

War on willows

July 29 2011



Tara Hopley and Professor Andrew Young's research found that an average willow tree can produce as many as 330 000 seeds a year which can travel over 15km via wind or insects.

Willows are major environmental weeds of riverbank habitats across much of south-eastern Australia. They obstruct water flow, increase water temperature, change water chemistry and can displace native riverine plant species.

A CSIRO project looking at the reproductive ecology and dispersal ability of the most aggressive [invasive species](#) of willows in Australia is providing urgently needed information to help [land managers](#) more efficiently control this weed.

The results are crucial for land managers as willow control is expensive,

time consuming, and eradication can be unsuccessful because of the willows capacity to reinfest areas a short time after they have been removed.

CSIRO researcher Tara Hopley investigated the reproductive ecology and [seed dispersal](#) strategies of *Salix cinerea* or grey sallow, which is a Weed of National Significance.

The study focused on three main problems: how willows are pollinated and how much seed they can make; how far willow pollen and seed can move across catchments; and, identifying trees and populations within catchments that are key seed ‘donators’.

“We discovered that this species of willow is pollinated by both insects and wind, and that the average willow tree can make 330 000 seeds in a season,” Ms Hopley said.

“That is about 25 million seeds generated each year by an average infestation along half a kilometre.

Genetic paternity tests and spatial analysis were used to determine how pollen and seeds are dispersed across a typical catchment.

“The results show that over half the pollen and seed is moving more than 15 kilometres between rivers. This high rate of spread suggests that land managers have to act urgently on control efforts across the whole catchment if long-term eradication is going to be effective,” Ms Hopley said.

“We also found a small proportion of sites studied were producing a large proportion of the seed. In practical terms this means that clearing just 20 per cent of sites could see a 50 percent reduction in seed production.”

The Director of the Centre for Australian National Biodiversity Research, CSIRO scientist Dr Andrew Young, said the research provides land managers with scientific information that make current willow removal efforts more efficient, saving money and time.

This research was a collaboration between CSIRO and several Catchment Management Authorities in Victoria, the Australian National University and the Department of Sustainability and Environment (VIC).

Provided by CSIRO

Citation: War on willows (2011, July 29) retrieved 23 June 2024 from <https://phys.org/news/2011-07-war-willows.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.