



Australian Government



Inspector-
General of
Water
Compliance

WATER'S EDGE: TRANSCRIPT

S3, Episode 2: 'A chat with Grant Barnes, from NRAR'

Speaker 1: *Water's Edge* Podcast acknowledges the traditional owners of country throughout the Murray Darling Basin and Australia, and recognises their continuing connection to lands, waters and community. We pay our respects to Aboriginal and Torres Strait Islander cultures and to the elders, past, present and emerging.

Annabelle Hudson: Coming up in part 2 of our chat with NRAR, what technology NRAR looking at to detect non-compliance?

Grant Barnes: So, I say to anyone who thinks water theft is prominent in NSW, is you're getting it wrong. I give you an assurance that, through this technology, we are able to monitor accurately the movement of water, the extraction of that water, the application of water.

AH: And how to determine what defines harm when a conviction is made for water offences?

Daniel Blacker: Harm is not stopping at the border. Harm is a system-wide issue. So, we want to look at the social harm, the cultural harm, the economic harm. We don't want to do that on a state level. We want to do that on a Basin level.

AH: I'm your host, Annabelle Hudson.

Speaker 1: This is *Water's Edge*, and welcome to the conversation.

AH: Our field officer network is really well connected to communities on the ground and we obviously follow closely in the media whenever NRAR has prosecuted a water user. But a question, or concern, that is quite frequently raised in the community is whether penalties are proportionate to the offence. What's your view on that, Grant?

GB: When you break down compliance and enforcement, the model itself is quite simple. Firstly, the ability to detect non-compliance is really, really important. Now, for NRAR, we do that through a combination of boots on the ground. We've been very deliberate in reestablishing a visible compliance presence in NSW. That's by virtue of more compliance officers, more investigators, more monitoring staff out engaging with water users. It's important to reestablish that relationship. With that relationship also comes the understanding that NRAR is out there and have the means in detecting non-compliance. But we've also got a programme that we call 'Eyes in the sky', which is something that's developed over the last three years where we have access to some incredible technology that's derived primarily from satellites that are buzzing above us as we speak. Now, the imagery that those satellites have captured has been available publicly for many, many years. But what we've been able to do is convert that imagery into actionable intelligence. So, in those satellites, you can see water being stored up in the catchments. You can see

water moving down a water course, down a big river. You can detect water being taken from a water course and being stored in large dams.

AH: Do you have to be actively looking at this satellite imagery, or can you automatically get a notification?

GB: That's the wizardry! Using some pretty complex mathematics, with a bit of machine learning and artificial intelligence, we've got the means of automating what I'm describing. It's not just the storage of that water. It's what then happens to it. It's taken out of the storage, it's applied on ground, and - miraculously! - you see a crop germinate, grow and then harvested. But putting all that in the mix, we can determine the volume of water used to grow that crop against the entitlement that a user has. So, I say to anyone who thinks water theft is prominent in NSW, you're getting it wrong. I give you an assurance that, through this technology, we are able to monitor accurately the movement of water, the extraction of that water, the application of water, and tie it back into the accounting system, the water licencing system, to determine if the take is compliant or if it's non-compliant. We can do that through automated means. And, maybe making it even simpler, if you're motivated to take water illegally, more than you're entitled to, you're going to have to take large volumes for it to be commercially viable. It's not a couple of buckets that you can put under the bed. You've got to store it. And those storages are exposed to satellites. And changes in those storage volumes are detectable. With the computers that we have, we can show changes in volume. So, it's not in anybody's interest to take more water than you're entitled to, because we can detect it. Now, you asked before what are the consequences of those unlawful actions? So, NRAR has many powers and enforcement tools that we can take. We've criminal tools and civil tools. And, in the criminal space, that is taking a prosecution to the local court or the NSW Land and Environment Court. Now, we take prosecutions where we have a case that has reasonable prospects of conviction. We put that case to the judge and we have great barristers and legal teams who will argue our case. Out of the 37 prosecutions that we've commenced, to date, we win most of them. Now, in securing a conviction, the judge or the magistrate then has to evaluate the sanction that's applicable. They'll use sentencing guidelines, they'll use the arguments of harm, and they'll look at the factual evidence before them. And they're going to make a decision. The sentencing decisions they make, for the Water Management Act, are quite large. There are large financial penalties that can be imposed by the justice when they've determined that there's been a breach of the law. Now, I'm talking, you know, \$1 million - in some circumstances, \$5 million. These are maximum penalties. There are also daily penalties that can be applied for ongoing offences. In practise, though, it is very unusual in natural resources law for maximum penalties to be applied. Discounts are warranted based on a guilty plea. Discounts occur through an understanding of the type of harm and how it might have been mitigated and so forth. It is for the judiciary, who determines the penalties that are applicable, and we respect the decision of the Court. There are examples where we look back and think that those penalties were lighter than what they should have been. But, again, it's important that we acknowledge and respect that it's a decision of the judge or magistrate.

DB: Just jumping back to some of Grant's comments on remote sensing technology, because we did some work last year engaging an independent auditor, Des Pearson, to have a look at the compliance systems in NSW and particularly in NRAR. It really challenged the

way we think about things when we started to look at the capability that now exists in remote sensing monitoring. It's typically been seen as something that augments metering. But we're getting to the point now where it's almost replacing metering, in some instances. So, the question about metering is, 'How do you monitor water take?' That's why we're doing all of that work in metering - to get high levels of coverage, to get accurate meters, to tell the regulator what's happening in water take. But what Grant's just described is essentially a new way of monitoring water take that now sits alongside metering. Over time, it's got the potential to replace metering. We're not there yet, from a technology point of view or from an accuracy point of view - although remote sensing is highly accurate. At the moment, they sit together and help provide a second line of evidence for what you're seeing on the ground. But it really is starting to challenge the way we think about water compliance and the way we think about monitoring what's happening on farm. To pick up the point on the judiciary and penalties, there is an important role that the Inspector-General can play in this space. It's a coordinating one. The issues that Grant outlined, and the way that penalties are determined, is not a NSW specific issue. The same issue occurs in each jurisdiction across the Basin. So, what we're doing at the moment is working with all of the regulators, including Grant, to think about how we can provide additional information to the judiciary on harm. We can think about harm in a different way. Harm is not stopping at the border. Harm is a system-wide issue. We want look at the social harm, the cultural harm, the economic harm and we don't want to do that on a state level. We want to do that on a Basin level. That's one of the important roles that the Inspector-General can play - that coordinating role, across the jurisdictional regulators, where they have a common problem and we can bring them together for a common solution.

GB: It's not just the penalty itself that that is the sanction. So, these are criminal convictions that are imposed. That means, beyond simply the money, that it goes to cost orders that the judge will likely impose. NRAR will always seek a publication order upon conviction, and that, if imposed, requires the water user to put in digital and also in print media a record of the conviction, who they are, where they operate from, what they took, what law they breached. That statement, in our experience, has a significant impact on the user.

AH: Well, it's their reputation.

GB: It's their reputation. This is activities occurring in regional NSW, in small rural communities where one's standing is important. The social licence that comes from being a law-abiding water user in rural NSW is important. Now, the other thing to note about a criminal conviction is the impact that has on one's public life. So, you can think of circumstances where, say you want to travel. If you want to go over to America, you have to make a declaration on your visa application about whether you have any criminal convictions or not. Answering yes imposes restraints on a user that I don't think is well understood when people are going through the courts for water offences and they're getting convicted. It is not simply the pain of the financial penalty. There are other constraints that are imposed, on their public life, that has significant bearing on individuals. We know through five years of operation, and engaging with thousands of water users, that most are honest operators. They know what's required of them, and they do the right thing consistently. We know that there are some water users who, through misunderstanding or mistakes, find themselves on the wrong side of the law.

That is easy to correct. It's easy for us, in engaging with them, to put them straight and require them to do so and they are compliant. They'll sort themselves out easily. In NSW - and I don't think this is any different to other jurisdictions - there is a small, stubborn group who are wilful in their conduct, whose criminal activity is for profit, and it is in those minor, rare circumstances where there is an argument, that the penalties applied by the court are insufficient to correct their behaviour. So, there are other things that a regulator should be exploring, which we are, and things that we can do in concert with the Inspector-General's office. One example would be removing or suspending the right to take water. We have those powers in our act. In fact, last month, we suspended a water user's licence to take water for a period due to their persistent non-compliance. There are other means of imposing financial charges that are not criminal, which can be civil, that - again - we would explore with the Inspector-General's office. The point being to take away the profit from unlawful conduct.

DB: Often when our field officers are out and about, what we hear across the Basin is people asking, 'Why are penalties different in different jurisdictions? Why is it not the same in terms of a water theft defence in South Australia, Victoria, Queensland, NSW and the ACT? Why can't we have penalties which are equivalent in each jurisdiction?' We've spoken at length with jurisdictions about this issue and it's not just water theft issues that come into that equation. States have a justice system that is much, much broader than just water regulation. And consistency within the state across different offences and how those penalties relate to each other is the key priority and consideration of state justice departments, as they manage all of the different areas of life that they regulate. It's not just water. So, we often get the 'Why can't you harmonise it? Why can't it be the same?' As soon as you make it the same in water across the Basin, you make it inconsistent within each jurisdiction across other issues, broader than water. So, we're interested in the outcomes. As Grant said before, 'How do we help provide information to the judiciary that helps judges understand all of the issues around harm?' So, the Inspector-General, on the back of a review of all state compliance systems, committed to doing some work with the states to develop guidelines around harm so that we can get all the jurisdiction regulators to work together on a common guideline that helps inform how we have that conversation with the judiciary, how that information goes and is presented in front of the courts. And we can have a broader conversation about harm. We think that, in that way, you can help inform the judiciary as it thinks about penalties and where, in the range of existing penalties, it chooses to make its decision.

AH: The Inspector-General was at Senate estimates recently saying that, under current legislation, only a moron would be caught when it comes to trade price reporting rules. I'll get each of your takes on that and how water regulation is structured in the Basin states.

DB: Thanks, Annabelle. The comments that the Inspector-General made were very specifically about the Basin plan, water trading rules and even more specifically about the water trade price reporting rules, which we regulate as the Inspector-General. You heard Grant talking before about penalties and multiples of water take. What we want to make sure of is that when people report the price of a trade that it's supporting market transparency but also supporting the broader consideration about regulation across the Basin. So, there's lots of things feeding into that area. What we're really interested in is a high level of accountability. The ACCC called out these issues in their water markets inquiries report

two years ago. We know the government is committed to addressing some of these issues through the roadmap and responding to those recommendations. What you're seeing there, from the Inspector-General, is an articulation of what we're seeing on the ground with current rules and the need for some tighter and enhanced rules, particularly around price reporting, but generally market transparency as a broader issue.

GB: I think what Troy was getting at with that comment was to highlight a really important issue that I think is pervasive across the Basin States. That's the sheer complexity of the water management laws that water users must comply with. We hear from commentators - legally trained commentators - who give advice about the complexity of the laws and what should be done to simplify them. Those comments align with experiences we hear of from water users on farm. It's too complex to understand, it's too complex to apply, it's therefore too complex to comply with. Then, from our angle, it's difficult to monitor. It's difficult to enforce. It's very challenging to prosecute. At its simplest terms, water management laws should be about the volume of take, the timing of that take, and the location of the take. Those are the three key elements that really matter. Now, my mum, she's in her seventies, and like many is an adept user of the iPhone. It's a beautiful piece of engineering. It is so simple in its user experience that my mum can navigate through the apps and does a whole lot of things that she enjoys. But it is a really complex piece of engineering. Just open up an iPhone and see what's inside. It's incredible. But it's not complicated to use. Water management should not be as complicated as it is. A modern, digitally enabled environment for water management should be able to communicate directly with water users in a way that conveys the volume of water they can take, when they can take it, and through what means they can take it from. Strip out the complexity. Just layer something far more simple. That does two things. One, it respects the genuine intentions of most water users who want to do the right thing, but on occasion find themselves in difficulty. And two, from our perspective, it makes the law much easier to enforce, and much more effective in delivering the outcomes that the Water Management Act in NSW seeks to achieve. Our experience over five years is very clear. There must be change in water legislation and water regulation to enable water users to successfully access their entitlements without presenting themselves at risk of legal jeopardy.

DB: The Inspector-General really looks through three lenses on this issue. We're looking for enforceable rules. We're looking for transparency - so people can see and understand what's going on. And we're looking for accountability. So, when people do breach the law, there's a consequence for that breach. And all of that, as Grant said, goes back to having effective rules. That's the foundation and cornerstone that enables that enforcement, that transparency, and that accountability.

GB: We know that often you can attribute the work that we do in compliance enforcement to road safety legislation. Listeners will understand that a sign that posts the speed limit is done in really simple terms. It's got a red circle and inside is a number, and beyond that you're in breach of the limit. At and below that, you're all good. The equivalent in water legislation would be a sign that describes a particular speed limit based on the model of car you drive, the colour of that car, its type of upholstery, whether or not it comes equipped with a turbo, the engine-size and beyond, and it places that obligation on the user to understand all that complexity and draw a decision to be on the right side of the law or not. In most cases, in our experience, it becomes almost unfathomable. It is the equivalent of a speed sign written in algebra.

AH: It's a really good analogy, and a really clear way of explaining to people how complex it is. It's not just a black and white issue. It's definitely grey and multi-coloured and everything in between. Thank you, Daniel and Grant, for your time today. It's been an interesting chat, as always, and for our Water's Edge listeners, you can find more information about the Inspector-General on our website, and we'll also post a link to NRAR's website for more information about NRAR. Thank you both for your time.

DB: Thank you, Annabelle.

GB: Thank you, Annabelle.

Speaker 1: *Water's Edge* is produced by the Inspector-General of Water Compliance, Australian Government, Canberra. For more information visit www.igwc.gov.au.