilities for granting and managing water licences and approvals are split between NRAR and WaterNSW. NRAR administers water licences, water use and works approvals for certain water users including water utilities, government agencies, mines, irrigation corporations, and Aboriginal communities and businesses. NRAR also advises on state-significant development and infrastructure projects, and issues 'controlled activity' approvals for activities on waterfront land.



Licensing

NRAR is responsible for water access licences and associated approvals required by or for:

- government agencies, including other NSW Government agencies, local councils and the Australian Government
- state-owned corporations
- major water utilities, water supply authorities, and local water utilities
- licensed network operators under the *Water Industry Competition Act 2006*
- mining companies
- irrigation corporations
- Aboriginal communities and businesses
- floodplain harvesting
- major developments (state-significant developments and state-significant infrastructure)
- schools and hospitals

Approvals

NRAR is responsible for issuing and monitoring all controlled activity approvals (CAA) for work carried out in, on or beside rivers, lakes and estuaries. Controlled activities are types of works on waterfront land that have the potential to cause negative impacts, such as altering water flow or water quality, destabilising bed and banks, causing erosion, disturbing vegetation and wildlife habitats, and affecting environmental connectivity and diversity. 'Waterfront land' means the bed of any river, lake or estuary, and the land within 40 metres of the river banks, lake shore or estuary mean high water mark.

NRAR also advises on state-significant development and infrastructure projects, and issues 'controlled activity' approvals for activities on waterfront land.

NRAR must authorise the carrying out of a controlled activity. The purpose of an approval is to ensure that controlled activities are carried out in a way that avoids or minimises negative impacts on waterfront land and other water users. Regulating controlled activities protects waterfront land and its important natural functions whilst supporting appropriate private development and community infrastructure.

Achievements

- NRAR has designed and implemented a triage tool to risk assess CAAs and integrated development referrals (IDAS) submitted to NRAR. NRAR implemented a risk-based approach to identify and assess low-risk matters with a streamlined process, and to focus assessment efforts on the high-risk applications. Since implementation in April 2019, approximately 63% of IDAS and CAAs have been triaged as low risk or exempt and finalised via the streamlined process.
- NRAR has mapped processes, such as Major Utility Licensing and non-Major Utility Licensing functions, and converted key corporate knowledge held by highly experienced staff into written policies and procedures. This reduces the risk of losing detailed corporate knowledge when experienced staff leave the regulator and ensures consistent practice across the branch.
- NRAR has engaged directly with industry stakeholders to improve the CAA process. We have implemented several improvements to address industry concerns and have started project planning for medium to long-term improvements.
- NRAR has engaged directly with Wollongong, Blacktown, Liverpool, The Hills, Central Coast and Lake Macquarie Councils to educate councils on our role and discuss integrated development referral matters and exemptions. This will reduce the number applications referred to us that are exempt (approximately 30% of the workload as measured at the beginning of 2019).
- NRAR has worked closely with consultants to update the CAA fee schedule and to build a benchmarking tool to clarify NRAR's key considerations when assessing CAA and IDAS matters. This will provide greater clarity for industry and improve transparency and consistency for NRAR.
- Worked with a number of regional councils and Department of Planning, Industry and Environment to address critical town water supply issues that have arisen as a result of the drought.
- Worked with the department on legislative reform to assist councils to address emergency water needs.

Establishment challenges

- Managing high volume of applications including legacy cases
- IT rebuild of systems and processes to support the volume of work
- Drought conditions and associated regulatory challenges
- Implementing risk-based approach across other licensing and approvals functions (including state-significant developments)
- Delivering on three key projects identified for completion by end 2019 to improve efficiencies and workflows
- Continue to build staff capacity and implement continuous improvement
- Continue to improve stakeholder relationships (internal and external)

Improvement project: industry engagement on controlled activity approvals

NRAR has actively worked with industry to improve understanding of and compliance with controlled activity approvals (CAA).

The focus has been to build NRAR's reputation with industry and stakeholders, identify current challenges with the CAA process and process transparency, and to identify projects which will result in the best outcomes for NRAR, industry and the environment.

Critical to engaging with industry has been open discussion of current challenges in the CAA application process (timeliness, consistency and ease of engagement for industry) and seeking feedback on areas for improvement. This consultation with industry stakeholders such as Urban Development Institute of Australia, consultants, developers and others has established a forum to discuss continued improvements.

See Case study 1



Monitoring water extraction

Case study 1

Stakeholder engagement workshop

NRAR undertakes stakeholder engagement to help build and maintain public confidence in enforcement of the natural resource management legislation. The principles that underpin NRAR's engagement activities are:

- **Purposeful:** to ensure our engagement activities contribute to meeting objectives and are outcomes focused
- **Inclusive:** NRAR will identify and allow all relevant stakeholders to participate in planned/scheduled activities
- **Timely, proactive and responsive:** NRAR will engage proactively with stakeholders to give them enough time to consider and give feedback about matters of interest
- **Open and transparent:** our dealings with stakeholders will be open and transparent to help build trust in natural resource management legislation
- **Respectful:** engagement with stakeholders is to be respectful of the needs, experience, perspective and expertise of participants

Engaging with stakeholders provides greater certainty about NRAR's role and activities, and allows NRAR to understand the expectations of stakeholders who are affected by or have a specific interest in water regulation.



In line with the NRAR Establishment Plan's commitment to broaden stakeholder engagement to industry and other agencies, NRAR presented at 10 Customer Advisory Group meetings in February and March 2019, and held an Integrated Development and Controlled Activity Approvals Industry Workshop on 21 May 2019 to also assist with the review of existing key operational processes and procedures.

In February and March 2019, NRAR staff attended 10 WaterNSW Customer Advisory Group meetings. NRAR staff presented on what NRAR was and how it carried out its directive of water regulation in NSW. Participants were pleased to see and hear from NRAR and the reception was positive. The presentations encouraged water users to ask questions at the end which were captured and the answers are being emailed to participants. The meetings were held in the Lachlan, Macquarie–Cudgegong, Barwon–Darling, Greater Sydney, Coastal–Hunter, Gwydir, Border Rivers, Namoi–Peel, Murray–Lower Darling and Murrumbidgee areas.

10
Meetings

NRAR staff from Operations East and West started formal stakeholder engagement, attending 10 Customer Advisory Group meetings across the state

NRAR directors and managers provided an update on efforts to improve the integrated development applications and controlled activity approval processes, including introduction of the risk-based assessment.

The group reviewed current processes and procedures, discussed what was working well and what may be improved and explored ideas on how these could be implemented. Attention was focused on listening to and understanding key challenges and suggestions shared by the stakeholders.

The workshop received positive feedback, with many suggestions aligned with improvements already proposed or being implemented by NRAR.

NRAR will continue to engage with industry stakeholders and relevant agencies during the design and implementation of improvement initiatives—workshops and consultations such as this are vital to building engagement with stakeholders, organisations and individuals and working towards a common goal of fair use of precious water.

Case study 2

Controlled activity approval—Silverdale Road, Silverdale

NRAR and its predecessor agencies have assessed, determined and placed conditions on a complex and high-risk controlled activity approval for a large subdivision in Western Sydney. The site is a parcel of land approximately 25 ha historically used for agricultural purposes. A second order watercourse (Scotchey's Creek) and tributaries traverse the site, which is within the Nepean River Catchment. The site also had two large farm dams, one small dam and a significant remnant of Endangered Ecological Community – Shale Sandstone Transition Forest.

The subdivision works included removal of farm dams and realignment of the watercourse, including construction of detention basins and rehabilitation of the riparian corridor.

The CAA process has included:

- pre-development application (DA) engagement with proponent and council at initial rezoning stage and before lodgment of the DA
- provision of advice and negotiation on design to achieve appropriate riparian outcomes
- assessment of design plans against CAA guidelines and objects and principles of the Water Management Act
- issue of an approval with appropriate conditions
- taking a security bond to cover separate stages of the project
- requirement for maintenance and monitoring reports for the revegetated riparian corridor to be submitted to NRAR
- inspections to ensure works have been completed in accordance with the CAA conditions during the project and before the release of security bonds.

The objective has been to assess the proposed subdivision and associated works against the requirements of the Water Management Act and the Controlled Activity Guidelines and issue an

approval to ensure the activity minimises harm to waterfront land, in accordance with the Water Management Act.

The project aligns with the NRAR Strategic Plan in two ways:

- Regulation and compliance program stream
 - Licensing and approvals practice—provide efficient processing of licences and approvals for our customers and controlled activities.
- Regulatory transparency and accountability
 - Stakeholder engagement

The project involved:

- arranging registration and receipt of correspondence and applications



Rectification of rock riffle bed control structures to include geofabric



Development site: pre-construction, October 2016



Development site: initial construction, November 2016



Development site: mid-construction, September 2017



Development site: construction completed, VMP establishment started, October 2018

Improvement project

Town water supply and drought conditions

The drought is having increasing effects on town water supplies across NSW—in particular for towns in the state’s west. Surface water inflows are at record lows, putting pressure on already depleted storages and increasing reliance on alternative sources such as groundwater bores.

NRAR licenses water utilities in NSW and in so doing facilitates a vital step in assisting local councils to ensure water security for their residents. Councils are required to adapt and change with the conditions, which is often a complex and onerous task. As part of NRAR’s licensing function, we provide advice to councils on what approvals they will require to access water sources and help them improve water management plans that will secure supply for the future.

Objectives

- To support the Department of Planning, Industry and Environment and local government by advising on and implementing the regulatory framework for drought relief measures.

Interagency collaboration (other government agencies and industry stakeholders)

- Collaboration with the Department of Premier and Cabinet and the Department of Planning, Industry and Environment to confirm drought-related priorities and processes and to facilitate outcomes.
- Collaboration with the Department of Planning, Industry and Environment’s Water Policy and Planning Unit to identify and address policy and regulatory issues to facilitate outcomes.
- Collaboration with the department’s - Water Assessments team to address and understand impact assessment requirements of required works.
- Collaboration with WaterNSW and councils to understand imminent and developing drought issues and to advise on regulatory pathways for required infrastructure works.

- Collaboration with external referral agencies to obtain relevant advice in progressing applications.

NRAR licenses water utilities in NSW and in so doing facilitates a vital step in assisting local councils to ensure water security for their residents.

Challenges

- Timeframes proposed in drought scenarios do not always align with regulatory requirements or resourcing availability.
- Need for consideration of regulatory amendments to respond rapidly and avoid unintended consequences.
- The need for local government to spend funding provided for drought relief works within short timeframes is increasing pressure on regulatory processes.
- Understanding and communicating the full range of regulatory options available, including drought-related exemptions.



Monitoring and Audit

NRAR has teams of compliance officers across NSW who actively monitor and audit the use of surface water and groundwater. Our officers¹ have a broad range of powers to enter premises and gather evidence, such as taking photos and samples, requiring answers to questions and records.

The NRAR Monitoring & Audit function is the key point of difference between previous compliance regimes and the best regulatory practice that NRAR seeks to achieve. It involves proactively seeking out non-compliance rather than waiting to respond to alleged breaches. NRAR has an initial team of more than 20 staff to undertake this function.

¹ An authorised officer cannot enter any part of the premises used only for residential purposes without the permission of the occupier or a search warrant.

NRAR exercises a range of proactive, planned monitoring and compliance audit programs to determine the level of compliance within a regulated community. This may include:

- inspections determined on the basis of a risk rating
- running audit programs on NRAR compliance priorities in targeted geographic areas of NSW, or high risk businesses
- reactive monitoring and inspections are undertaken in response to reports, incidents or other intelligence.

Information gained during compliance monitoring assists in:



detecting instances of non-compliance quickly



determining the level of and trends in compliance



identifying when and what type of education responses or enforcement action may be required



identifying where action may be required to avoid or mitigate harm



assessing and reviewing the effectiveness of targeted operations, education and information programs.

Monitoring and audit campaigns are guided by NRAR's Regulatory Priorities, with a current focus on:



Floodplain harvesting



NSW non-urban water metering policy



Protection of environmental water



Auditing of water take/accounts



Irrigation corporations



NRAR licenses water utilities in NSW and in so doing facilitates a vital step in assisting local councils to ensure water security for their residents.

Snapshot 2018–19

Protecting environmental flows in the Murray–Darling Basin

NRAR planned and successfully ran operations to ensure there was no unauthorised take of water during protected river flows in the Murray–Darling Basin, including the Namoi and Macquarie rain event flows and Northern fish flows. A total of 55 inspections were completed during these three campaigns.

Using proactive monitoring campaigns to fix compliance problems

NRAR developed and implemented monitoring campaigns aligned with various compliance priorities.

Water bottling project

This project was established to monitor compliance with water laws in the water bottling industry. Working in collaboration with councils nationally, NRAR identified and reviewed compliance with conditions outlined in water access licences. After a successful project in the Northern Rivers it will be extended to the Hunter Region and Southern NSW in 2019–20.

Water take in the Hawkesbury–Nepean area

This project was undertaken to monitor compliance with authorised water take within the vegetable and turf industries in the Hawkesbury–Nepean catchment and to promote compliance with water law in this area.

The project objectives included:

- assess the level of compliance with water laws (water-take more specifically) in the study area, with a focus on vegetable and turf farms.
- develop stakeholders' awareness of NRAR operations
- promote and encourage proactive compliance with water laws within the Hawkesbury–Nepean catchment.

Controlled activity research and review project in the Sydney metropolitan region

A desktop review was conducted to verify anecdotal evidence that a higher number of general terms of approval (GTA) were issued that should consequently lead to a controlled activity approval (CAA) request, but had not. The focus was in the Hawkesbury and The Hills Shire local government areas.

Our objectives were to:

- investigate the relationship between the number of GTAs provided and the number of subsequent CAAs issued to determine the level of compliance with NRAR advice about the need to seek CAAs
- investigate the number of CAAs granted outside the integrated development process
- compare findings with alleged breach notifications against the CAA offence types registered onto CIRaM from January 2014.

Using proactive routine monitoring program to ensure broad compliance with water laws

The routine monitoring program is a continuing process of regular and recurrent inspections and audits of regulatory instruments issued under the *Water Act 1912* and the *Water Management Act 2000*.

NRAR developed and started a routine monitoring program of water take for the Hunter region (identified as one of the high-priority areas in the NRAR Regulatory Priorities 2019–21), focusing on high water users, reviewing local water utilities and waterfront developments.

Achievements

- Developed and implemented the compliance monitoring and audit business plan and rolled out seven targeted campaigns
- Completed 13 inspections to monitor water take at horticultural operations as part of Coffs Harbour Intensive Agriculture Campaign-Northern Rivers and completed an additional 13 inspections monitoring water take at horticultural operations as part of Horticultural Industry Water Take Campaign on the Hawkesbury River. Preliminary findings reported to the operators and corrective action drafted where required
- Engaged with various stakeholders to discuss compliance and monitoring work. These include:
 - Local governments (Coffs Harbour City Council, The Hills Shire Council, Hawkesbury City Council, Brewarrina Shire Council)
 - Ozgroup Cooperative (production, accounts, marketing and distribution services to blueberry growers)
 - The Bellingen Environment Centre
 - Meeting with concerned residents Coffs Harbour
 - WaterNSW Community Advisory Groups
 - Key water user groups
 - Murray-Darling Basin Authority
 - Queensland Department of Environment and Science
- Planned and delivered training to NRAR staff on the audit process
- Trialled the use of satellite imagery to track flows during the environmental flow campaigns
- Developed and applied mobile workforce technology to improve efficiency of on ground compliance monitoring work
- Integrated new technologies to target and assess levels with water laws including the use of drones, satellite imagery and ultra-sonic equipment to measure water works capacity.

Establishment challenges

- Monitoring and Auditing is a new function, established when NRAR commenced, to proactively seek out non-compliance rather than respond to alleged breaches
- New processes, new systems, new intelligence stream and new need for capabilities required:
 - Configuration of investigation system to support the auditing function
 - Staff training and expertise in auditing
 - Development of policies and procedures and templates for monitoring and auditing
 - A review and improvement of equipment and technology
- Proactively regulating areas of the state and subjects that have not seen a regulatory presence for a number of years

Future challenges

- High workload associated with the Routine Monitoring Program. Some monitoring is a result of commitments from the MDBA compliance compact and is a top priority for NRAR to satisfy. This includes commitments made to audit water meters from the department's Water Metering Regulation and Policies, audit floodplain harvesting and audit stock and domestic water users in high environmental risk areas/floods. All routine monitoring work requires prioritisation work
- Adequate resourcing to deliver commitments
- Maintaining balance between routine monitoring and proactive water regulation improvement campaigns and audit functions.

Case study 3

Coffs Harbour intensive horticulture

This project addresses unauthorised water extraction as a regulatory priority for the Northern Rivers region for 2019 to 2021. The project assesses compliance with water take laws for approximately 50 horticultural farms in the Coffs Harbour local government area—an area extending from Halfway Creek in the north, west to Nana Glenn, and south to Bonville.

The project involved a site visit to horticultural farms in the region, and speaking with the farmers about the size of their dams, use of their water, their understanding of the water management laws and regulations, where they go for advice and who they trust. This proactive approach to water regulation provided real opportunities for engagement on the ground and for NRAR to build public confidence.

NRAR staff are able to use a range of tools and technology to measure dams on properties in order to assess their relevant size and water holding capacity. Where compliance issues may be detected (dams may be larger than allowed for the size of the property or water being extracted from an unauthorised water supply work) NRAR will work promptly with the land owners to address these issues by bringing dams into compliance and helping protect water sources. The project results will also be shared with the wider community and local growers' associations to better inform the industry, and assist in developing future campaigns that work towards improved water sharing amongst the water users of the area.

NRAR's objectives for this project are to determine the level of compliance with water laws in the horticulture sector in the Coffs Harbour region. If NRAR finds non-compliances, it will assess the significance of the non-compliance and the key reasons before taking an appropriate regulatory response.

NRAR also seeks to promote understanding of water regulations within both the intensive horticulture industry and wider public domain. By generating more awareness in the community of regulations and the reasons for regulation we can encourage compliance with water laws.

In developing and implementing this project, it's important to proactively engage with government agencies, industry organisations, community groups and members of the community including:

- Coffs Harbour City Council
- WaterNSW
- Department of Planning, Industry and Environment
- Australian Blueberry Growers' Association
- Raspberries & Blackberries Australia
- Ozgroup Co-op Ltd (production, accounts, marketing and distribution services to member growers)
- Costa Group
- Bellingen Environment Centre

This project also draws expertise from various teams within NRAR including:

- Research and Innovation Team: for data analysis, satellite imagery, mapping and inspection templates
- Compliance Investigations Team (East): Analysis of intelligence and post inspections procedures
- Communication Team: developed the communication strategy and creation of communications materials to deliver as planned.
- Education Team: Development of educational materials to address issues uncovered during the project



Blueberry crop

Case study 4

Monitoring of compliance during temporary water restrictions (Northern Fish Flow/s324 rain event)

This project focuses on protecting environmental flows and enforcing temporary restrictions on water take.

During 2018-19 the Compliance Monitoring and Audit Team (M&A) West ran operations to ensure there was no take of water during protected river flows, including the Namoi and Macquarie s324 (temporary water restrictions) rain event flows and Northern fish flows.

NRAR used 'eyes-in-the-sky' analysis (that is data and vision from aerial surveillance and tracking) to identify and prioritise licences and areas of interest.

The M&A West team worked with WaterNSW, MDBA and the Commonwealth Environmental Water Office to prepare and execute the operations. NRAR attended stakeholder meetings (drop-in sessions and irrigator sessions) for these flows and educated landholders on the purpose of the flows.

The M&A West team balanced existing casework with preparing and executing these operations. Timeframes were very tight and involved mobilising staff from across the state, at short notice. Each operation was reviewed as part of a continuous improvement process to embed knowledge from these events.

The results have included improved understanding of rain event flows by landholders, improved working relationships between regulator, landholders and community, and instances of non-compliance addressed.

NRAR continues to address the instances of non-compliance identified and will determine if compliance action is required.

Section s324 (1) of the Water Management Act 2000



Investigation and Enforcement

NRAR's investigators respond to suspected breaches of water law. When a breach is detected, NRAR takes appropriate action. The more serious the breach, the more serious the response.

Responses range from provision of information to help people to get back into compliance, stop-work orders, directions to protect the water source, cautions, fines and prosecution. Individuals found guilty of an offence in court can face fines of up to \$1.1 million and prison terms of two years. Courts can also impose fines of up to \$5.005 million on corporations and additional per-day penalties can apply.

NRAR has deployed a team of more than 40 specialist investigators across the state to ensure compliance with the water management laws in NSW.

NRAR has a range of responses to non-compliance including, in increasing severity:

- advisory letters
- warnings (written and verbal)
- cautions
- corrective action requests
- statutory directions such as stop-work orders, directions to install meters and remediation notices
- enforceable undertakings
- penalty infringement notices
- civil action, such as:
 - debiting a water licence holder's account by up to five times the amount of water taken, or
 - imposing a penalty of up to five times the value of the water taken, or
 - licence action (including suspension, variation or cancellation)
- prosecution
- mandatory compliance audits.

These regulatory responses allow a balanced approach to non-compliance that stops the improper conduct and promotes changes in attitudes and behaviours, rather than simply applying a punishment. However, NRAR will take strong enforcement action when required.

NRAR has the authority to determine, subject to legal advice, whether enforcement actions under natural resources management legislation should be commenced. Decisions regarding enforcement actions are made in accordance with the principles set out in the Regulatory Policy, and where appropriate, the Prosecution Guidelines.

Legacy cases transferred from previous water regulation entities at 30 April 2018



Department of
Primary Industries
252



WaterNSW
231

Cases remaining at 30 June 2019

Department of
Primary Industries **32***

*19 remain active investigations, 7 pending investigation outcome

WaterNSW **14****

**7 remain active investigations, 7 pending investigation outcome

Water Enforcement Taskforce

The taskforce is made up of a group of highly skilled investigators and the NRAR Legal team. Its primary responsibility is to shepherd and support investigations progressed to prosecution by the NRAR Enforcement Committee.

Since NRAR's establishment it has commenced nine prosecutions, three in the Land and Environment Court and six in the local court. Three of these cases relate to the allegations aired in the Four Corners program 'Pumped'.

NRAR determines to take prosecution action in the most serious cases in accordance with its Prosecution Guidelines and after obtaining legal advice from an independent barrister that there are reasonable prospects of a conviction.

Three of these prosecutions have been finalised, each resulting in guilty pleas.

Prosecutions are listed on NRAR Public Register published on the website.

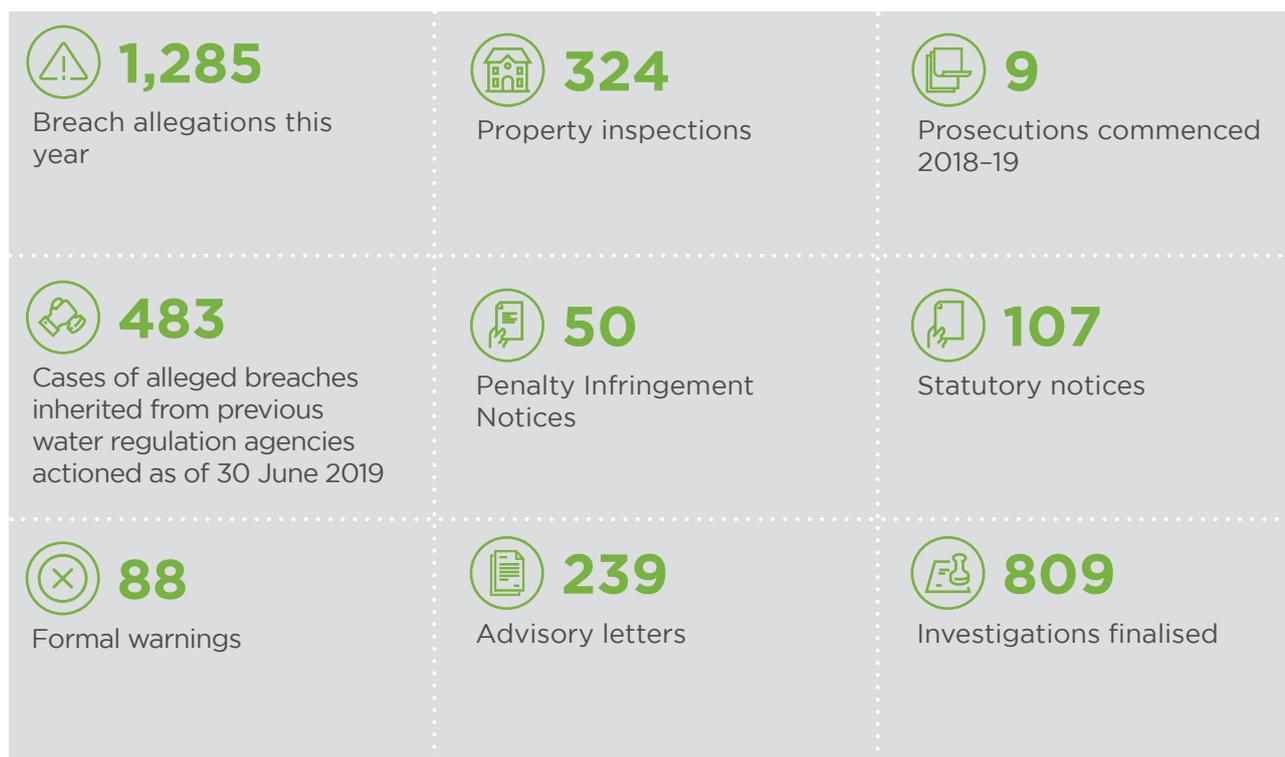
Cases finalised					
Local government area	Date of offence	Section(s) of <i>Water Management Act 2000</i> in breach	Date finalised in court	Court name	Amount of fine
Walgett	19/08/2015	s340A	10/10/2018	Walgett-Local Court	Convicted and fined \$1000, with \$5,500 professional costs, publication order, court costs
Liverpool*	27/10/2014 - 11/02/2015	91A(2), 91K(2) and 336C(1)	30/10/2018	Land and Environment Court	\$24,000 fine in total
Corowa Shire	N/A	91E	10/12/2018	Albury - Local Court	Convicted and fined \$15,000 Maxwell, \$7,500 Lane, professional costs \$5000, publication order

Cases started				
Local government area	Date of offence	Section(s) of <i>Water Management Act 2000</i> in breach	Court dates	Court name
Mallowa and Walgett	August 2018	Section 91I(2) of the <i>Water Management Act 2000</i> for alleged taking water while metering equipment was not working in August 2015	Late 2019	Land and Environment Court
Walgett/ Brewarrina area	27 July 2018	Section 91I(2) of the <i>Water Management Act 2000</i> and taking water while metering equipment was not working in August 2015. Section 91B or in alternative s91L of the <i>Water Management Act 2000</i> constructed used a channel to convey water without approval in early August 2015	Late 2019	Land and Environment Court
Euston	14 December 2018	Alleged taking water from water source otherwise than in accordance with the water allocation for the access licence in contravention of s60C of <i>Water Management Act 2000</i> between April 2016 and March 2019 (zero share allocation and no orders made before take)	Listed on 19 and 20 November 2019	Land and Environment Court
Tea Gardens	Aug 2014 - June 2016	Alleged breaches of s91E of the <i>Water Management Act 2000</i> for unlawful activities on waterfront land for removing vegetation and depositing rock and turf at three sites in Nanabah Creek without approval.	Listed for sentencing hearing on 22 August 2019	Land and Environment Court

*This prosecution was originally initiated by NSW Department of Primary Industries and was concluded by NRAR on appeal.

Cases started				
Local government area	Date of offence	Section(s) of <i>Water Management Act 2000</i> in breach	Court dates	Court name
Bathurst	10 April 2019	Alleged breaches of 91E of <i>Water Management Act 2000</i> by carrying out controlled activities without approval by removal of material namely stockpiled soil, vegetation and other material from Rocky Waterhole Creek and deposition of material namely soil vegetation and other material at Rocky Waterhouse Creek between February 2017 and June 2017.	5 August 2019	Local Court
Moree	10 April 2019	The alleged offences are as follows: <ul style="list-style-type: none"> constructing a flood work without a flood work approval in May 2017 allegedly in breach of s91D of <i>Water Management Act 2000</i>; constructing and using a flood work without approval a flood work approval between May 2018 and October 2018 allegedly in breach of s91D of <i>Water Management Act 2000</i>; failure to comply with a direction issued under part 7 of the <i>Water Management Act 2000</i> allegedly in breach of 336C(1) in May 2017 failure to comply with a direction issued under part 7 of the <i>Water Management Act 2000</i> allegedly in breach of 336C(1) in July 2018. 	26 August 2019	Local Court
Dubbo	17 April 2019	An alleged unlawful dam including the following two charges: <ul style="list-style-type: none"> constructing a dam between 1 November 2015 and 28 February 2016 (water supply work) without a water supply work approval in breach of s91B of <i>Water Management Act 2000</i> taking water between 1 November 2015 and 21 September 2016 through the dam without a water access licence in breach of section 60A of the <i>Water Management Act 2000</i> 	Returnable 14 August 2019	Local Court

Enforcement actions



Definitions

- **Alleged breach notifications:** when a person notifies NRAR they believe a breach of the *Water Management Act 2000* or the *Water Act 1912* has occurred or is occurring
- **Inspection:** on-site inspections to ensure that licence or approval applications complies with all relevant regulations
- **Prosecutions:** a matter has been investigated and a prosecution has commenced under a provision within the *Water Management Act 2000*
- **Penalty infringement notice:** a matter has been investigated and a penalty notice issued under *Water Management Act 2000*
- **Statutory notice:** a matter has been investigated and a statutory direction has been issued under a provision within Chapter 7 of the *Water Management Act 2000*
- **Warning letter:** a letter to an alleged offender advising there are reasonable grounds to believe they have committed a minor breach of the *Water Management Act 2000* or the *Water Act 1912* and warning the alleged offender in relation to that breach and any future breaches of the legislation
- **Advisory letter:** an alleged breach notification has been reviewed or investigated and advice has been provided to the alleged offender about requirements of the *Water Management Act 2000* or *Water Act 1912*
- **Investigations finalised:** all alleged breach notifications are formally closed once a decision has been reached by NRAR. The reasons for NRAR's decision are recorded in NRAR's case management system. Informants are notified of the outcome within five working days of NRAR's decision

Case study 5

Dry Bogan River

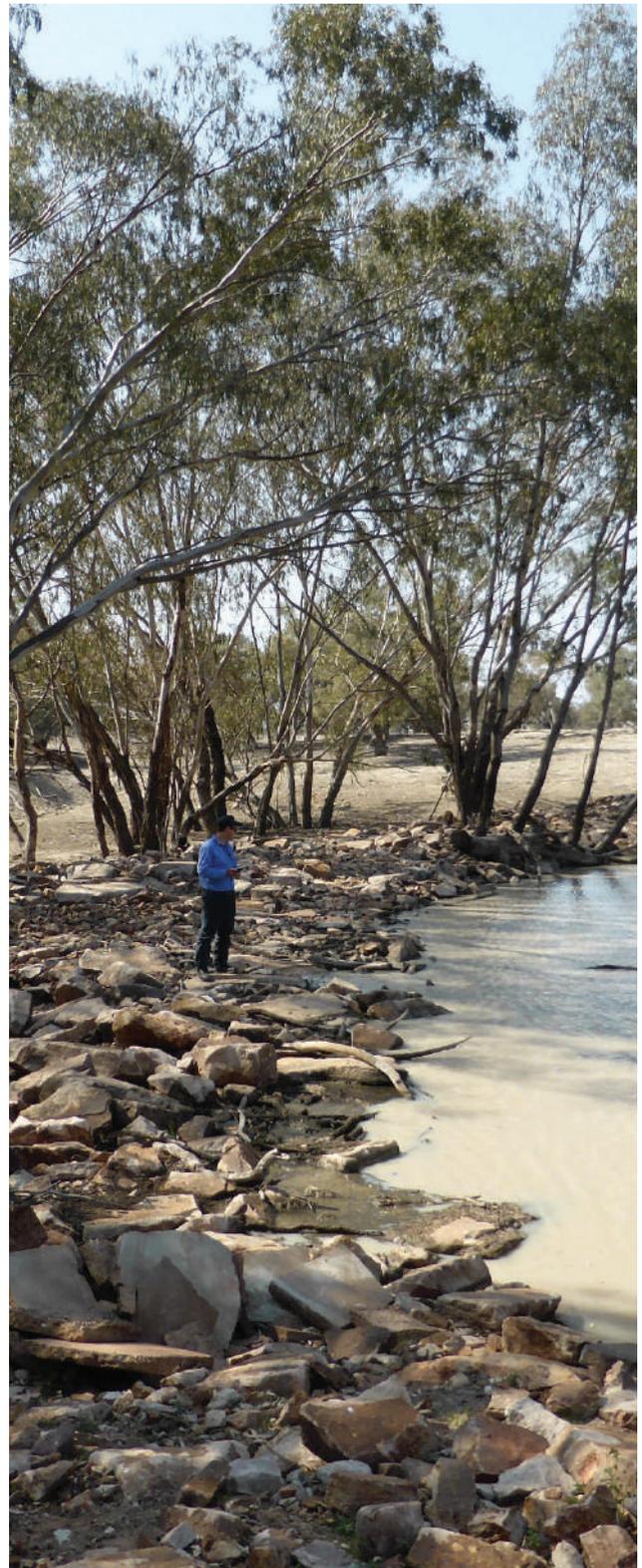
In response to community complaints, NRAR investigated an issue in the Bourke region relating to a structure built lawfully more than 20 years ago on the Dry Bogan River (also known as Little Bogan) that was impeding water flow. The report was verified by investigators in September and a direction to remove the dam issued with a deadline of mid-April 2019.

The landowner co-operated with the investigation and has now removed the structure which has benefited the environmental flows in the area.

The co-operation of the landowner was a strong example of NRAR working together with community members to achieve positive outcomes to protect our precious water resources.

Removal of the bywash dam could potentially improve Bourke's water supply from replenishment flows, as well as reconnect the Bogan River with the Darling and re-establish fish passage from the Darling River, along the Dry Bogan and into the Bogan River.

Native vegetation and wildlife along the Dry Bogan will also benefit from annual replenishment flow events in dry times.



Case study 6

Water take outside of allocation and licence conditions

The offences described below relate to both Water Take 60C(2) & Contravention of terms and conditions of access licence 60B(1) sections of the *Water Management Act 2000*.

On 8 April 2019, WaterNSW advised NRAR of suspected water take offences being committed on the Murrumbidgee Regulated Water Source.

Investigators subsequently identified a Hay South farmer irrigating a cereal crop using a 610mm axial flow pump who had over-extracted his entitlement by approx 414 ML between 15 October 2018 and 1 April 2019. Further analysis of the irrigator's relevant water account also identified a breach of a mandatory condition, in that during the time of the over-extraction he failed to place his water order with WaterNSW.

On 13 May 2019, a draft s327 (2) Direction was issued to the irrigator. This direction required that the individual stop using the works (pump) whilst any associated access license attached to the work was in debit (and should have been in credit) and any water orders had not been confirmed by WaterNSW.

The irrigator was issued a s327 (2) direction a short time later that put the stop work order into effect.

On 28 June 2019 the irrigator received two penalty notices in relation to the offence, each to the value of \$750.

Examples of other enforcement activities

Directions

- A company from Moree and a landowner from Mungindi from a property in Coonamble region was issued a direction to remove an unlawful flood work which has now been removed.
- A landowner from Moree region received a stop-work order preventing use of unlawful water management works for irrigation purposes.
- A landowner from Warren region received a direction to install a patent approved meter.

- A landowner from Bourke region received a direction to remove a block bank from the Culgoa River which has now been removed.

Other actions

- A Canberra man has removed an unapproved dam and vehicle crossing on a watercourse at Sutton after being asked to do so. He has also redistributed the materials and revegetated the banks of the waterway.
- A landowner from Wagga Wagga region received an advisory letter asking him to obtain appropriate approvals for an instream dam blocking water flow.

Penalty notices

- Companies from Sydney and Bombala operating a property in Walgett both received two penalty notices for contravention of terms of their approval and access licence for taking water without sufficient water allocation at the time.
- A company from Moree region received a penalty notice for contravention of the terms of their access licence in Bourke for pumping outside the flow conditions.
- A landowner from Moree region received a penalty notice for failing to comply with a notice to provide information and records during an investigation.
- A Richmond company received a penalty notice for clearing vegetation and earthworks on the banks of the Hawkesbury River. The company has also been directed to rehabilitate the site.
- A man from Corowa received a penalty notice for building two unauthorised flood levee banks across a floodway. The site was part of a Flood Management Plan area, in which works cannot be done, and he has now removed the structures.
- A man from Pulletop south of Wagga Wagga was issued with a penalty notice for unlawfully constructing a dam. He has since removed the dam.

Support functions

Regulatory Capability and Coordination

The Regulatory Capability and Coordination Branch supports the capability of staff, systems and processes across NRAR to deliver effective, efficient, transparent and accountable licensing, approval, audit and enforcement activities for water management.

Support provided includes:

- administration of NRAR's Compliance Incident Reporting and Management system (CIRaM), identifying business user needs and providing system support and liaising with vendors
- develop, review and assess adherence to policy and procedures for investigations and audit, as envisaged by Ken Matthews AO and as also now required under the MDBA Compliance Compact. NRAR is developing a quality management system to ensure accountability, transparency and consistency
- coordination of staff capability development and training in compliance, enforcement, audit and triage as recommended by Matthews' interim report to '... require minimum levels of training for compliance and enforcement staff...'
- creation and delivery of a media and communications strategy using media releases, social media, website content, newsletter contributions, media interviews and op-eds. Public communications encourage general deterrence, guide the regulated community to compliance, and provide transparency for the general community.
- Administration of the Authorised Officer processes, including legal instruments of authorisation and issue of officer identification cards as required by the *Water Management Act 2000*
- coordination of NRAR organisational reporting to the board, to the minister, including responses to external commitments, compliance reports and annual reports to ensure effective governance, accountability and transparency, and importantly in relation to the new Murray–Darling Basin Compliance Compact (eg clause 1.2 of the compact)
- coordination of NRAR's submission to IPART water pricing processes
- centralised function of the first line of response to external enquiries, applications and alleged breaches notifications.

Snapshot 2018–19

Organisational capability

- Developed and obtained board approval of NRAR's risk management framework and mitigation
- Negotiated MoUs and protocols with WaterNSW and Crown Lands to guide operational interaction between respective staff
- Negotiated an agreement with the Department of Planning and Environment for access to its e-planning system to improve the efficiency of NRAR's engagement of the integrated development assessment process under the *Environmental Planning and Assessment Act 1979*
- Established processes to support the NSW government's complaint management system enabling customer feedback via Feedback Assist on the NRAR website
- Developed internal processes to roll out legislative reform such as the new metering requirements from April 2019
- Prepared NRAR's Education Strategy
- Established and chaired NRAR's Workplace Health and Safety (WHS) Committee, and co-ordinated the development of NRAR's WHS risk framework, Safe Work Method Statements for high-risk activities, and NRAR's WHS Operational Plan

Staff capability

- Developed NRAR's capability development strategy, to guide a structured approach to NRAR staff development through on-the-job learning, staff mentoring, and training.
- Mapped the capability needs for the investigation and enforcement function
- Conducted training needs analysis across NRAR's three core functional groups with a focus on identifying compliance training needs.

Development of a Training Plan which resulted in the following training being provided:

 83 Staff Induction training for NRAR staff, which covered system, process, water law, WHS	 22 Staff Induction Program for People Leaders
 11 Staff Business Operations & Ethics Train the Trainer	 20 Staff ICAC's Prevention of Corruption Training
 10 Staff Diploma in Government Investigations	 12 Staff Cert IV in Government Investigations
 5 Staff Attendance at 12th National Investigators Symposium	 28 Staff Dealing with Aggressive Stakeholders
 10 Staff InReach Device training	 59 Staff Metering
 16 Staff Building Resilience	 32 Staff MBIT Team Diagnostics to improve team relationships
 16 Staff Presentation Skills Masterclass	 24 Staff GIPA training
 17 Staff Writing Well at Work	 7 Staff CIRaM Super User Training

System capability

- Identified and coordinated system improvements to CIRaM and WLS, and staff training in the use of these systems

External services

- Provided services for the public and licence and approval holders:
 - Processed more than 5,500 enquiries to NRAR's enquiries mailbox
 - Triaged more than 1,200 alleged breach notifications
 - Controlled activity approval applications
 - Integrated development assessments referrals
 - Water access licences and works approval applications
- Coordinated NRAR's external reporting to IPART, MDBA and the department
- Led a review and subsequent business improvements for NRAR's CAA and IDAs application handling processes
- Established NRAR's Public Register which publishes the details on NRAR's website of convictions under the water legislation as required by section 11(1)(d)] of the *Natural Resources Access Regulator Act 2017*

Communication and engagement

- Established NRAR website and provided continued review and improvement
- Established and launched NRAR social media on Facebook and Twitter
- Delivered transparency through issue of press releases and compliance alerts
- Supported interviews with print, broadcast and radio outlets
- Resourced engagement activities including scheduling, staffing and preparation of communications materials for Customer Advisory Group meetings
- Developed NRAR's Stakeholder Engagement Strategy
- Facilitated publication of policy and engagement activity

NRAR has created a capability development strategy to guide a structured approach to staff development.



Future challenges

The primary challenges for the Regulatory Capability and Coordination Branch are expected to be related to developing people and culture and securing funding for fundamental systems required to enhance NRAR’s effectiveness and efficiency.

In relation to people and culture, the challenges are likely to be:

- implementing a 70/20/10 model (on the job/mentoring/training), where NRAR’s management and staff actively support the investment into learning on-the-job and through mentoring
- geographical challenges of mentoring
- establishment of a Learning Management System to support online learning.



Case study 7

Capability Mapping Project

To achieve its goal of becoming a world class regulator, one of NRAR's top focus areas for the second year of operation is strengthening capability. To achieve this, the Regulatory Capability and Ethics team initiated NRAR Investigator Capability Mapping Project in collaboration with NRAR East and West branches and targeted industry stakeholders.

The NRAR Investigator Capability Mapping Project will provide NRAR teams with the knowledge, skills, resources and systems needed by an organisation operating across a large geographic area and across multiple focus areas.

NRAR is building teams of people, support systems and processes which will enable the organisation to deliver more efficiently and more effectively.

The Capability Mapping Project will:

- address and close capability gaps across NRAR's investigations function to frame an investigation development pathway
- mandate Certificate IV and Diploma in Government Investigations as the pre-requisite baseline qualification for NRAR investigations and key support personnel
- provide learner support program integration to support graduates of Cert IV and Diploma in Government Investigations apply their core knowledge
- support NRAR's Capability Framework to increase capability
- build a structure for mapping capability build for Investigators and Assistant Project Support Officers using role specific capability frameworks to assess competence
- map functional capability and capacity needs for Investigations and Enforcement.
- address critical gaps in water knowledge application and investigations skills
- support and reinforces the need for NRAR to identify and map talent management pipelines

Achievements to date:

- Executive sponsorship of the project
- Project team (with executive sponsorship) assembled to design framework for the project and appoint project leads
- Operational training needs analysis-mapped core knowledge and skills
- Subject matter experts identified across east and west branches
- Investigations Practice Lead position description drafted and recruitment process agreed
- Key support resources identified

Next steps:

- Appoint Investigation Practice Lead/s
- Project learning resources designed and implemented
- Practice Leads supported to undertake tailored skillsets in Cert IV in Training and Assessment to drive assessment of competence.

Case study 8

ICT system improvements

NRAR is committed to ensuring its IT systems are fit for purpose and, as such, we have worked to secure and improve the base systems which support and inform efficient and effective compliance and enforcement activity.

Specifically, NRAR has improved the case management system to better meet business and staff needs, worked collaboratively with WaterNSW to commence functionality improvements to the water licensing system, entered into agreements to access the Department of Planning, Industry and Environment e-planning system, and built internal dashboard reporting systems to better inform management decisions.

Case management system improvements

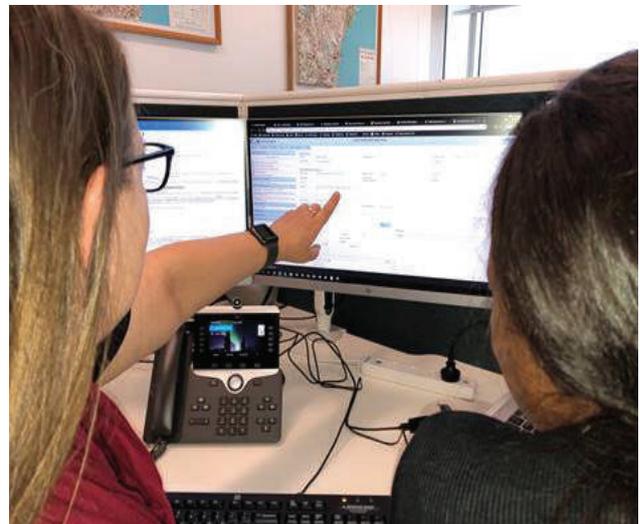
NRAR's case management system was upgraded by the system vendors in early 2019. Staff were actively involved to identify new functionality to be included in this upgrade work and to ensure the system aligned better with NRAR's reporting needs. Such upgrades included updating of the case prioritisation capability, enabling system capability to support NRAR's audit function, integrating legal notice and letter templates to improve the consistency and effectiveness of NRAR's communication about its enforcement action, and various other measures that improve NRAR's reporting capability.

Water Licensing System upgrades

NRAR has worked with WaterNSW to ensure continued and improved NRAR access to WaterNSW's Water Licensing System (WLS), and to commission system improvements to better meet NRAR's needs. WLS improvements include amendments to the IDM module, changes to the Controlled Activity Approval module, improvements to the search function to increase efficiency of NRAR's use of WLS, and enabling NRAR to undertake direct reporting from WLS

Improved governance of existing IT systems

NRAR also established an issues register to illicit ideas for future case management system improvements and has commenced internal change advisory groups to oversight decisions about further IT systems improvements.



Regulatory Innovation

Regulatory Innovation enables NRAR to harness technology and innovation to inform strategic regulatory operations, and build our capability as an effective and fair regulator.

The Matthews Reports identified the need for NRAR to aggressively embrace emerging technology as a means of enabling regulatory operations across the state.

Regulatory Innovation is a small team of specialist professionals who work across NRAR and our partner agencies to support evidence-based compliance and enforcement, and to facilitate NRAR's response to more complex regulatory problem solving.

Regulatory Innovation also enables NRAR to understand emerging issues and opportunities.

NRAR's Regulatory Innovation Branch provides strategic level support such as:

- strategic intelligence and data analytics services that help NRAR to identify strategic priorities and emerging risks
- data for NRAR reporting and public communications requirements to support transparency of NRAR
- specialist spatial and technology services required to support investigations and intelligence
- specialist risk framework and investigation practice advice to ensure NRAR is adopting modern investigation approaches and techniques
- development of innovative tools for compliance using advanced and emerging technology such as satellite imagery, telemetric capture of metering information and physical modelling analysis, as envisaged by Ken Matthews AO
- contribution to ICT, technology and metering strategy development
- ensure broader departmental platforms, databases and tools appropriately cater for NRAR's end user needs, including the need to account for data integrity, custody and evidentiary considerations.

Snapshot 2018–19

Achievements

- Regulatory Policy and Regulatory Framework to define and guide NRAR's approach to its regulatory functions
- NRAR's Regulatory Priorities for 2019–21, which focus NRAR's compliance efforts across proactive and reactive programs (see case study)
- NRAR's Strategic Plan, defining NRAR's Vision, Purpose, Key Programs and Values as detailed earlier.
- Data Analytics and Reporting Tools—supporting internal and external assessment and reporting on regulatory activities, regulatory outcomes, operational deployment and key organisational risks and priorities
- Facilitation of Department of Planning, Industry and Environment Regulatory Community of Practice to foster shared learnings and improved approaches to regulation across departmental regulators.
- Regulatory Innovation is project managing the independent benchmarking of regulatory practice across the Department of Planning, Industry and Environment, applying the AELERT Modern Regulatory Improvement Tool. This regulatory capability benchmarking is being adopted by NRAR as our key outcomes measure for organisational maturity.
- Regulatory Innovation has coordinated development of new protocols, procedures and processes for investigations and enforcement. This includes publication of a consolidated Investigations Manual and the trialling of new quality assurance processes.

- Proof of concept for remote sensing and data analytics tools to target apparent non-compliances and deploy boots on the ground for compliance campaigns and protected environmental flow events as detailed in case study. NRAR has developed approaches in collaboration with department specialist teams, and external partners including Bureau of Meteorology (BOM), MDBA and Geoscience Australia. We are also evaluating the innovations developed and tested as part of the Pilot Technologies Program—see case study.
- Water Renewals Taskforce implementation of the Water Reform Action Plan, including significant technical input to the design and acquisition of telemetry and data acquisition systems that will be fundamental to future compliance and regulatory practice
- Pilot project to trial the use of drones and associated spatial tools in compliance and enforcement activities (see case study).

Challenges

NRAR is reliant on systems and data held and maintained by other water management agencies, including the Department of Planning, Industry and Environment and WaterNSW. Ken Matthews AO observed the problems these systems present due to the impacts of previous machinery of government changes and this remains a challenge. Significant investment in systems development and ensuring service standards and accountabilities are clearly defined, resourced and binding are required. NRAR is dependent on the functionality of these systems, systems security and data integrity to ensure it is able to exercise its regulatory functions in a fair and efficient manner across the whole of the state.

Looking ahead

- Developing tools and capability amongst our operations and support staff to adopt spatial and problem analysis approaches that improve the effectiveness and efficiency of their work. This will lead to improved use of remote sensing and geographic information systems in a clever way to see what is happening and what has happened across the whole state, helping decisions on where to send our officers.
- Developing effective testing and feedback mechanisms for our regulatory practices, including investigations and auditing, and the knowledge we need to take back into enforcement decisions and the influencing of policy and regulatory settings. We need to understand how effective our actions were and use this knowledge to decide the best course of action for future cases.

Regulatory Innovation enables NRAR to harness technology and innovation to inform strategic regulatory operations, and build our capability as an effective and fair regulator.

Future challenges

Technology is rapidly evolving, enabling better and cheaper solutions to metering, data acquisition, remote sensing and monitoring and data analytics. Our ability to understand and successfully adopt these innovations will determine our future effectiveness, and ensure that regulatory operations across remote and inaccessible areas are efficiently undertaken.

Case study 9

Remote sensing

The Matthews Reports recommended ‘more assertive adoption of monitoring and compliance techniques and technologies such as remote sensing of crop growth and water holdings’ either as ‘first-line compliance tools’ or ‘utilised as crosschecks of more conventionally sourced data’ (Matthews, 2017 p. 26).

NSW covers more than 880,000 km² and our most contentious current water management issues are in some of the most inaccessible parts of the state. Satellite and aerial remote sensing imagery already enables NRAR to monitor and more effectively target and deploy its ‘boots on the ground’ across the state. These ‘eyes in the skies’ help to build confidence among water users and the broader community alike that individuals’ access to water is authorised and our regulatory actions are appropriately targeted and fair.

Satellite imagery has enabled NRAR to track the movement of protected environmental flows along inland river systems, the filling and emptying of dams and channels and direct application of water to crops and paddocks in near-real time.



Technology provides aerial views to assist NRAR

Rapid progress has been made in methods linking these well-established remote sensing technologies with data analytics of licensing and hydrological data, enabling NRAR to pinpoint properties where crop area and water demand appear to outstrip combined surface water and groundwater entitlements and water trades. It is also allowing NRAR to identify properties that appear to be using basic landholder entitlements for commercial irrigation and other unauthorised purposes.



Marcus Leslie - Team leader compliance monitoring east

The capability developed by Regulatory Innovation has been refined and modified with the valuable hands-on experience and knowledge of our operational teams. This has allowed remote sensing to progress from being used for operational planning to something capable of directing field deployment during field campaigns. Remote sensing can now support near real-time deployment for protection of flow releases from dams and s324 declarations. Remote sensing can now support near real-time deployment for protection of flow releases from dams and s324 declaration of protected water from tributary rainfall-runoff events. Collaboration with the Department of Planning, Industry and Environment's Water Analytics team, the MDBA, Geoscience Australia and the Bureau of Meteorology has supported NRAR's rapid progress in developing this capability, and ensured the active sharing of technical knowledge and compliance information.

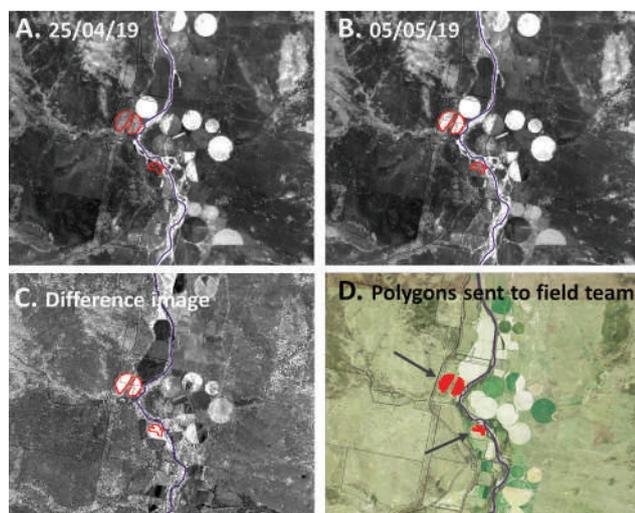


Figure 1. Example of the use of near real-time Sentinel imagery to identify crop and soil moisture changes of interest to NRAR during s324 protected environmental flow releases from Glenlyon Dam in the Border Rivers region.

Remotely sensed digital terrain models from LiDAR are being used to accurately capture, calculate and record dam storage volumes and the extent of floodplain structures such as channels and levees. New structures and modifications can be readily detected in this way.

Techniques developed by industry and university partners through the the Department of Planning, Industry and Environment's Water Pilot Technologies Program are currently being trialled and transferred to NRAR. These techniques promise to further improve the accuracy and effectiveness of remote sensing and analytical methods, and provide the ability to identify changes to structures and other spatial characteristics across large areas through artificial intelligence and machine learning.

A pilot program for the use of drones in NRAR's field operations has also commenced. Drones promise to provide a valuable addition to the broad-scale detection capability already provided by satellite imagery. Ten NRAR operational and investigations staff from across the state have been trained in drone deployment. With the support of the department's pilot program, we are now trialling our field procedures and image software to assess how drone-deployment of spatial technology improves the efficiency, effectiveness and safety of site investigation and compliance activities.

NRAR will continue to work closely with stakeholders across the department and government to develop and deploy the back-end systems and processes enabling this spatial information to be brought together with environmental, licensing and water accounting data sets. NRAR and the department must actively keep abreast of rapid improvements in remote sensing technology, spatial tools and analytical methods.

We must also ensure systems security and data integrity remain capable of supporting the efficient application of regulatory effort, and appropriately protect commercial and private information.

References

Mathews, K. 2017. Independent investigation into NSW water management and compliance—final report. Published by NSW Department of Industry, Sydney. https://www.industry.nsw.gov.au/__data/assets/pdf_file/0019/131905/Mathews-final-report-NSW-water-management-and-compliance.pdf (accessed 1 July 2019).

Case study 10

Regulatory priorities

Objectives

- To be transparent about NRAR's approach to prioritising regulatory activities.
- To be transparent and publish NRAR's regulatory priorities, and progress against those priorities on an ongoing basis.
- To take a more long-term approach to setting NRAR's regulatory priorities, to provide stability for the organisation. At the same time, the approach also needs to be able to take account of new information and technologies.

In line with modern regulatory practice, NRAR focuses its regulatory activities through a risk-based approach. This means the focus of our regulatory activities is on areas where there is a high likelihood of non-compliance occurring, and where non-compliance would have material environmental and hydrological consequences, and impact on fair water use and public confidence.

Before 2019, as NRAR was in its establishment phase, NRAR published only short-term regulatory priorities. These reflected the key compliance areas identified by the Matthews Reports and issues that already had a high stakeholder profile. As NRAR matured and organisational capability in analytics was established, NRAR introduced a broader evidence-based approach to establish a set of regulatory priorities to set the direction for the medium term.

NRAR has adopted a two-tier approach that takes account of factors affecting the likelihood and impact of non-compliance. Our priorities focus on our ongoing activities across licensing and approvals, monitoring and auditing, and investigation and enforcement, as well as identifying a number of regulatory issues that require a focused project-based approach to address their complexities, cross-agency accountabilities, new policy requirements, and/or the interests of multiple stakeholders.

NRAR's priorities for 2019–21 have been developed taking into account ecological and hydrological data, and reported incidents of non-compliance.

NRAR worked closely with the Department of Planning, Industry and Environment's Water Science team to incorporate robust ecological and hydrological data to prioritise our compliance programs across river catchments. In the Murray–Darling Basin, we use the assessment carried out under the High Ecological Value Aquatic Ecosystems (HEVAE) framework to classify NSW regional zones into five categories by instream value: very high, high, medium, low, and very low.

In coastal areas, where the HEVAE assessment has not been completed, we use a 'river styles' assessment as an indicator of the instream values. River styles is one component of the HEVAE framework. It provides an assessment of river condition based on elements such as the river's level of degradation, vulnerability to disturbance and recovery potential. As with the Murray–Darling Basin, we classified regional zones into risk categories.

Analysis of compliance data identified unauthorised water take as the key compliance issue in western river systems, and non-compliance with controlled activity approval requirements as the key issue in river catchments east of the Great Dividing Range.

Overall risk ranking is assigned to each river catchment.

- metering policy implementation
- floodplain management
- irrigation corporations
- legacy mining
- environmental water.

Whilst our regulatory priorities are intended to provide a more stable medium-term focus that enables NRAR to assess and address important regulatory issues, we intend to take into account new developments and improvements in data and analytical method as they are developed. For this reason, NRAR will review and update regulatory priorities on an ongoing basis.

NRAR will ensure appropriate systems are in place to monitor and report against our stated priorities on a regular basis, both in terms of the regulatory activities undertaken, and the effectiveness of our work in understanding and addressing the regulatory problems identified.



Capability development—using technology

06

The Next 12 Months



Much has been achieved in the first year of NRAR’s operations, but we are only just getting started. NRAR will spend the next 12 months building capability on the back of a successful establishment year. We have aspirations of best practice and the firm intent to not only achieve this, but set new standards in regulatory practice. NRAR will move from being reactive to proactive and have our eyes firmly fixed on the future to anticipate regulatory issues before they happen.

We understand our mandate to ensure an effective, efficient, transparent and accountable regulatory system for water in NSW. In our first year of activity we have built foundations to leverage our expertise and willingness to act on and enforce water laws in NSW. Our transparency in reporting compliance actions has provided a deterrence and through innovation and application of technology we are employing new regulatory techniques. NRAR has shown its willingness to enforce the law through the hundreds of matters already acted on this past year. We will continue to put boots on the ground to pursue both alleged breaches reported to us and to proactively monitor and audit the regulated community. The systems and processes we have built and will continue to review and improve over the coming year support these activities and enable us to fully utilise our available resources.

Deterrence and education are key to creating a culture of compliance within the community. Our stakeholder engagement, education and communications strategies will get the word out about what we have done, what we will do and the compliance expectations of the water regulator.

Regulatory innovation will be a key theme for our next year, with technologies and techniques being used to produce higher quality, faster and more efficient compliance outcomes. Satellite and drone imagery, spatial data, metering and gauge board telemetry, integrated information systems and work plans to tie it all together will see us doing compliance work as it has never been done before.

Our staff are our most important asset and their development is a high priority. Our capability strategy will ensure all staff have skills to competently and confidently undertake compliance and enforcement activity safely, consistently, lawfully and fairly.

We are a full-service regulator and our licensing and approvals activities are an important part of our interaction with the regulatory cycle. Work will continue this year to streamline and improve the service we provide to our stakeholders in this space, with faster, more transparent returns a focus for these efforts.

And finally, NRAR will expand its monitoring and audit activities. This will involve developing new programs of work driven by our regulatory priorities that will put us ahead of the game and ready to deal with the compliance challenges that lie ahead.

Capability strategy

NRAR's aim is for all employees to have and maintain the knowledge and skills required to competently and confidently undertake compliance and enforcement activity safely, consistently, lawfully, fairly and in the public interest.

To support the agency in the process of almost doubling in size, in 2018 we launched the NRAR approach to onboarding (starting new staff in their roles with NRAR). The objectives of the onboarding program are to make a positive first impression on new employees, an important foundation to engagement and retention, and to position NRAR as an ethical, best-practice regulator.

Our approach to onboarding is proactive, articulates our purpose and values, clarifies the roles of our people, and creates a sense of anticipation and belonging for new recruits. Thorough onboarding supports our new starters to become acquainted with NRAR, their colleagues, their job, the culture, the ethics and the standards of acceptable behaviour at NRAR.

Following consultation across the agency, we also launched our annual learning and development (L&D) calendar at the end of 2018 which supports operational and technical learning needs and uses a blended learning approach including face-to-face delivery and online learning through video collaboration platforms. Significant internal engagement allowed us to deliver targeted, contextualised L&D interventions, and to identify and access subject matter expert knowledge and skills to support NRAR's capability build.

NRAR is delivering a learning agenda which focuses on the integration of the 70/20/10 model. We have designed an NRAR Capability Mapping Framework and continue to develop our approach to Investigations Capability Mapping to support the development needs of our investigators staff through an on the job coaching model and review strategies.

To help achieve the vision outlined above, here is what each of NRAR's functional areas has on the to-do list for the next 12 months:

Licensing and Approvals

- Continue implementing a risk-based approach to all licensing and approvals work streams. This will ensure NRAR assesses low-risk matters using a streamlined process, which will not only allow more time to focus assessment efforts on high risk matters, but will also provide greater efficiency and improved customer service.
- Refine the IDAS and CAA triage process to improve efficiency, usability and consistency of results.
- Deliver on key commitments from industry engagement workshop (see case study) to improve efficiency and customer service.
- Clarify roles and responsibilities between Licensing and Approvals team and Capability and Coordination team within NRAR to improve process efficiency, data management and customer service.
- Collaborate with Monitoring and Audit team in NRAR to improve license and approval products based on findings from audits undertaken.
- Continue to engage with industry and co-regulators to build relationships established during the industry workshop and council engagements. This will provide a platform for ongoing dialogue and continuous improvements to processes affecting these key stakeholders.
- Continue to review and refine legislation, policy and procedures with the Department of Planning, Industry and Environment and to engage for ongoing case management.
- Explore opportunities to streamline some Water Management Act requirements into other planning regimes to reduce red tape, improve customer service and achieve environmental outcomes.

Monitoring and Audit

- Implement routine monitoring program in other compliance priority areas identified in the NRAR Regulatory Priorities. The routine monitoring program is a continuing process of regular and recurrent inspections and audits. The program will comprise several operational plans relating to each of the high-priority areas. Each operational plan may include strategic monitoring and auditing of meters, conditions on water access licences, works approvals, flood works, environmental flows, as well as tracking of controlled activities approvals and compliance with regulatory tools such as directions, orders, and penalty notices. The NRAR regulatory priorities document has outlined the top priorities for 2019–21 in the Murray–Darling basin, the Coast and Groundwater. NRAR will implement a routine monitoring program to ensure compliance with water laws in all area identified as high to very high risk.
- Implement the use of drones for field operations. NRAR has funded a pilot program to train officers on using drones for field activities. In essence, drones will be flown within line of sight, during daylight hours only and no higher than 120 metres above ground level. Drones will improve the effectiveness of monitoring and audit and, ultimately, support core NRAR objectives. Drones will:
 - help access difficult terrain during field inspections
 - provide additional data and imagery for holistic perspectives and analysis
 - provide efficiency and potential time savings
 - assist in capturing real time data for potential surveillance activity.
- Promote the results from NRAR’s proactive campaigns and routine monitoring work. This will build public confidence and promote voluntary compliance by ensuring NRAR is transparent.
- Engage with the industry regarding NRAR preliminary findings as a result of the more recent campaign work, then engage with the wider public and stakeholders about campaign findings and follow up regulatory responses to those findings

Investigation and Enforcement

- Addressing strategic issues such as increasing volume of complaints about water matters, managing community expectations regarding enforcement and prosecutions and keeping the community informed. This will be achieved over the next 12 months through:
 - increasing responsiveness and efficiencies in the investigation process,
 - building investigator capability and knowledge of water laws and use of specialist tools such as spatial data
 - risk-based approach to managing complaints received
 - improving support tools to build efficiencies for investigations
 - improve case management systems and processes
 - ongoing case management review to improve consistency in decision making.

Regulatory Capability and Coordination Branch

- Continue building staff capability to undertake core functions for NRAR across licensing and approvals, auditing and investigation, and enforcement. Work has included mapping capability needs in each function, and the development of strategies to respond to capability gaps across these functions. NRAR has particularly focused capability build for the investigation and enforcement function where NRAR has grown from 12 to over 60 authorised investigation officers.

- Design NRAR's on-boarding and induction packages, so managers can ensure new NRAR staff are equipped with basic information, orientation and equipment to commence work
- Commenced development of a Quality Management System to ensure consistent work practices. This involves regular review of all documentation to accurately reflect current best practice and meet international standards for quality management. We will map core business functions to identify gaps in procedures. We will procure software. A governance process will include regular internal audits and review of the implementation and effectiveness of its process and procedures.
- Develop short-term IT system needs including improving data integrity and capability to report on NRAR's activities, improvements to case management system, and scoping of a customer management system that when developed will enable NRAR to provide more tailored responses to customers and applicants
- Implement the ICT strategy (with Regulatory Innovation) to enable compliance audit work to be captured in the case management system, modernise case management and licensing systems and ensure better system integration where needed
- Improve internal communications through the use of Workplace and CRO Workplace live sessions
- Influence the department about the legislative changes it proposes to government and, in its policy settings where these affect NRAR's compliance and enforcement role, to better support effective, efficient and transparent regulation and enforcement by NRAR
- Streamline our approach to public reporting of activities and prosecution work to ensure NRAR is able to tell the story about how these activities contribute to sound water management and regulation in NSW
- Implement a structured approach to stakeholder engagement across the organisation
- Expand the use of the media, including social media, as an efficient means of communication, education and driving voluntary compliance
- Implement efficient education programs statewide
- Implement the NRAR Capability Strategy

Regulatory Innovation

- Develop NRAR ICT strategy (with Regulatory Capability and Coordination) and implement systems and data improvements to support and enable internal business processes, transparency measures, and regulatory processes
- Ongoing development and implementation of technologies including metering and data acquisition, remote sensing and spatial analysis—as identification, deployment and evidentiary tools
- Significantly lift program management and governance processes and capability, supporting and coordinating the organisational capability build and ongoing delivery of business programs
- Development and review of audit, investigation and enforcement processes and procedures as part of QMS development, and to ensure currency, effectiveness and address any procedural gaps
- Develop more advanced intelligence and evidentiary tools to inform strategic planning and risk assessment, operational planning and deployment, and enforcement actions
- Ongoing assurance of NRAR's regulatory approach, including periodic review and update of regulatory framework, priorities, and policy, and ongoing assurance of regulatory practices



“ NRAR’s first year of operations marks a significant milestone for NRAR and Cotton Australia would like to acknowledge all of the staff that are working to strengthen water compliance across the state. This important work being carried out by NRAR will ensure all stakeholders have confidence in water management and the irrigating farmers who produce our food and fibre.

**Michael Murray,
General Manager of Cotton Australia**

Compliance challenges this year

Water sharing plans review

Over the course of 2019–20, water sharing plans (WSPs) in NSW will be systematically reviewed by the Natural Resources Commission and the Department of Planning, Industry and Environment, and in some cases changed in response to the outcomes of those reviews. These changes often come in the form of rule changes that will impact the way in which water users are allowed to access and use water within their relevant WSP area.

This has compliance implications for NRAR, as we must update our guidance to water users and our compliance processes to ensure they reflect the new access arrangements. While the onus is on water users to ensure they comply with their WSP rules, NRAR will proactively assist compliance with education campaigns and monitoring activities by field staff on-the-ground.

Metering

The new metering regulations are being rolled out in a staged process over the next five years. Across NSW, over 4,000 pumps will eventually require metering and to provide live telemetered data when pumping. This represents a step-change in the availability of compliance data to NRAR and will change the way we conduct our activities. NRAR compliance work will become more data-focused and setting up the systems and processes to achieve this will be a huge challenge in the year ahead.

In the first tranche of the roll-out, coming in to effect 1 December 2019, over 1,200 pumps in the 'above 500 mm' category will fall under the new requirements. However, pumps smaller than 200 mm in diameter will not be telemetered under the scheme, these pumps may be monitored by NRAR compliance staff. This is a resource intensive activity, and planning is well underway to incorporate it into our monitoring activities across the state.

Floodplain harvesting

Floodplain harvesting is the capture and use of water flowing across a floodplain. This is an important source of water for industry, particularly in the Northern Murray–Darling Basin areas of NSW. Floodplain harvesting is the last substantial capture of water to be licensed in the basin. Bringing floodplain harvesting into the licensing system will improve accounting and compliance of water use in NSW.

NRAR will assume responsibility for compliance with the proposed 1,800+ Floodplain Harvesting licences and any remaining identified unauthorised floodworks. This presents a large compliance burden for NRAR to cover with existing resources and will require the use of innovative technological solutions to assist our monitoring, audit and enforcement operations.

Points of pride

1.



We are getting the work done and getting results—NRAR has significantly reduced the number of cases we have inherited.

2.



We have got the right people with the right skills already doing the work. We have built a fully functional organisation with a staff of 169 people in just 12 months.

3.



We understand what we will need to continue our work in the future and have identified the capability required to meet those challenges.

4.



We have already proven to be effective—we know what we do is working.

Incoming reports show us the community understands our role and is playing their part. Stakeholders are working with us and telling us they appreciate what we do and the NSW Government has shown confidence in what we are doing with a \$5.1million investment.

5.



We have a vision for the NRAR of tomorrow and have solid, strategic plans for continuing on the path towards our goal of being a world-class, best-practice regulator.

How you can help

NRAR must work with the community and water users to ensure the safe management of our precious water resources in NSW. NRAR cannot do it all alone—there is a vital role for community to play in the bigger picture of water management in our state, so it is critical for the public and water users alike to understand NRAR processes and play their part in protecting our natural resources.

Find out more from information and fact sheets:



[Complying with water management laws fact sheet](#)



[Compliance powers FAQs](#)



[Guidelines for controlled activities on waterfront land](#)



[Responding to alleged breaches FAQs](#)



[Regulatory Priorities 2019-2021](#)



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nrar.enquiries@nrar.nsw.gov.au

If you are working on waterfront land visit our website to ensure you are complying with requirements.



www.industry.nsw.gov.au/nrar





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