
QUESTIONS

Craig Morley, Waiariki Institute: My question is regarding the citizen science. I find there is a dilution of work as a result of this? In other words we are not getting graduates employed. I saw a newspaper article in the Herald on Monday with a whole class from Massey University with Honours Degrees in Environmental Planning and Environmental Management; none of whom have jobs. Now the issue that I have with citizen science is - are we diluting prospects for these guys to get jobs and funding because it is going into citizen science for agencies?

Tracey Burton, NIWA: Yes, that is a really good question. I do not think we are. The type of science, observations and data that people collect, is not a double up. We ask for extra information that we would not usually employ to collect anyway because that funding is simply not there and they are not on the front line. We are not taking other people's jobs but those people would be prime candidates to tackle awareness programmes should funding become available. I did not mention with citizen science before that it is not a silver bullet. A good citizen science programme takes a lot of planning and plenty of involvement. These people need to be given the knowledge, training and ongoing support so it is not something you can up and walk away. An expert must be involved and of course that comes at a cost. I do not believe that we would take anyone's jobs.

David Hamilton, Waikato University: I have a question for Guy in relation to your evaluation of councils. You identified funding as an issue to uptake for science. From my personal experience working with councils and also presenting to councillors, to what extent is the backing of councillors and their staff a factor in funding that uptake of science.

Guy Salmon, Ecologic Foundation: Yes that is a real issue and there are a lot of issues around the governance of councils which I could talk about for some time. Since regional councils were established in 1989 their performance has been quite disappointing and patchy. Nowhere do you see that more dramatically than in the water quality area where the regional councils' jurisdiction was established about the beginning of the dairy boom and we had huge expansion of intensive land use impacting on water quality. Nothing was done in almost all the regions during the 25 year period that followed. In a series of interviews and studies of regional councils I tried to understand why that happened and it is partly in the composition of the councils as they are elected.

There are two sectors of the community that are perhaps a little further advanced in their concern and awareness of environmental issues and the sort of people who are members of environmental groups like Forest and Bird or Fish and Game, recreational groups on the one hand and on the other Iwi. When you look at the membership of regional councils those two are quite under represented compared to the population basis or in the national parliament. It has to do with the system by which councillors in every region are elected, except the Bay of Plenty. The composition of the councils tends to have an over-representation of primary sector interests compared to the rest of the community. That is not entirely surprising because the decisions the councils make have a large concentrated impact on the primary sector. For urban people perhaps they do not feel quite as passionate about following what councils are up to. In Environment Canterbury for example over the last 25 years they have handed out water permits valued around \$5 billion but most people are not aware of that, They think it is just a bit of administrative paperwork being done and there are some quite strong incentives for some sections of the community to pay more attention to the regional council elections than others do.

This was an issue discussed at the Land and Water Forum and while there was no support for changing from elective regional councils there was a strong feeling that there ought to be. The regional councillors themselves ought to be supplemented by some appointed representatives who would reflect the interests of Iwi and environmental interests and provide what might be called a governance component to the council. In other words bring to the table people whose focus is on looking at what the statute says, what is supposed to be done and make sure it is done. Not the continual drift around which is unfortunately so often the pattern.

I am afraid that is a longer answer than I should have given but I wanted to say that I believe the governance of regional councils is a big issue. The Land and Water Forum has recommended some changes but so far nothing has happened and unless it does we cannot expect a higher level of performance.

Dale Williams, BOPRC: Guy in your presentation you commented on the lack of risk assessments. You will be pleased to know that Bruce Warberton from Landcare Research has just been contracted to carry out a risk assessment of both the Dama wallabies and the Bennetts wallabies to look at what the potential implications are if we do nothing about preventing the further spread of those species.

Te Taru White, Pukahukiwi Kaokaoroa Inc.: Kia ora, a question to David Mole. I applaud the notion of collaboration and cooperation because as a land owner it is increasingly frustrating to look back at all the bureaucracies, energy and resources that have been soaked up in that space when looking for delivery at the coal face. It is tough when funding is restricted and everything else. I saw the new framework for LINZ and the comments you made and thought I have probably seen some of those words 10 years ago. I wonder what is going to be different to make this happen instead of being in silo - really cooperating and collaborating together.

David Mole, LINZ: The short answer is watch this space and I will deliver on my word. This partnership is not just me, we have it with another agency and have invested in each other's business and really believe in this. I dare say it does come down to individuals but by and large this is a new direction. Before, LINZ was under the radar and decisions were based on 'not to do things' as opposed to 'doing things'. We are now front footing this, being proactive and want to be leaders in the space. It comes down to personal aspiration and seeing tangible achievements.

Warren Webber, LWQS: David, as a community member I have observed what has happened with the weed spraying programme, particularly around the Lake Rotoiti area. My impression has been that it is grossly underfunded, under resourced and we struggle to get the work done that as a community we see is required. When I saw your funding slide earlier with \$2 million per annum, of which only half goes to aquatic weed control, it struck me as being a huge underfunded proposition. Would you like to comment on that?

David Mole, LINZ: I agree. I would like to defend the programme that we do have in the Rotorua Lakes. I think it is effective but going back to that prioritisation and the types of programmes we employ, effectively for these lakes we employ a sustained containment programme. We could make improvements and we talked about strategy. Once again it comes down to collaboration and firmer partnerships. There are ways of becoming beneficiaries of more funding. Money is tight and there is no question about that and I concede that in order to get new funding there has to be a problem. It is more reactive than proactive. But things can be done and I certainly see opportunities. From what I have heard over the last couple of hours, and the report from yesterday, there are opportunities

in Rotorua to press things this way and perhaps get more definitive plans in place. A business case, if you like, for the lakes going forward which would attract new funding.

Nick Miller, LWQS: I would like to commend Tracey on her advocacy of what she called citizen science. We all need to remember that there are a lot of very famous scientists who were really citizen scientists, or amateur scientists, such as Newton, Darwin and numerous other illustrious people. There is no way they could they have been called professional scientists. I am sure amongst the membership of the LWQS and at this symposium where we have the professional scientists I suspect there are a good few amateur or citizen scientists as well. For many decades one of the world's leading scientific periodicals produced a column every month called 'The Amateur Scientist'. No longer produced alas which may reflect current views.