

TRANSCRIPT: Interview with 702 ABC Sydney

Professor Ian Chubb speaks with Linda Mottram about citizen science.

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INTRODUCTION

LINDA MOTTRAM: There's a chap who discovered the peacock spider, a citizen scientist, and the peacock spider is extraordinary. We've tweeted a photo of one, so if you haven't seen one then do have a look our Twitter handle, @702Sydney. And if you like birds, if you're a birdwatcher or twitcher, you're inevitably already involved in citizen science, because if you're reporting your sightings and putting them up online then that's part of citizen science. What have you been involved with? 1300 222 702 is the number.

None other than Australia's Chief Scientist is encouraging us to really get our hands dirty, maybe literally in some cases, when it comes to science and to contribute, because technologically these days it is so much more possible than ever. We will chat in just a moment with Ian Chubb, the Chief Scientist, who is really rallying for a citizen science boost to the nation's science.

I'm sure many of you have contributed bird sightings to a bird-related website somewhere. I know lots of you are twitchers and that's a great thing; it feels good to be part of that keeping of the record of what's happening with our birds. That is citizen science at work. But it goes so much broader than that.

Today, Australia's Chief Scientist Ian Chubb has released a paper called Building Australia through Citizen Science. So exactly how much can we get out of citizen science? Ian Chubb is with us this morning. Ian, good morning.

IAN CHUBB: Good morning Linda.

LINDA MOTTRAM: Ian, you're a real scientist. But are you a citizen scientist as well?

IAN CHUBB: I'm probably more of a citizen scientist these days than I am a real scientist, but yes.

LINDA MOTTRAM: It's a very popular thing isn't it, particularly with birds. I know that the numbers of records contributed by citizens on bird science is huge.

IAN CHUBB: Well, that's because there are a lot of citizens and a lot of birds I suppose, and many fewer scientists. So when you think about the people who see things that they don't quite understand, through a citizen science network they have an opportunity to find out more. And in so doing they contribute to the knowledge that we have about a particular species, or the habitat or the environment in which a particular species might live.

LINDA MOTTRAM: So how many citizen science projects are underway in Australia at the moment? Can we quantify it?

IAN CHUBB: There are a substantial number. I think the estimate is that there's something to the order of 130,000 Australian citizens involved in those 90 projects in one form or another.

LINDA MOTTRAM: And what sort of areas are they covering? Birds is one, what are the other things?

IAN CHUBB: Birds is one, koalas is one, feral cats is one, marine species is another. There's a parrot monitoring project, a Queensland glider network on glider populations, there's beetles and dung beetles, there's frogs – the list goes on and on.

LINDA MOTTRAM: Hang on, you forgot the water rats!

IAN CHUBB: They'll be in there as well I'm sure, because people out and about see them. One good thing about the human species is that we're essentially curious. You see something you don't understand and you want to find out why. Citizen science provides that opportunity, but at the same time it provides data for scientists to be able to use.

LINDA MOTTRAM: And of course technology has been a huge advantage in this, hasn't it?

IAN CHUBB: Well, it has. There's a project called the Atlas of Living Australia and I was talking to the person who is responsible for that. He was saying people are out somewhere and they see something that they haven't seen before or haven't seen in that area before, and they can take a photograph of it on the smartphone and send it in. A scientist can then identify it and put another spot on the map to say that we're seeing that particular bird or lizard or whatever it might be in that particular spot. By doing that, we build up a huge amount of knowledge through the data that people are collecting. The technology has improved the number of opportunities enormously.

LINDA MOTTRAM: I assume it also makes for a better connection between scientists and the community as well, whereas in the past there may have been more of a divide?

IAN CHUBB: Well, as you'd expect from somebody like me Linda I've got a barely concealed hidden agenda.

The hidden agenda is to improve the level of interest in science in the community generally and to improve the level of science literacy in the community. If ever we're going to have sensible, responsible and civilised debates about what scientific discoveries might mean for us and our quality of life or indeed our way of life, then the more people who understand how science works, the more constructive that debate will be.

LINDA MOTTRAM: So I mean, it contributes raw data, and that's very useful when citizens take part in science. I guess that collaboration aspect, building knowledge and understanding towards better policy, it's a bit of a win-win situation isn't it?

IAN CHUBB: Well, it is. We published an occasional paper today out of my office written by three people who are deeply engaged with citizen science. In that, they have a little chart on the benefits that arise from citizen science projects. Round about half increase research outputs, round about twenty six or so percent have other impacts on the community, and seventeen odd percent have contributions to policy. So this is a very significant contribution to how Australia will position itself for the future. If we do that by whim, it's not too rosy. If we do it on the basis of knowledge and evidence, it will be much better. As I said earlier, if we can then put it out there and have a sensible debate about what it all might mean and what parts we accept and what parts we reject, an informed debate, then the outcome will be much better than people either being frightened by somebody with a megaphone, or

encouraged by somebody with a megaphone, to do something that mightn't be in their direct interest. Lifting that level of understanding and level of scientific literacy in the community will be an important part of this and that will feed into the political and policy process too.

LINDA MOTTRAM: Ian Chubb is with us, the Chief Scientist, and from his office today they're releasing an occasional paper taking about citizen science. Give us a call because I'd like to talk to you later about any citizen science projects you've been involved in and how that's affected you in your life and connected you perhaps with science in a way that you hadn't been connected before.

Bryan Gaensler, one of our great astrophysicists, who was actually back in Australia a couple of weeks ago, was talking to us about a citizen science project, the New Horizons Pluto project. Here's a bit of what he had to say.

PLAYS EXCERPT

BRYAN GAENSLER: Well this is the big debate. If anyone wants to go to oneearthmessage.org, we're having a discussion with all of humanity. With the few megabytes of data we have room for, what should be our message? If you had to sum up all of humanity in just a few hundred pages of images and sounds and stories, what should we have on there?

LINDA MOTTRAM: So we could have some classical music and some rock and roll, we could have some equations, and did I hear someone talking about the different sounds of voices, the different sounds that humans make? A baby crying, that sort of thing?

BRYAN GAENSLER: Then we're also saying look, should we only speak for humanity? What about all the animals, should we represent them too? All the different species? Should we mention religion or just stay away from it? Should we tell them that we're in big trouble and that our planet has got environmental problems or should we paint a happy picture? These are the sort of issues we're grappling with.

EXCERPT ENDS

LINDA MOTTRAM: That was Professor Bryan Gaensler, an Australian astrophysicist now based in Canada, speaking to us a couple of weeks ago about that One Earth project. That's a slightly different take isn't it, Ian Chubb, where they're asking for humanity to think about how we would describe ourselves to some other life form out there?

IAN CHUBB: It is slightly different but it's also very important. I think the more we think about these things the more we'll get right. If we just sort of swan along assuming good things will happen to us because we're entitled to them, we'll be sadly disappointed. So we've really got to work at it and I think bring the community along with us. I think it's incumbent upon scientists to bring the community with them – it's largely the community that pays for what they do. I think the community has a right to know what they're doing and why, and what the pros and cons of that might be.

LINDA MOTTRAM: I know there's a national register of projects. So if people are starting a science-related project reporting data, they should jump on there?

IAN CHUBB: Well they should. I think they'll find that useful because they'll be able to talk to people, indirectly probably, but they'll be able to talk to people who have started out and set it up and seen how it all works and how they can get access to the people they need and so on.

I opened a conference this morning that was a group of citizen scientists meeting for the first time and trying to establish some sort of association. I think that's a very positive move because it is true that people will be encouraged to know that they're not somehow different because they're thinking in these terms, or they're not somehow different because they're untrained in science but they're curious about what's happening to the rainfall or what's happening to soil fertility or what's happening to butterflies or beetles or bees. It's a natural human thing to be curious, but to turn that into something that's a benefit and encouraging to the individuals who think in those terms is an important step for us.

As I said to the conference this morning, I'm not the first cab off the rank in this area. When I was writing a position paper to publically call on the government to have a much more strategic approach to science in Australia, while I was thinking about how we could as part of that engage with the community much more actively, on that day the White House put out a press release that talked about how the President was having a reception to recognise what he called champions of citizen science. And I thought we've never done anything like that in Australia. We've always sort of let it happen and muddled along, whereas other countries like the UK for example, and the US obviously, are making this very much a celebrated part of the nation's scientific endeavour. I think that's what we should be doing: celebrating that we've got a whole bunch of people out there who are curious about things and want to know more and can interact with the scientists embedded in their midst.

LINDA MOTTRAM: Well let's get some champions of citizen science happening. Ian Chubb, where can people find the paper you've released today?

IAN CHUBB: So that paper we've released will be on the Chief Scientist website. If you go onto the Office of the Chief Scientist, you'll find it there, that's probably the easiest place to find it. And you'll find when Science Week comes around there'll be other websites that'll be out there. There's a website www.scienceweek.net.au which will be the website for National Science Week which is in a couple of weeks' time. But it's all part of scientific engagement with the community and encouraging the community to be active in return.

LINDA MOTTRAM: Very good. Well I know we've got a lot of citizen scientists out there so I think they'll be diving in. Good to talk to you Ian, thanks for your time.

IAN CHUBB: Thank you, bye.

LINDA MOTTRAM: Ian Chubb, the Chief Scientist of Australia, calling for a system of champions of citizen science to be set up in this country, following the example of other countries, particularly the United States. Hop onto the website of the Chief Scientist; if you just search "Office of the Chief Scientist" or "Australian Chief Scientist" you will find it. Have a read of the paper. One of the classics is the discovery of the peacock spider by Stuart Harris, a citizen scientist. The peacock spider is one of those remarkable things. It is a great contribution when we all contribute to the sum total of knowledge around science and build a better science understanding.