

OBJECTIVE **3** **Habitat**  
Maintain or restore wetland ecosystem condition  
**Ō TŪ WHAREKAI** / REPORT CARD 2016



## Weed control at Lambies Stream

Reducing the impact of weeds on native habitats is a key objective at Ō Tū Wharekai (Ashburton basin/upper Rangitata River, Canterbury). DOC has been controlling willow (*Salix* spp.) using aerial and ground-based control methods. This report card summarises the effectiveness of the spraying operation and the recovery of native wetland plants at Lambies Stream.

### What is the problem?

There are two species of willow that are widespread at Ō Tū Wharekai: crack willow (*Salix xfragilis*) and grey willow (*Salix cinerea*).

Willow poses a significant threat to wetlands. It blocks light from reaching the understory, outcompetes native vegetation, increases sedimentation in waterways, and uses more water than native grasses and herbs. The ability of grey willow to not only produce seeds but also propagate from broken branches makes it very difficult to control. Eradication is therefore the best long-term solution.



Crack willow.  
Photo: © Andreas Eichler  
(CC BY-SA 4.0)



Grey willow. Photo: © Trevor James

### Willow control

Aerial and ground-based control of willow has been undertaken at Lambies Stream since 2011, using herbicide. To monitor the success of the willow control, Lambies Stream was divided into three sites: two were treated in 2011, with the third left untreated for comparison (later treated in 2013).

*The large dead trees along Lambies Stream clearly show the effectiveness of the willow control work.*



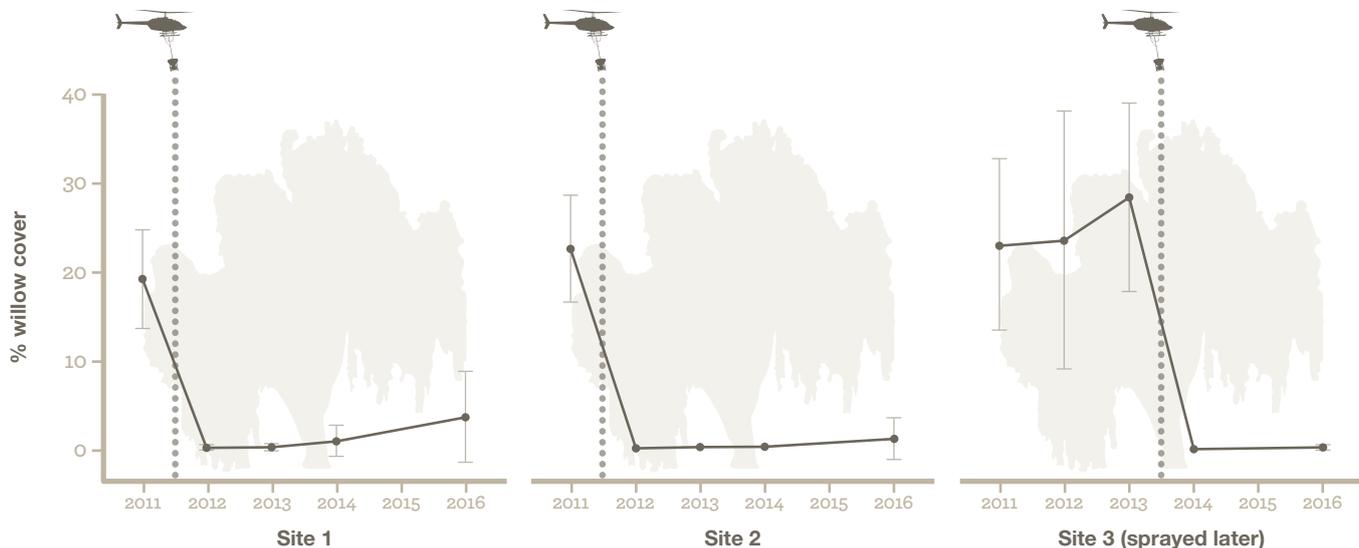
Photo: © Mary Beech





# Willow reduction

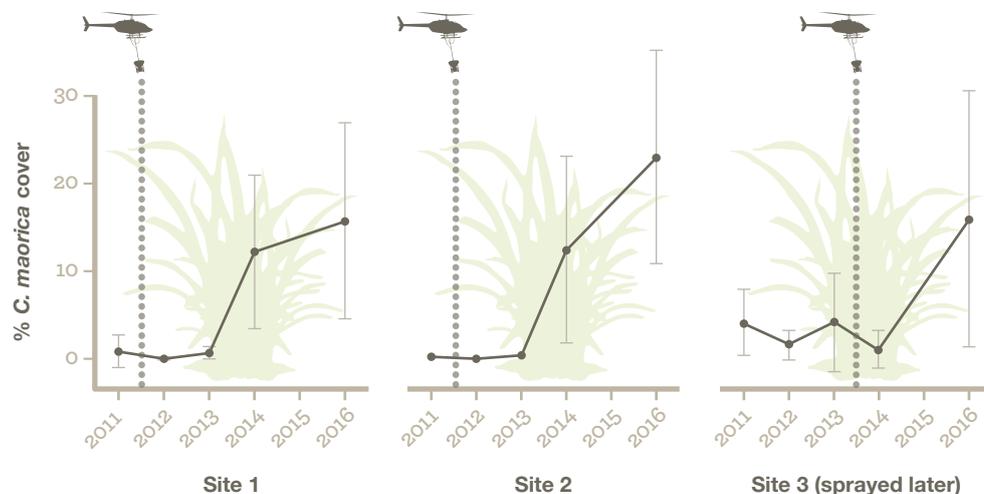
The control operation has successfully reduced the abundance of willow. Monitoring at the treated sites shows willow now accounts for less than ~3% of the vegetation, compared with 20–30% before the control operation. By 2014 willow was beginning to reappear at the sites treated in 2011, and this trend has continued into 2016. Monitoring has shown that vigilance is required to prevent willow regrowth, particularly before grey willow produces seed.



# Carex recovery

*Carex maorica*, one of the native sedges present at Lambies Stream, is becoming more abundant since the willow control. By 2016 a notable increase in *C. maorica* was seen at all three sites.

The response of *C. maorica*, in the absence of competing willows, shows we are beginning to see a plant community shift to a ‘pre-willow’ state.



**A quick note on graph interpretation:** The graphs show estimated mean % cover at each site. The bars (95% confidence intervals) indicate uncertainty in the mean due to sampling a limited number of plots.

## NEXT ACTIONS...



### Weed control...

DOC will invest in ongoing control to eradicate willow at Lambies Stream



### Monitor...

The next monitoring is scheduled for 2019