

The Willow Strip

Newsletter of the National Willows Taskforce

Issue 1, April 2006

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www.weeds.org.au

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Welcome!

Welcome to the first edition of The Willow Strip, the newsletter of the National Willows Taskforce. This newsletter aims to inform anyone interested in willow management of progress being achieved on willows across Australia, including the latest research, management techniques, case studies, issues and challenges, events, resource materials and funding options. If you would like to submit an article or make any other contributions to The Willow Strip, please forward these to the National Willows Coordinator (contact details bottom left).

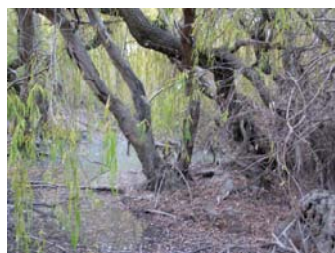
All states ban the sale of willows

Most willows are now banned from sale or distribution in all Australian states and territories. Victoria, Western Australia and the Northern Territory recently joined the other 5 states and territories in declaring willows as noxious weeds. It is now illegal to sell, propagate or knowingly distribute most willows anywhere in Australia and the control of certain willows is required in some areas. For a summary of the current legislative status of willows in each state/territory, go to www.weeds.org.au/WoNS/Willows, and click on 'Declaration status of willows in Australia'.



Why ban willows?

Although a familiar and often well-loved icon of the Australian landscape, willows are among the most serious weeds along waterways in temperate Australia. In 1999, willows were recognised as one of Australia's 20 Weeds of National Significance (WoNS) due to their highly invasive nature and impacts on stream and wetland hydrology and biodiversity. Willows can reduce water quality and availability, increase erosion and flooding, reduce aquatic and riparian biodiversity (including native fish) and obstruct access to streams for fishing and aquatic sports.



The Willow Strip

In brief:

National Willows Taskforce formed

Willows National Priority Action Framework on the web

Nationally coordinated program will bring greatest benefits

Introducing ... the National Willows Taskforce

The battle against willows recently gained a new and valuable ally with the establishment of the National Willows Taskforce. The role of the National Willows Taskforce is to facilitate, improve and encourage strategic national action by coordinating the implementation of the National Willows Strategic Plan. In addition, the taskforce will set priorities and identify funding and resource sharing opportunities for the management of willows across Australia.

The Taskforce met for the first time in October 2005 at Attwood, Victoria and again in March 2006 in Hobart, Tasmania to discuss issues facing willow managers across Australia and prioritise actions needed to achieve nationally strategic willow management. From this, a Willows National Priority Action Framework was developed to help guide investment in willow management.



Photo: Members of the National Willows Taskforce with Matt Baker, Andrew Crane and Barry Hardwick near Hobart, Tasmania, during their meeting in March 2006 (Photo: Sarah Holland Clift)

The highest priority actions identified by the taskforce are to:

- Determine the extent of willow infestations across Australia
- Conduct detailed weed risk assessment of naturalised and non-naturalised cultivated willows and new hybrids
- Identify and prioritise the most invasive willow taxa and areas for management
- Develop and implement a broad public communication strategy, including developing and promoting National Best Practice Guidelines for willows and
- Conduct research into the biological control of willows to protect our investment in waterway management for the future.

Projects that are planned or in progress to achieve these actions are outlined in the Action Framework. For a copy of the Framework or National Strategic Plan, go to www.weeds.org.au/WoNS/willows).

Taskforce members:

Drew English

(Community Chair)

Karen Stewart

(Tasmanian State Government)

Stefanie Straub

(Australian Capital Territory Government)

Sydney Lisle

(New South Wales State Government)

Paula Ash

(Riverina Noxious Weeds Advisory Groups)

Dennis Gannaway

(South Australian State Government)

Anne Dennis

(Acting Victorian State Government)

Malcolm Gibson

(Victorian Catchment Management Authorities)

Eligio Bruzese

(CRC for Australian Weed Management)

Phil Maher

(Queensland State Government)

John Thorp

(National Weeds Management Facilitator)

Sarah Holland Clift

(National Willows Coordinator)

Which willow is that?

Despite willows being collectively listed as 'one' of the 20 WoNS, at least 45 types of willow have been sold through the nursery trade in Australia and at least 32 of these have become naturalised. A 2-day National Willows Identification Workshop was held in October 2005 to train willow managers in the difficult art of willow identification. The workshop was led by experienced willow taxonomist and ecologist Geoff Carr of Ecology Australia, and was attended by people from Tasmania, NSW, the ACT and Victoria.



Photo left: Participants from Tas, NSW, the ACT and Vic recently attended the National Willows Identification Workshop at Castlemaine, central Victoria.

Other workshops on this or other issues may be organised in future if there is sufficient interest. To register your interest, contact the National Willows Coordinator.

What's stripping the willows?

Strip the willow is no longer just a lovely dance. It is happening to many willows across Australia thanks to a small, hungry insect called the willow sawfly (*Nematus oligospilus*). The willow sawfly was first found on willows growing around Lake Burley Griffin in Canberra in March 2004. The insect was already present in such high numbers that, even if desired, eradication was not feasible. The sawfly is now well established in the ACT and surrounding areas and has been seen throughout central and south eastern New South Wales, in the Adelaide Hills of South Australia, at two sites in northeastern Victoria, in Keilor near Melbourne and at one site in northern Tasmania.

The arrival of the sawfly has already created some controversy, with speculation that it was deliberately introduced. In fact, it is not known how the sawfly arrived in Australia, as it was not deliberately introduced as part of any official biological control program. The sawfly was first discovered in New Zealand in 1997, where it spread across the North and South Islands at a rate of approximately 300 km per year.

What the willow sawfly will do and how it will spread in Australia is as yet largely unknown. However, it has already been seen on many different willows, including crack willow (*Salix fragilis*), the basket willows (*S. x rubens*), black willow (*Salix nigra*), tortured willow (*S. matsudana* 'Tortuosa') and weeping willow (*S. babylonica*). By as early as January last year, the sawfly had almost completely stripped the leaves of a golden upright willow (*S. alba vitellina*) and crack willow at a site near Canberra Airport, while having minimal affect on the nearby weeping willow (see pic bottom right).

Given it is so widespread and can completely strip willows of their leaves, the willow sawfly may shape future best management practice for willows in Australia. A national project is currently under way to assess the distribution and status of the sawfly and other organisms associated with willows in Australia, with a view to understanding their impacts and helping develop a broader range of willow management options than is now available.

The larvae of a small insect called the willow sawfly has been seen attacking willows in the ACT, NSW, Victoria and SA.



Known distribution of the willow sawfly as at March 2006 (Source: Finlay and Adair (2006))

An important national research projects is being undertaken to assess the distribution and status of organisms associated with willows in Australia.



Sawfly larvae typically strip leaves leaving mid rib behind (Photo: Fiona Ede)



Willow sawfly cocoons on willow bark (Photo: El Bruzzese)



Above left: Sawfly larvae, clearly identified by distinctive dark stripes on either side of the head (Photo: Sarah Holland Clift)
Above right: Adult sawfly (Photo: Copyright - Australian Government Department of Agriculture, Fisheries and Forestry)



Golden upright willow (right) severely stripped by willow sawfly, but weeping willow (left) little affected in Canberra, Jan 2005 (Photo: Lynton Bond)

Further Information about the sawfly can be found at www.weeds.crc.org.au.

Seen the willow sawfly or willows that have been stripped of their leaves? Please record the exact site location and area of trees affected and contact the National Willows Coordinator.

Partnerships and good management give a great result for the Bass River

The Bass River in South Gippsland, Victoria, has received a healthy boost thanks to a successful joint partnership between 14 committed landholders and the West Gippsland Catchment Management Authority (WGCMA). The WGCMA has been working to improve the health of waterways in the Bass Catchment since 1998. This recent project saw 14 km of willows removed, 28 km of fencing constructed and 57,600 native tubestock planted along the River. The Bass River drains the western end of the Strzelecki ranges, forming a major tributary that flows into Western Port Bay. Extensive land clearance, agricultural development and infestation by willows has resulted in a reduction in in-stream habitat values and poor water quality.



BEFORE: Willow infestation along the Bass River



AFTER: willows removed from the Bass River

Step 1: willow removal, revegetation and fencing

A 20 tonne excavator, an operator and 2 qualified fallers worked together to remove dense willow stands at an average rate of 100m per day. Trees were cut in situ, lifted from the river, stacked and then burnt. Stumps were poisoned using Roundup Bioactive™ at a concentration of 3:1. The banks were raked with a stick rake mounted on the excavator and then hand raked to remove all remaining willow material. The site was then sown with a mix of rye grass and native tree seed to help immediately stabilise the bank. The CMA funded the cost of the willow removal, site clean up, planting work and fencing material, while the landholders funded the construction of the fence and the tube stock required for planting. The CMA also assisted in creating an off-stream water source in some cases where whole stream frontage was fenced off.

Step 2: follow up and monitoring

WGCMA monitors each site twice annually in autumn and spring for two years following willow removal and covers the costs of any replanting, treatment of willow regrowth or other weed control required during this time. After this, the landholder is responsible for monitoring and maintaining the site. In addition, WGCMA monitor the site for water quality and diversity of macro-invertebrates before willow removal and for 8 years after, to ensure that the ultimate goal of improving the health of the waterway is being achieved.

Step 3: sit back and see the great results after just one year!

- 97% of native tubes planted have survived;
- Water quality and macroinvertebrate diversity has markedly improved;
- Very little willow regrowth has occurred.

Key to success?

'The key to the success of this project has been the strong project focus between all partners, including landholders, CMA and Landcare', said Malcolm Gibson, Operations Manager, West Gippsland CMA. 'Overall success is only achievable if all parties fully commit to the project, ensuring that maintenance targets are met and allowing time for the establishment of the vegetation in the riparian zone.'



12 MONTHS LATER: fencing and revegetation completed, river health improved (All photos above: Mal Gibson)

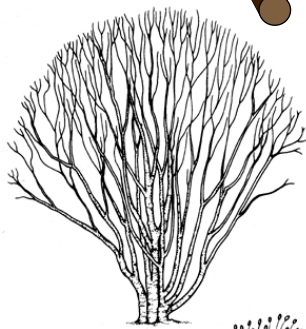
This project was funded under the Victorian State Government's Healthy Waterways Program, with a total cost per kilometre of \$42,000 (\$36,000 from WGCMA and \$6,000 from landholders).



Willows in the spotlight

Learn how to identify which willow species is which. In each edition of the willow strip, we will shine the spotlight on one or two specific willow species, to help you learn to confidently identify them.

This week's culprit: *Salix cinerea* ssp. *cinerea*
Common names: grey sallow, grey willow or pussy willow



Cremer, K. W. (1995) 'Willow identification for River Management in Australia', CSIRO Division of Forestry

One of the worst willows in Australia due to its prolific seeding. Infestations therefore urgently need to be identified, mapped and managed as part of a national control strategy.

Form: Shrub or small multi-stemmed tree with a wide, rounded crown (much wider than high in mature trees) and several sturdy branches arising near ground level.

Leaves: Broad, variable, hairy both sides, with toothed or wavy edges. Following natural leaf drop, leaves begin to enlarge from late September onwards.

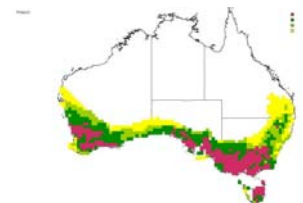
Stems: If you peel the bark away you will see longitudinal ridges along the stem.

Flowering: Generally begins in late August (earlier than most other willows) and sheds seed in early to mid-November. Male flowers (right) ovate in shape and white with yellow tips; female flowers (left) green and cylindrical-ovate in shape.

Reproduction: Mainly by seed which is abundant and can spread 10s of kilometres from the initial source. Both male and female trees are present in Australia. Can also hybridise with other shrub willows, such as *S. x reichardtii*.

Occurs: Along streams or near seasonal to permanent bogs and swamps. Invasive in both disturbed and undisturbed situations, and is spreading aggressively. Known to occur in Victoria, NSW and parts of Tasmania.

Conditions for invasion: Has proven to be extremely adaptable, invading just about any boggy and intermittently moist sites, anywhere from sea level to above the alpine tree line. Sites most likely to be invaded are areas where bare, wet ground exists for a month following seed shed (around late October / early November). Seed can spread up to 10s of kilometres from the initial source. Areas where willows have been removed may be easily colonised by seeding willows if not adequately managed and rehabilitated.



Potential distribution of *S. cinerea* in Australia produced from CLIMATE modelling (Weiss 2000)



Ridges along stem



Female flower shedding seed
Photo: Terry McCormack



Whole plant
(Photo Kyla Finlay)



Male flower



Can invade remote, pristine areas
Photo: Terry McCormack



Seedlings quickly establish
Photo: Terry McCormack



Form dense infestations
(Photo: Robin Adair)

Immediately report any outbreaks of *Salix cinerea* (grey sallow/pussy willow) to your local council, Catchment Management Authority or the National Willows Coordinator.

Potential funding opportunities

The following websites provide links to a range of funding opportunities:

- **GrantsLink website** - www.grantslink.gov.au/
- **Guide to Community Grants** - www.aph.gov.au/library/intguide/sp/spgrants.htm

Community Water
Grants open in March

If you are planning or
conducting a project
involving willows, we are
keen to hear about it



Advertise your next big
willow event here...

A detailed spreadsheet on potential funding options (both large and small) available nationally and within each state and territory can also be obtained from the National Willows Coordinator.

Some upcoming Australian Government funding programmes;

- **Community Water Grants Round 2 - call expected mid-2006**

Grants of up to \$50 000 will be provided to eligible community organisations to encourage wise water use. On-ground projects that look to protect or enhance the health of rivers are eligible for funding. In some instances the grants can be combined to provide larger grants to community based non-government organisations. For information go to <http://www.communitywatergrants.gov.au/>.

- **Defeating the Weeds Menace Programme 2004-2008**

The Australian Government has committed \$40 million over 4 years for national action on Australia's most threatening weeds. Applications for the 2005-2006 round of funding closed on 4th November, 2005. All applicants will be notified soon. A Research and Development round will likely be called in May-June 2006. Go to <http://www.daff.gov.au/defeatingweeds>.

For the best chance of success, start planning your project early and ensure that you clearly demonstrate how the project meets the criteria outlined by the funding program.

If you are planning, or already conducting, a project that involves willows, the National Willows Coordinator is keen to hear about it and provide you with assistance or information where needed.

Upcoming Events:

The next meeting of the National Willows Taskforce will be held in September 2006.

If you are planning a willow-related event and would like to advertise it in this newsletter, please forward details of the event to the National Willows Coordinator.

We're on the web!
www.weeds.org.au/WoNS/Willows