

Conference Proceedings – Speaker Transcript

Re-introducing fire into Cumberland Plain Woodland to reduce weeds and disrupt Bell Miner Associated Dieback

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[Link to Slides](#)

I would like to acknowledge Alex Cave, who is the senior project officer for this project. I facilitated the preparation and burning component. Our aim is to control woody weeds and also the Bell Miner Associated Dieback (BMAD) process that has been occurring in Noorumba Reserve.

Noorumba Reserve (Slide 2) contains one of south-western Sydney's largest areas of Cumberland Plain Woodland under public ownership. It is about 40ha in size. The project commenced in 2014 when we received a grant through Greater Sydney Local Land Service (Slide 3). The project involved a three stage approach, restoration of the site through treatment of noxious weeds, stream bank stabilisation and the use of mosaic fire. Community engagement was as big part of the project as well.

The increased presence of Bell Miners and psyllids in the study area and significant changes to the vegetation structure, including tree canopy dieback, which is characteristic of BMAD, have continued to spread through the reserve. Fire is considered to be a useful tool for landscape level management of BMAD, as it is understood to disrupt the interspecific territoriality and strong socio-communal network displayed by Bell Miners. To this regard, council committed to trialling the use of fire as an adaptive landscape management tool to reinstate natural fire regimes, to reduce woody weeds, and to disrupt the BMAD process to support the regeneration of native biodiversity and improve the integrity of the resilient Cumberland Plain Woodland remnants.

The botanical data was recorded within six quadrants and six spot locations pre-burn in 2015 (Slide 4). A few weeks ago we did another data capture. For site preparation works for the burning aspect of the project, we worked closely with the Rural Fire Service Macarthur office to assess the site conditions. We agreed that the site was heavily overgrown and required some preparation work in order for fire to take hold (Slide 5). Due to the dense understory and mesic climate in both the northern and southern burn sites, the site preparation works were

undertaken using a more experimental approach to the treatment of woody plants. We had trialled this technique at some other sites to control woody plants with some success.

However, it has been noticed that the *Bursaria*, the native woody plant that grows in the area, tends to reshoot under any fire intensity, so we had to manage that. Therefore in both burn zone areas we undertook a trial to test the effectiveness of slashing the *Bursaria* and African Olive using a tritter, then allowing the specimens in this area to reshoot and following this up with a burn to determine how many plants reshoot after the burn. This method may result in some of the *Bursaria* dying out and requiring no further treatment, or treating the reshooting *Bursaria* with herbicide to control the volume of plants.

As part of the works, contractors were required to adhere to strict environmental conditions developed by council to limit the impacts to Cumberland Plain Woodland and the surrounding areas (Slide 6). A number of burn preparation works were undertaken to prepare sites for the burn, including a number of environmental, community and safety measures. We had signage installed while we were undertaking the preparation works and additional signage installed after the burning. We used VMS boards to notify the community, as well as letterbox drops. We had exclusion zones around the mature trees with the Cumberland Plain Land Snail, and volunteers were briefed to wet those areas down to exclude them from the burn, in order to limit the impacts on the Cumberland Plain Land Snail.

The results were really good (Slide 7). You can see from the before and after photos that the transition is now more of an open plain woodland. Whilst it is early in the site recovery post-burn results so far have shown some interesting observations (Slide 8). There has been decreased Bell Miner activity in some zones. While the current native species diversity is a bit lower, we do have some new species that were discovered, and I hope in the next 12 months that it will increase. Some follow-up weed treatment was undertaken (Slide 9).

As with any burning of an urban reserve (Slide 10), there are going to be many constraints and unpredictable hurdles to face. Having a good working relationship with key stakeholders and the community helps enormously. The key message about this project is that, as land managers, we need to put burning regimes of natural ecosystems as the highest priority. We should consider how traditional owners managed the land and implement burning regimes to reflect this. While burning of today's urban environment can be difficult, it clearly should not be left out of management. Thank you.

[Link to images and video](#) of the site and burn.

Questions from audience

Question: Steve King, National Parks Kyogle. I've been a long time member of the BMAD working group in northern New South Wales. Did you say that the Bell Miner numbers decreased? And if they did, what do you put that down to? And did they disappear or did they disperse out to other areas? Thank you.

Troy Lessels: At this stage, it's still a little bit early, but from observations the birds don't like the burnt areas that opened up, but they have gone to where existing cover still is. At a guess, I would say that the overall numbers within that reserve probably haven't changed, but we did get quite a few zones that had a reduced amount of activity. It's really hard to say, all we can use is observation. We have seen some good results from it, and hopefully as we move the burn program through that whole reserve, we'll start to reduce the overall numbers. But certainly through observation, some of the areas did have a decrease.

Question: Thanks Troy, it would be good to catch up as we have some quite broad experience with this in the Northern Rivers.