Conference Proceedings – Speaker Transcript

When Preconceptions are Misconceptions – the Importance of Ecological Monitoring to Inform Prescribed Burning: Fire Response of the Mount Lofty Ranges Chestnut-rumped Heathwren

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Thank you. I want to talk about when preconceptions are misconceptions. Essentially I want to continue the theme of highlighting the importance of monitoring the effects of prescribed burns on our flora and fauna, and I'm going to do this by talking about a species we've done a bit of work on in the Mount Lofty Ranges: the Chestnut-rumped Heathwren.

I firstly want to highlight one of my co-authors, Marcus Pickett, who is the ornithologist we contracted to do all the field work on this project. So when I say 'we've' done the survey work, I mean Marcus!

This is a picture I took in the Adelaide Hills (Slide 2), but I'm sure it's a scenario that is all too familiar to most of you. When we're implementing a prescribed burn program in this sort of context, if we want to achieve ecological outcomes as well as bushfire reduction outcomes we really need to have good information about the distribution, the fire response, and ecological requirements of the flora and fauna that live within that landscape. Often we don't have great data on this and we rely on expert opinion.

The Mount Lofty Ranges Chestnut-rumped Heathwren is a nationally endangered species that occurs in that context. This species lives in heath dominated habitats and these habitats are now very isolated from each other.

When we started undertaking prescribed burns in this area expert opinion told us that this species is reliant on very long unburnt habitat, and so we were careful to take this into account when

undertaking our burn planning. To help inform this process we got Marcus to undertake surveys right across the region to clarify the distribution of the species, and in the process of doing that he became very familiar with the species habitat and did some habitat mapping for us, and that has become invaluable. So this picture on the slide (slide 3) with the green shading shows different types of habitat quality and you can see that this red boundary is a prescribed burn boundary. This enables me to very quickly visualise how much of the species habitat we're going to be burning, how much habitat is adjacent of similar quality and therefore what level of impact we might have on the species.

After we'd undertaken a couple of prescribed burns on the species' habitat we went back and did some surveys to determine how long it took the Chestnut-rumped Heathwren to recolonise this habitat (Slide 4). We found that they were using it after about two years. Now I should say that we don't know the extent to which they were using it but they were certainly in there. This surprised us a little bit given that we believed these birds relied on long unburnt habitat.

The ultimate test though occurred when one of our prescribed burns reignited several days after it was supposed to be complete, and became a bushfire that burnt out a very large proportion of one of our parks (Slide 5). This is Cox Shrub Conservation Park, a park of about 550 hectares that's otherwise surrounded by largely cleared land. The prescribed burn is the little orange hatched area, the red area is the subsequent bushfire and backburn. The other hatched areas you can see are some earlier prescribed burns that occurred and an earlier bushfire.

Now we were quite concerned about this species after the fire. We didn't know how broadly it was distributed in the park prior to the fire so we immediately had Marcus undertake a systematic survey of the park to determine if it was still present in the area and how much habitat was left.

The grid you can see (Slide 5) is a systematic survey of habitat quality and call playback to determine the species' presence. Green is good habitat, and the red dots are records of where the Chestnut-rumped Heathwren were recorded, so we were very pleased to find that they were hanging on in a relatively small patch of long unburnt habitat (last burnt in 1983).

The really interesting thing came two years later though (Slide 6), when we went to see if the birds were still hanging on in this habitat. You can see that the area that was burnt by the bushfire is now regenerating, and Marcus assessed this as being of moderate habitat quality, and assessed the unburnt patch as still having high habitat quality. But the really interesting thing you can see is that the birds have all moved, from what we perceived to be the good habitat, into the regenerating habitat (which we perceived to be of only moderate quality). There's still a long way to go in terms of working out what optimal habitat quality is for this species, but it's certainly suggesting that our preconception about this bird's habitat requirements were actually misconceptions.

So my key message is (Slide 7): expert opinion is great but monitoring and data is much better! And just a very quick additional thought: we talk a lot about how much of a species' habitat we are burning and how often that burning occurs, but not enough about appropriate burn intensity. One thing we've found with Chestnut-rumped Heathwren is that its habitat regenerates much better under moderate to high intensity burns.