



Shelterbelt Planting.

Preliminary Report on Tree Guard Study.

On the 14th of August 2023, Arborgreen installed a selection of biodegradable and non-biodegradable tree guards at a planting site near Carrickalinga, South Australia. The objective is to gather data on tree guard effectiveness based on predefined parameters. This initiative is part of a more significant endeavour to restore the Glossy Black Cockatoo habitat following consequential habitat loss caused by the Kangaroo Island bushfires of 2019-2020.

We selected the site based on its relevance. A Grassy Sheoak Woodland characterises the site in a mild temperate climate with an average annual rainfall of 523mm. The soil composition primarily consists of shallow clay loam over rock. Combined with these conditions, this type of site would typically break down biodegradable tree guards over approximately one to two years, depending on the guard type. The survival rate of planted seedlings in these conditions would normally be about 85%, provided the expected summer rainfall occurs.

// Habitat Restoration

Part of a larger endeavor to restore habitat for the Glossy Black Cockatoo.

// Grassy Sheoak Woodland

The plants chosen for the project are all Drooping Sheoak (*Allocasuarina verticillata*), spaced at approximately 3.5 to 4 metres between each tree.

// Trialling a range of tree guards

Fourteen differing tree guard/stake/weed matting combinations have been selected for the trial, ranging from the common and time-tested fluted plastic guards to new innovative biodegradable guards not yet released.



// Measuring tree guard effectiveness

The planting is a shelterbelt type planting approximately 45 metres wide and running north-south. The plants chosen for the project are all Drooping Sheoak (*Allocasuarina verticillata*), spaced at about 3.5 to 4 metres between each tree. Drooping Sheoak are typically very palatable to kangaroos and are the primary source of grazing in the area. Using mattocks, the planting team scalped a small 300-400mm section of soil and dug a hole for the plant. The seedlings were planted by hand, and all the seedlings were healthy and without disease at the time of planting. An average stem and leaf height of 30cm was observed.

Fourteen differing tree guard/stake/weed matting combinations were selected for the trial, ranging from the common and time-tested fluted plastic guards to new innovative biodegradable guards not yet released. The team installed the tree guards in rows of ten running across the site, with each row containing one specific type of tree guard and every second guard having jute weed matting. The tree guards were installed at the same time as the planting, with mallets used to knock the stakes and bamboo canes into the ground. Information on the guard installation process was recorded when planting, including the average installation time, ease of installation and product robustness.

Arborgreen will issue a final case study report at the end of the trial period, once all the data has been successfully gathered and quantified.

