

The distribution of grey sallow willow (*Salix cinerea*) and pussy willow (*Salix reichardtii*) in the Mount Lofty Ranges of South Australia

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Summary *Salix cinerea* L. is a declared plant under South Australian (SA) *Natural Resources Management Act 2004*, and is also declared as a Weed of National Significance. Both *S. cinerea* and *Salix reichardtii* A.Kern. have been recently recognised as invasive along watercourses within the Mount Lofty Ranges of SA. They are both shrub willows, with multi-stemmed habits. Like other willow species, they are dioecious, with each plant bearing either male or female flowers. Propagation can be sexual, with numerous small seeds being produced in late spring which are wind and water dispersed, or asexual. Flowering occurs during September and October and the production of 'parachute' like seeds with a limited life span can disperse in the prevailing winds or float down stream for many kilometres. *Salix cinerea* in particular can colonise moist environments by developing from branch and root fragments.

We used a handheld GPS to map the distribution of these two species in the Adelaide Hills and Fleurieu Peninsula to update knowledge of their distribution. Individuals were initially mapped along major roads, creeks and rivers in both regions. Sites were then revisited at flowering time to record the sex of plants by observing the presence or absence of male and female catkins. This provided a database of potential seed sources for *S. cinerea*.

Salix cinerea was more widespread than previously recorded from the initial survey undertaken by P. Cramond in 2006 (Coles 2007). Its range extended from 28 km northeast of Adelaide at Kersbrook near the upper reaches of the Torrens River and south 49 km from Adelaide to the Myponga and Hindmarsh Rivers. Most records were on private properties, in streams and boggy soils.

Male and female *S. cinerea* were found in the Adelaide hills, but only males were recorded from Fleurieu Peninsula (Table 1). *Salix reichardtii* was only recorded from the Fleurieu Peninsula, and they were all males (Table 1).

Table 1. Number of *S. cinerea* and *S. reichardtii* plants in the Mount Lofty Ranges of South Australia recorded in October 2007.

<i>Salix</i> species Location	<i>S. cinerea</i> No. ♂s	<i>S. cinerea</i> No. ♀s	<i>S. reichardtii</i> No. ♂s
Adelaide Hills	672	152	256
Fleurieu Peninsula	542	0	0
Totals	1214	152	256

Extensive populations of *S. cinerea* plants (both sexes) were recorded in the Scott Creek area of the Adelaide Hills (300 males and 100 females). They are probably the result of introductions in the 1840s and include some of the largest plants recorded in the state. This area also has the highest ratio of males to females (3:1), and the potential to hybridise with *S. reichardtii*. A large *S. cinerea* population (526 males) was also recorded along the Hindmarsh River in the Myponga region of the Fleurieu Peninsula.

Future control strategies would include the targeted removal of female *S. cinerea* plants to prevent any further seed spread.

Keywords Grey sallow, *Salix cinerea*, pussy willow, *S. reichardtii*, South Australia.

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REFERENCES

- Coles, R.B. and Willing, K.L. (2007). Distribution of grey sallow willow, *Salix cinerea* and pussy willow *Salix reichardtii* in the Southern Fleurieu Peninsula. Preliminary Data, Report to Department of Water, Land and Biodiversity Conservation.