Conference Proceedings – Speaker Transcript

From Doom to Bloom: The story of an ecological burn in a small urban bushland reserve

Amelia Jones
Hornsby Shire Council
Link to slides

Wow, how to follow up that presentation from Rob Strauch! Rob thanks for ever managing to return my phone calls, that's amazing. Thank you very much for having me here today at the NCC Bushfire Conference, it's wonderful to be here. My talk focuses on a burn that Fire and Rescue undertook for Hornsby Council, within our bushland areas. Much smaller, not an EEC I'm afraid but still very significant to us.

Our burn was undertaken in Pierre Close Bushland Reserve. For those of you not from Sydney the area lies to the north/northwest of Sydney's CBD (slide 2). It's a very small reserve, three hectares in total. So we've gone from a postage stamp size burn in Rob's talk to the micro-scale here.

The reserve is bounded by residential development to the east and south (slide3). The western boundary is the northern rail corridor servicing the North Coast and Sydney. The reserve is within an east facing slope about five to 10 degrees, and it's quite a tiny area. It sits on Sydney sandstone geology with a sandy loam soil. There are significant stands of *Allocasuarina* within surrounding reserves, that's important for reasons I'll highlight later. We've got lots of weed invasion, but mainly on the periphery. The actual reserve itself is in really good condition from a weed invasion perspective. The reserve is located in a Fire and Rescue management district, the reason these talks are linked today.

We've got a footpath that bisects the reserve, essentially breaking it into two different types of vegetation community. The north part of the footpath which is to the left side in the pictures (slide 4), that is low open woodland dominated by *Allocasuarina littoralis*. We've got uncommon *Angophora costata* and *Eucalyptus haemastoma* as pre-littoralis canopy species and a very sparse understory. The understory prior to the burn was dominated by *Pittosporum undulatum* and *Pittosporum revolutum,* so reflective of a mesic shift in the actual plant community. South of the footpath on the right side when you look at the slide we have a more complex species and habitat dynamic happening. It reflects a vegetation community with a little bit more fire history. The area of the *littoralis* we have no fire history, no records for at all. In the more complex side of the footpath we had a couple of pile burns basically and a history of a very small amount of bush care and that was undertaken by volunteers. This area zoned as a strategic fire advantage zone and the fire intervals for the community has return intervals of around seven to 25 years, but in the area that we burnt there was no recorded fire history at all.

Council's bushcare section requested assistance with the site in 2008. Now that seems a long time ago but you've just had an insight into planning from Rob so I think you'll appreciate that it has, that it actually took a little while to get this burn happening. It was determined because of the species mix and the resilience of the site that we would focus the burn activities actually on the north side within the *Allocasuarina littoralis*. The north side being dominated by the *littoralis* we identified that we would actually have to alter, manipulate the fuel load within that site to get the hotter burn that we were after. We were after a hotter burn to stimulate a mix of native seed germination from the soil, from the seed bank profile. Because the burn was being undertaken to increase the diversity of species we actually wanted a variety of burn intensities. So we wanted to see if we could manipulate the fuel profile to achieve a range from hot intensity through to cool intensity.

Given that and the fact that this was our first ecological burn in Hornsby, we were a little bit nervous, we decided that we would limit the area of manipulation to an area that was approximately 20 metres diameter. In that area you can see in the slide we actually felled all *Casuarinas*, we got contractors in to do that as we don't actually have a bush care crew as such. The work the contractors did was they felled the *littoralis* in the focus area, installed control lines and did a little bit of weed treatment on the edges.

So then came my nervousness, because the community said it will not work, oh nerves, nerves. Burn success was going to be dependent upon quite a number of factors, but including right fuel profiles and heat intensity, weather conditions and great support from Fire and Rescue New South Wales. It was identified that we would undertake a March burn, that's because we would have drier fuel on the ground post-summer. School holidays, we had to make sure that we avoided school term and the school children and their health, we had to avoid an adjacent community centre, it being used as a childcare facility. We also had to make sure that the northern rail corridor was actually closed in case the burn was lost we needed access into that corridor. Thanks Rob for organising everything.

The burn was undertaken in March with temperatures around 20 degrees and fuel moisture around 20%. Other safety issues on the site included a 40,000 litre LPG gas tank which was adjacent to the school and power lines along the path.

So this was the day (slide 6), which I had a few sleepless nights over. Then here is the site just immediately post-burn (slide 7) and after the first rains where we had asthma weed come up (slide 8), *Xanthorrhoeas*, bracken, were our initial plans. You can see the site how it's changed currently. Then we've got the blooming (slide 9). So we've had a fantastic mix and we've actually doubled our species. We've gone from a report that noted 51 species in 2008 to over 100.

Beyond the bloom we will continue to monitor the site and have ongoing bush regeneration support (slide 10). And the blooming lessons we take away from this, one is that community consultation requirements may be greater than expected and secondly to look closely at the site to find areas of resilience (slide 11).

Finally, I would just like to take this opportunity to say thank you to everybody who's presented such ecological burns in the past, and also the experts who've presented, because your knowledge has encouraged us to undertake ecological burns, the information that we've received from these conferences has been fantastic. So without you, without your input, this story would never have been written and I wouldn't have been able to do this blooming talk. Thank you, thank you very much.

Questions from the audience

Q – What was the timing of the burns?

AJ – Our burn was in March

Q - How much did this burn cost?

AJ - Well, we've done the numbers and it was under five grand (sorry Rob). But that was excluding Fire and Rescue resources on the day.

Q - Amelia, you were saying the community didn't believe it was going to work. Is that from an ecological sense they thought it wouldn't work or?

AJ - Well it's interesting because the gentleman who particularly brought that up was actually one of the bushcare volunteers and a member of the RFS. He was so adamant that nothing would come up. He'd burnt in a similar reserve and just said nope, won't work, unsuccessful. I tell you for 18 months I just went "Grow, grow."

Q - Following that did a bush care group come of that?

AJ - Well unfortunately that gentleman had put eight years into the site, individually he'd worked on the more diverse side. He's since left which is really unfortunate but there will be another volunteer replacing him. It's really only been one person working in that reserve. One of the reasons why we decided to do that burn, its our first ecological burn within Hornsby. Our burns have more been for property protection previously, so this was a case of assessing the resilience of the site and asking can this site survive, if it's successful can it sit there on its owns for some time with minimal resources?