

Michael Spencer

MICHAEL: Thanks, Brian [Richter]. Thanks, Tom [Annear] for thinking of water stewardship and inviting us and to Del [Lobb] for helping to get us here. I'm going to pick up on Stu's theme of how we can take the science and the knowledge that this group of people contributes to and turn it into a strategy for action that can make a difference.

The Alliance for Water Stewardship was something that started in Brian's office in Washington in about 2008 when we'd been working on this idea in Australia and TNC been working on a similar idea in the United States. We came together and realized we were actually working on something much the same. And so we set out to bring together this alliance, which as you'll see from the bottom of this slide involves NGOs, major corporations, multilateral organizations, and others. I am very pleased to chair the board of that organization and to have contributed to it. So today I'm going to position this within a theoretical framework around common pool resources, pick up on Stu's idea of risks and challenges, give you the bare bones of the water stewardship system and the business drivers for it, talk about some case studies, and then come back to some of the learning that we have gained from these first few years of operation.

Most of you would know that our understanding of economics comes from the 1780s and the economist Adam Smith. He put together his thoughts at a time when everyone thought there was no limit to what nature could provide us with to have a sustainable economy. He did have one skeptic who was around at the time, Thomas Malthus, who said, "Well, actually, I'm not sure nature can provide at the same rate at which populations can expand." And it was he who earned for economics the title of the dismal science and was dismissed by many (but not all). He's had a revival in recent decades as we start to reach nature's limits. One of Malthus's followers, William Foster Lloyd, gave a series of lectures at Oxford in 1832, where he talked about the problems of the commons and he asked why it was that the cows on the common all look pretty paltry and the commons

themselves looked in pretty poor health. He articulated a theory that was later taken up by Garrett Hardin in *The Tragedy of the Commons*. The theory was that when you have common property, it will be overused because people gain the benefit for themselves from its use while the degradation from overuse is shared socially. Hardin had the rather depressing view that ruin was the destination to which all men rush in pursuing their own self-interest in a society. There was a contrary view. Political scientist Elinor Ostrom had spent time looking at traditional societies and the way traditional societies had dealt with common property. Her thesis was that societies were capable of managing property and developed a set of rules for common pool resources based on her observations.

I mention this because I think there's a great similarity between stewardship systems and some of the rules she devised for common pool resources. In many ways, the stewardship systems we see today are really those traditional ways of managing our common property in the era of global supply chains, multinational companies and so on. We see many of the same elements in the stewardship system; they are owned collectively although in this era we are not talking about an individual fishery, an individual common or an individual irrigation system. Collective ownership is reflected in multi stakeholder decision-making as a way of creating common ownership. Ostrom found there were both rules and enforcement of those rules in managing common resources with a graduated system of sanctions for those who break the rules. In stewardship systems, this is achieved through the idea of certification and certification bodies. Another element of what she saw and - what we see in the stewardship system today - is that people collectively benefit from following the rules. That's the importance of bringing in the whole supply chain and creating mechanisms for those who follow the rules to be recognized in the market. And so you often see a brand and some way to identify those who follow the rules. The other thing that is needed—and this is a phase that water stewardship is in at the moment—is to build capacity to understand and use those rules otherwise there's just confusion in the market.

To bring this back to the topic for today, we know we live in a world of growing water challenges. I'm not going to deal with each of these, but there are plenty of warning signs. Demand for fresh water is exceeding supply. The issue is: 'what are we going to do about these water challenges?' Traditionally, our way of dealing with water problems is to engineer more and to build more. We can build more dams and more dams and more dams and pipelines. More recently, we've started to build desalination plants. But I think as this illustration shows, there are physical limitations to how many dams we can build and how many pipelines we can build. I see that in China they're going to try and pipe water from the south to the north to solve the problem. Often, these solutions just shift the problem or as I have often heard said in water policy; "most water problems result from someone's water solution". There are also legal and regulatory solutions. We see this most commonly in pollution control, but there is a whole bunch of legal and regulatory regimes. We see economic and financial solutions. Pricing water is very popular, and we certainly do that in my country. Where we fit in this solution schematic is in a fourth category, voluntary and demand side solutions. That is where water stewardship can play a part.

I don't think that any one of these solutions is bad, but equally, no one of them is going to solve the problem, and we need to think about solutions in a very holistic way. When we started this process, we actually tried to map all the different water challenges that we saw. We managed to bring them down to these four headings, problems around scarcity, problems around quality, problems around environment, and problems around social equity. So when we started to devise a solution we thought, well what influences these problems? And if we're going to be working with the corporate sector, what are the things they can do? And so, the four areas or the four outcomes, the four issues that we wanted to highlight was what individual water-using sites could do to address water balance, water quality, what we call important water-related areas, which is similar to high conservation values, and water governance. And, these outcomes became the focus of the water stewardship standard.

The other issue we're acutely in addressing water challenges is that every water catchment is different. Not every solution will be the same. I remember an early meeting where Brian brought this graphic along and said, "We need to find a solution that involves what a site can do to address a catchment challenge, and those catchment challenges are all going to differ." And of course within a catchment, there will be multiple perspectives on those problems and solutions, so we need to be able to bring people together to understand what everyone sees as the challenges in a catchment in order to devise what a site can do to address those challenges.

To develop the AWS International Water Stewardship Standard we brought together our council of elders, if you like, a multi-stakeholder team that came from all around the world and represented a cross section of government agencies, private industries and private water suppliers and civil society. We handed them the brief and said, "This is what we want to do. We want to address these four broad areas. We want something that's adaptable to different catchments and that involves site-based actions that will achieve catchment level impacts." We defined water stewardship with that in mind. The first part of the definition is a pretty traditional three-legged stool of socially equitable, environmentally sustainable, and economically beneficial. But then we added that it's going to be achieved through a multi-stakeholder process, and that solutions need to involve site- and catchment-level actions. The definition has stood up very well.

Just to reinforce the point, the water stewardship system is designed to achieve outcomes of a sustainable water balance, good water quality, healthy important water-related areas, and good water governance. The standards development group devised the water stewardship standard around a six-step process. There are six steps, but they don't all have to be performed sequentially. The first step requires the site to make a commitment to good water stewardship around those four outcomes. The second step requires gathering and understanding

information on the catchment and the site and working out what the shared water challenges are and what the site's water risks and opportunities are. The third step involves building a site water stewardship plan, then implementing the plan (Step 4), evaluating the plan (Step 5), and communicating and disclosing outcomes (Step 6). Another important feature was that we wanted something that could work seamlessly with other systems. We didn't want to be duplicating. If people were already using Stu's water risk filter or one of the other water risk filters, that's fine. Incorporate that. If people were reporting to CDP or the Global Reporting Initiative, that's fine show the links. We did the cross referencing at the back of the standard so that you could take the data you collected through a water stewardship system, cross reference it to those systems, or if you're already doing those systems, cross reference it back to water stewardship.

Looking at step two, gather and understand, you can put in too much work here or not enough work, but what you need to understand is that we're driving towards an understanding of what we call your 'shared water challenges'. You need to understand the catchment conditions and challenges. You need to understand stakeholders within the catchment and where they sit in your sphere of influence, and you need to understand how your site relates to the catchment challenges. This is the basis on which you will be devising your site water stewardship plan. Your plan (Step 3) doesn't have to be one of those great, lovely, ring-bound folders that sits on someone's bookshelf and gathers dust or in a folder in their computer. It can be just a couple of pages like this, which says what are we going to do, when are we going to do it by, where are we going to get the resources from, and how does this relate to achieving our goals under the water stewardship standard. In some of the organizations we're working with, it doesn't exist as a separate document. It goes straight into their site management plan. And that's often the most effective way, because the more you get it engrained within the normal business operations, the more likely it is to be done. Once a site has its plan obviously there's implementation work, and that implementation work

focuses on what are you going to do to achieve the four outcomes. Then there is an evaluation step; what are the costs and benefit of those actions that you have taken. The evaluation also feeds back into the revision of the site plan for the following year. Finally, a site is required to communicate and disclose its plans and actions to stakeholders. Transparency is a big driver for the continuous improvement that we're seeking to achieve with our water stewardship sites.

Certification is an important part of the water stewardship system but we don't expect people to rush in and say, "Okay, we want to be certified tomorrow." We understand that businesses will come and they'll kick the tires and say, "Well, what's the standard all about? How does it work? How does it relate to me?" They might come and do some training or a workshop, and then they'll gradually get comfortable with implementation and then move into certification and actually beyond into real leadership on water. We've got examples of that that I'll talk about what are the drivers. We see the world is being divided into organizations that are going to promote the use of water stewardship, and they might be natural resource managers such as you who are looking for tools to engage business in good water management outcomes. They might be retailers. For instance, a major retailer like Marks & Spencer. It might be an international brand, and here we use the example of Nestle that worked with us as part of the international standard development committee, aiming to secure their supply chain. Or they might be development agencies that are aiming to achieve social and environmental outcome in target countries. The drivers are going to be supply chain risks, consumer or community pressure or policy goals of natural resource managers. The drivers might also be engaging supply chains or avoiding perverse outcomes from investment in social development exercises. Turning to the implementers. These are the major water-using sites that will implement the standard. They may in primary production, agricultural or mining. They may be in industry, in commercial operations, or institutional water users. They will all be interested in managing their water risks. Stu spent some time talking about that. But we hope they'll also see the opportunity of enhancing their license to

operate, of providing leadership within their industry, or improving their reputation and brand strength in the market. Often we see initial engagement might be around risk, and then as they get more involved with the system, they see the opportunities that they can develop.

Looking at some examples, one is in China, the Yangzi Basin, where Ecolab, one of the companies that were founding partners in water stewardship, has an operation in the Taicang area north of Shanghai. There's a lot of water in that area. It's an amazingly sensitive and important part of China's waterways. The plant is a relatively small operation within that greater Yangtze Basin. I think it represents about 0.05 percent of water consumption in the Basin. But they defined their sphere of influence around the site in the Taicang catchment, and that's part of the process. I'm just going to pick out a few observations from a presentation they gave after two years of using the water stewardship standard. For instance, in step two, they went to some length to map water use through the plant and understand their water balance. They also mapped points in that water flow through the site, where water quality control was an issue. They developed their water stewardship plan and a whole set of actions as part of that plan. You can see in this slide, the plant is part of an industrial park and the Taihu area is a major wetland area. As a result of implementing the plan, they were able to reduce their wastewater by 25 percent, which translated into a financial savings. They were achieving win-win outcomes; saving money, reducing water consumption, and contributing to environmental improvement by reducing effluent flowing out of their plant. So that was just a few selected highlights from their report. They also went to some length to engage other water users within the industrial park, moving outside of their fence.

If I turn now to a project that I have been working on for a while in the Western Port Area just outside of Melbourne in Australia in a peri-urban area. On the left-hand side of the slide you can see the encroachment of the urban area and on the right-hand side, we actually have a Ramsar Wetland and Marine National Park.

In between all this is a short waterway. It's only about eight kilometers long that just happens to be the dirtiest creek in the State of Victoria. You can actually see the different color of the sediment in the water coming out into the Ramsar Wetland. The main issue is high nutrient levels. The poultry plant we are working with has very little interaction with that waterway. It takes its input water from the town supply, and its output water goes into the sewerage system. But its neighbors are horticulturalists, and it has suppliers who are poultry growers. A whole bunch of things are influencing that short creek. As a result of the Inghams Enterprises poultry plant embracing water stewardship about six years ago, they gained a lot of experience and lot of confidence that allowed them to understand their water use, make a \$14 million investment in an advanced water treatment plant and reduce their demand on potable water by 70 percent. So they reduced their demand on portable water and reduced their output of effluent. The filtering captured waste that could be sold as fertilizer etc. More recently, they have also started to look at important water-related areas. The red line is a creek that runs through the bottom of their property, which they've now fenced off and re-vegetated because it flows into the creek we're talking about, Watson Creek, which is the green line. They are now at a point where they are engaging more with stakeholders outside of their fence line as part of a group of organizations working with Water Stewardship Australia and the Western Port Biosphere to cleanup Watson Creek. Julia Seddon is head of Sustainability for Inghams:

JULIA: We became involved in water stewardship -- I tend to say in the beginning of the water stewardship process. We attended a conference as a guest of Southeast Water, who are our water authority here at the Somerville plant. And I guess at that stage we were really at the point where we were beginning to understand that water wasn't just a commodity, that it was actually of great importance to the business, and that regardless of what we paid for it, without it we, wouldn't survive as an operating business. So we were at that point in terms of developing a deeper understanding about our dependence on water and the value of water. Seeing what water stewardship could potentially bring to the company was very

attractive to us at the time. It's a system whereby you can be sure yourself as an operator that you are being a good steward, a good water manager, but it's also something that can be used to demonstrate to others, whether they're customers or whether they're community, government regulators, that we are doing the best we can possibly do with the water that we have available to us. So it was an attractive proposition for us.

MICHAEL: So in the current project, we're partnering with the Western Port biosphere and Inghams Enterprises to bring in all those other water users along the creek—so the horticulturists and the poultry supply chain—to seriously address that nutrient problem. We're not only engaging them, but we're encouraging them to become leaders within their catchment.

Another example is on the Waitaki River in New Zealand, a large braided river on the east coast with a catchment of about a 12,000 square kilometer that runs from the alps to the sea. A drought prone region with about 500 irrigators. One interesting aspect of this case study is that the irrigators face a complex multi-layered regulatory regime. They were interested in getting ahead of the regulatory curve and also demonstrating superior performance. There is a high demand for dairy, which is grown here on irrigated pasture, from China and the government is pressing for more irrigation development. The Waitaki irrigators want to manage that pressure in a way that is sustainable for the river, the catchment, their business and their reputation. So that's an interesting case study too.

Moving to South Africa, this is an interesting case study because it demonstrates the role supply chain leaders can play in promoting better water management. It also demonstrates that water stewardship can achieve not only environmental outcomes but social outcomes through the interaction between suppliers and their workers in local townships. Marks & Spencer, along with Woolworths South Africa, are sponsoring the project working with WWF and the Alliance for Water

Stewardship (AWS). The history behind this project is that Marks & Spencer has been working for years on water-related projects looking at water efficiency in their own operations, in the factories that supply them with products and in the farms. They first worked with AWS on testing out the new water stewardship standard in Kenya. It led to a collective impetus to do more together. Marks & Spencer and Woolworths looked at the biggest water risk in their supply chain and that showed the Western Cape is a high water risk hotspot. As retailers they realized they could not solve these problems on their own and sought to collaborate with others who could bring international and local expertise.. The evidence that's coming out of this project is really going to help the retailers to engage more effectively in the world where they're implementing water stewardship. It is a great illustration of how a supply chain leader can drive good water stewardship through their supply chain.

I will quickly mention a project we're just starting along Booberanna Creek near Toobeah in the northern part of the Murray Darling Basin in Australia, on the McIntyre floodplain. What I find really interesting about this project is the way it's starting to involve a private landowner in the sort of issues people in this audience concerned about. Norman Farming, who we're working with, have two properties at different ends of the creek. They ran a flush down the creek, actually moving water from one property to the other. Along the way, they "lost" 1,500 megalitres of water to the environment. Well, it wasn't lost. It was actually a gain for the environment. They are now in discussion with the Commonwealth Environmental Water Holder to gain some recognition for delivering environmental benefits. Water Stewardship is a tool that can help them demonstrate commitment to these environmental benefits. I think over time this case will illustrate is that if you can engage private landowners, then you can actually get a much more efficient outcome than if, say, the Commonwealth Environmental Water Holder, the organization that buys water rights on behalf of the environment, had to run a flush off the McIntyre River. John Normal has argued that, just as he is focused on reducing water consumption in the production

of crops, governments need to bring the same thinking to delivering environmental benefits more efficiently. So I'm really looking forward to spending a bit of time up with John and his team understanding what they're doing. One member of his team is a zoologist who did a monitoring walk along the creek before they ran the flush, and then did a walk after the flush to observe the changes that were achieved. So I think there is still a lot to be learned from this case study.

Turning to lessons learned so far, there are a lot of lessons we're learning all the time. One is the importance of working with existing systems in a way that can reduce complexity rather than increase complexity. I sat with one farmer who said, "I know you guys, you come along and you tell all us poor fellows who are just trying to make ends meet what to do. We work from dawn to dusk, and we never get a spare moment. We haven't got time to worry about all this stuff." He added, "You're probably in cahoots with all those people overseas who are trying to tell us what to do." I said, "Maybe." But it caused us to ask; How do we work with existing systems to make life simpler rather than more complex?" So you see in this illustration from a project we did with a milk factory, they've got industry best management practices, they've got catchment strategies, they've got customers making sustainability demands of them. More than 400 farmers supply the milk factory. It already provides the farmers with some extension services on environmental and food quality issues. So where does water stewardship fit in? We found it can actually fit in quite nicely because we can reassure the factory's customers on water balance, water quality, important water-related areas, and governance. We can help structure how the industry best management practices are delivering these outcomes and work with the catchment authority around the catchment plan. Water stewardship can then help integrate all of these elements into a farm management plan to bundle up all the things suppliers are worried about (including occupational health and safety, carbon and so on) into a single management plan. One of our goals is to develop a template farm management plan that can actually make life simpler for the farmers. So that was one of our

first learnings through that case study. Of course if the factory wants, it can eventually move on to a group certification program for their suppliers..

The other barrier is techno speak. If you look at Watson Creek, when we started doing the catchment analysis for this, we said to all the government agencies -- I think about eight different government agencies with an interest in this eight kilometer creek: "What water information have you got that can help us understand the catchment issues?" So they provided what they had and I counted them the other night. There were 20 different reports relevant to this little creek that amounted to 1,200 pages. And that was just recent reports. If you think about that from the perspective of a site manager or even a site water manager, reading 1,200 pages of densely typed technical information is a big ask. So one of the things we can help with this is to treat some of the catchment analysis as infrastructure and prepare catchment-based templates. So our thinking is if we do the catchment analysis for the Watson Creek for example, we can make that available to every water user along that creek so that they're halfway -- they can then focus on their site water stewardship plan because we've helped them with a part of the process that is common to local water users. That's another learning.

Another learning is around the "what's in it for me?" Where is the business case for me to do this? It is a constant question right from the first time we rolled this out. Some of you have probably seen this matrix from David Pannell, who is an economist at University of Western Australia. The Pannell diagram is quite widely used as a framework for assessing public-private benefits from a public sector investment and ecosystem services. So I've adapted David's diagram here and really just come up with a hypothetical. But if you think about it, at the moment we're getting quite a bit of support from the public sector for the projects we have discussed. We get some projects sitting out here on the private benefit access, maybe Ecolab who can see the opportunity, some here, like Inghams who can see the opportunity, but there is also a public sector benefit. And there are a lot here who can't see the private benefit from doing this because most of the

immediate benefits are public outcomes. Two learnings from that: One is we've got to seek funds, both from the public and private sectors, but the other thing we've got to do is to drive that private benefit further out. Because if we're not driving that private value proposition further along that bottom axis, then we're never really going to make a substantial and sustainable impact. So how do we do that? Well, one is what Stu was talking about before. Help them understand the water risks that they often gloss over. For some corporates—and I spent 12 years in a corporate environment—their long-term time frame is 12 months and their immediate time frame is the next three-month reporting period. Water risks can occur over a decade, so we have to help them understand that. The other thing we've got to do is to build the brand around good water stewardship. And we've got a project we're investing a fair bit of resource in at the moment to build that brand, so that the association with water stewardship can actually create value for the company in *their* brand. And the third thing, as I mentioned a moment ago, is to continually look at how we manage barriers to entry (such as costs and complexity) in the system without compromising credibility. I think we can do quite a bit over the next 12 to 24 four months to move the private value proposition out so we're not just dependent on the people who've got a big problem or the public sector. Clearly where someone's got a big problem, they're going to be out there quite a distance on the private benefits axis. If they haven't got an immediate problem, they'll see themselves closer to the left-hand side of that axis. So by creating more value for them, we'll change the optics and be more successful in gaining their engagement. I've gone a bit over time, right? Sorry and happy to engage in the discussion. Thanks.