

NZ Environment Protection Authority Science Forum – October 2023

I am privileged to join the NZ Environmental Protection Authority and contribute to your science forum. As a former science manager in Auckland, I appreciate the importance of robust evidence informing strategy, policy, and plans.

I was last in Wellington in November 2022 when I spoke at the Government Regulatory Practice (G-Reg) conference about the work of the Natural Resources Access Regulator to rebuild the public's confidence in water regulation in NSW, Australia.

I want to expand on that theme today by exploring how we focus on behavioural change to support voluntary compliance. While social science is not rocket science, it takes a concerted effort to embed behavioural insights and techniques into routine regulatory practice.

I will describe:

- the regulator's panacea the right mix of authorising environment, social norms and enabling policy settings
- how behavioural change manifests in a regulatory context and
- the tools NRAR uses in the pursuit of enduring behavioural change.

Let me first set the context for who we are and how we came to be.

Six years ago, the NSW Government commissioned a review of water regulation following a broadcast by the ABC Four Corners program, which alleged widespread water theft by prominent irrigators and maladministration by parts of the bureaucracy.

Three significant inquiries commenced and quickly concluded that there were fundamental issues with water law compliance and enforcement. It was found that compliance and enforcement were ineffectual and needed urgent improvement. The public had lost confidence in the administration of water regulation and that the activity was significantly under-resourced.

One of the most significant reforms that followed was the creation of the Natural Resources Access Regulator, which I have had the privilege of leading for five years.

NRAR was created to ensure efficient, effective, transparent, and accountable water regulation. It also aims to maintain public confidence in how water laws are administered.

As an independent regulator, we have:

• Re-established a visible compliance presence with 'boots on the ground.'

- Re-set what is required to be a professional, outcome-focused, intelligence-led, and risk-based regulator.
- Required the highest ethical standards of our people (accountability, integrity, and trust).
- Committed to always acting in the public interest.
- Continued to protect our independence fiercely.

We monitor, audit, and regulate water use for over 100,000 legal instruments and thousands of water users and landholders.

Our work is carried out across NSW. This territory is almost as large as Germany and France combined.

The regulator's panacea, what do I mean by that?

It is a panacea comprised of:

- the regulator and its authorising environment
- the correct and enabling policy settings
- the regulated community and their social licence and norms.

Firstly, the authorising environment enables the regulator to achieve its objectives and deliver its mission.

The regulatory ecosystem is established and maintained by regulatory policy and resultant settings – the laws, rules, and regulations.

I want to focus on the third element, the regulated community, social norms, and licence interaction.

Let's start with an example that some of my generation will be familiar with.

If, like me, you grew up in the 1970s and 1980s, drink driving was a normal activity. Drinking alcohol in pubs, clubs, at work and then driving home was a common occurrence. It was prohibited by law, but many engaged in it as the law was not effectively enforced. There was cultural pressure to drink excessively and an acceptance of the resulting high social harm.

Imagine behaving like that today. Drinking excessively, driving the car, and blaming the police when pulled over.

What about seat belts in the rear seats? How would you feel now if your child's friend's parent came to pick up your child and drove off without them buckled in? You would be furious. Yet, wearing seat belts in the back seat was optional when I grew up.

Social norms can be immensely powerful. For positive, enduring change, they must be harnessed.

Let's consider social norms operating in an environmental context.

Compare a situation where a person is emptying human waste into a waterway. If this scenario were presented to 100 people on the street, most, if not all, would express outrage. They would be concerned about the impact on the waterway, aquatic life, and human health. Most would expect the regulatory body to act against the polluter, punish them, and ensure secure restitution.

How would the same 100 people respond to an idyllic, rural setting with dairy cows grazing in a paddock adjoining a lake?

Would the reaction be the same? Would there be a call for action?

No. We know there is less support for regulatory intervention in this setting, even though it directly and indirectly contaminates waterways with excess nutrients, sediments, faecal bacteria, and viral pathogens. There is a much greater rationalisation of that behaviour than the tipping of waste from a wastewater carrier, even though the cumulative impact of dairy cows grazing in sensitive catchments has a far greater impact on ecosystem health.

Both activities cause harm, but our tolerance for each differs markedly.

Encouraging and sustaining behaviour that causes minimal harm and impact on the environment depends on social norms, social licence, and the authorising environment.

To be truly sustained, it needs to move beyond "I take personal responsibility to avoid the negative behaviour" to reacting furiously when seeing it being performed.

Let us consider behaviour change in a regulatory context.

Every rule, regulation, and condition is about changing behaviour. It is essential to understand the harms or risks involved and the corresponding behaviours of the regulated community to apply coercive powers that:

- make you do what you don't want to do, or
- stop you from doing something you are currently doing or intend to do

Do these consistently well, and you will have enduring change.

At NRAR, we apply the thinking of Professor Malcolm Sparrow – "find important problems, fix them and then tell everyone."

Most of you will be familiar with the Braithwaite triangle. Below is our interpretation of the Voluntary, Assisted, Directed, Enforced model.



Most water users we encounter know what is expected of them and they do the right thing.

Clear advice, guidance, and access to information enable their voluntary compliance. Through our monitoring programs, we know that 70% of water users comply with the obligations of their licences and approvals.

NSW's water regulatory system is complex and far too complicated for many.

Despite their efforts to comply, they do not always succeed. They are assisted into compliance with clear advice and guidance and the understanding that there may be regulatory consequences if not followed.

In approximately 10% of instances, the behaviour of water users is to deliberately and intentionally not comply. Of this cohort, 20% do so with criminal intent and are motivated by profit, or their conduct is so wilful that it causes significant harm to other users, the community, or the environment. In these circumstances, we enforce the law using powerful enforcement tools, including directions, stop work orders, financial charges, and prosecutions. The application of these tools is for both a specific and deterrent effect.

We use another model in NRAR that builds on the understanding of compliance attitude and behaviour. Ian Bernard, an NRAR executive, developed it, and we refer to it as the Bernard Curve.



The bell curve represents compliance with water laws from non-compliant to compliant. The behaviour of the regulated community is categorised as 'deliberates,' 'chancers', and 'voluntary compliant.'

I will focus on the middle group of 'chancers'. Those who the regulatory settings can influence, the regulator's authorising environment and most importantly, social norms.

The 'chancers' are engaging in a risk/reward calculation:

- The risk of getting caught.
- The consequence of getting caught.

The sum of both these parts determines the benefit that is perceived by the behaviour.

Let's consider a driving example.

You are driving a car at 120 km/hr on a road with a 110 km/hr speed limit. Even though you are breaking the law, the chance of getting caught is low. The risk of detection is low, as is the consequence of capture. You make a calculated decision to speed; you are travelling at a speed consistent with traffic flow.

But what if a police officer was stationed at every 500 m with a speed gun? What would you do? You would slow down even though the consequence is unchanged. Just increasing the risk of being caught is sufficient to change your behaviour.

What if the risk of detection remained low, but if caught going 10 km/hr over the speed limit, you would lose your car for 30 days? The consequence of getting caught is now much higher. What would you do? You would slow down.

What if both interventions were put in place? There would be no speeding, but at what cost to the regulator's authorising environment? Would the motoring public tolerate such a heavy-handed enforcement posture? No.

What behavioural change tools does NRAR use?

NRAR is a risk-based, intelligence-led, outcome-focused regulator with compliance 'boots on the ground' and intelligent 'eyes in the sky.' We have developed sophisticated surveillance technology that enables us to monitor the movement of water through the landscape, the taking of water, its storage and subsequent application to irrigate crops.

We publish annually our regulatory priorities. Our regulatory priorities are a public statement of the important problems we commit to fixing in the year ahead.

By promoting our priorities, we are deliberately increasing the perception of the regulated community that there is a greater likelihood of detection.

For example, overdrawn water accounts are one of three priorities for 2023/24. We identified a systemic problem through our intelligence operation; we communicated the harm that arises from persistent offending, and we promoted our ability to detect the prevalence of overdrawn water accounts and the penalties that could be applied.

As a result of the campaign, water users (the 'chancers') have voluntarily taken action to comply. Few instances were encountered during the latest assessment when there were previously hundreds.

In NRAR, we have adopted an engagement strategy that guides how we interact with the regulated community, stakeholders and the public. The purpose is threefold:

- Understand those we regulate and the community we serve by:
 - capturing and analysing meaningful data about the regulatory environment and the regulated to inform our programs and projects.
- Foster understanding of the rules and NRARs regulatory practice by:
 - offering guidance and support to the NRAR team, stakeholder groups, and water users directly to foster a better understanding of the water rules, what they are important for, and how to follow them.
- Make water compliance a shared responsibility by:
 - building productive relationships and partnerships, including communities of practice, and working together to help water users comply with the water rules.

We undertake annual perception surveys to understand the regulated community and the public's relationship with the water regulator. Respondents agree with the importance of enforcing water laws in NSW. Agreement is consistently high across stakeholders, regulated entities and the general public.

The perception surveys also confirm that respondents consider water law complicated and that compliance and enforcement have been mismanaged in the past.

Moderate confidence in enforcement is expressed now, indicating further work for NRAR to continue rebuilding the public's trust in water regulation. Further, the perception surveys reinforce the work NRAR is doing to raise awareness of our purpose, activities and impact on water compliance.

We also use behavioural insights to inform our work to encourage compliance. We are considered and consistent in the tone of voice we use when communicating externally. Our written communications follow the principles of Easy, Attractive, Social and Timely, which ensures we tailor correspondence to best suit the audience.

We have developed campaigns that use direct, indirect and third-party channels to promote key messages. Recent examples include:

- NRARs Know the Rules
- Water, what are you really taking?
- Women in water

Finally, we have partnered with academia to construct a model of water user behaviour. The model displays compliance outcomes and costs across different conditions and is evidencebased, unbiased and scalable. The model helps inform us of what drives increased water user compliance, assists with our decision-making, and evaluates our effectiveness.

To summarise

The approach we take to encourage voluntary compliance and secure enduring behaviour change is to:

- 1. Understand the regulated community and their behaviours and motivations what distinguishes the 'deliberates' from the 'chancers.'
- 2. Influence social norms to change behaviour to minimise harm and control risks.
- 3. Manipulate the risk/reward matrix to find what combination of tools is most effective.

Thank you.

Grant Barnes,

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