

‘Developing willow management priorities from the local to the national level’

**Report on phase three – delivery of willows workshops & collation of willow distribution data
September 06 – March 07**

Prepared by

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Department of
Primary Industries



An Australian Government Initiative

**D E F E A T I N G
THE WEED MENACE**



Executive Summary

A series of willows workshops have been conducted across all willow-affected regions in Australia in order to create and/or update regional maps highlighting where willows occur. The workshops were seen as a cost-effective method for collecting broad information on willow distribution across Australia, as well as training participants in the key skills required for them to more effectively map and therefore manage willows within their regions/States in future.

This reports details the process used in developing, implementing and evaluating the workshops, key outcomes achieved and recommendations for the National Willows Taskforce, the project and other potential weeds workshops in future.

Context:

These workshops form a key part of the project titled 'Developing willow management priorities from the local to the national level', which is being funded by the Australian Government's Defeating the Weeds Menace Program and administered by the Department of Primary Industries Victoria on behalf of the National Willows Taskforce.

This project addresses high priority actions in the National Willows Strategy by:

- determining the current distribution of naturalised willow taxa,
- producing risk assessments and interactive maps of the current and potential distribution of all willow taxa present in Australia for state and national planning,
- developing a national prioritisation matrix based on risk and feasibility for coordinated control and
- establishing a process for monitoring change across Australia.

Aims:

The key aims of the workshops were to:

- Create and/or update regional maps highlighting where willows occur, and
- Train willow managers in willow identification techniques, the willow sawfly, and willow mapping,
- Enhance willow practitioner networks on a national and regional level.

Process:

In total, 29 willow workshops, attended by a total of 576 people, were held across 29 CMA or NRM regions in 5 States/Territories across south-eastern Australia between September 2006 and March 2007.

The workshops covered the following key topics:

- Willow impacts and the National Willows Program
- Willow identification techniques
- Willow Sawfly
- Willow mapping and setting priorities for willow management.

Each participant was given a National Willows Program Resource Kit, which was developed specifically for these workshops and contained the following 6 resource sheets:

1. One page description of the Developing Willow Management Priorities project
2. Willow identification guide



3. One page description of willow sawfly
4. Mapping and willow sawfly monitoring sheet
5. Infestation class table
6. Impacts and management survey

Each resource sheet can be individually downloaded from:

www.weeds.org.au/wons/willows.

Although there are few willows known to occur in Western Australia and Queensland, a preliminary weed risk assessment revealed the potential for willows to become problems in these two States, if certain willow taxa become established. Therefore, in addition to the workshops, 2 presentations were given in southeast Queensland and 6 in southwest Western Australia in April and May 2007 to raise awareness of the potential threat of willows and the need for more detailed mapping data in these 2 States.



Workshop facilitator Sophie Wadley (left) and National Willows Coordinator Sarah Holland Clift (top) running willows workshop sessions in Canberra and Mt Barker.

Key outcomes:

In the evaluation feedback received from the workshops, it was clear that the three key workshop aims were achieved.

- ⇒ *Training willow managers in willow identification techniques, the willow sawfly and willow mapping:* Although the workshops were primarily organised in order to update willow mapping information, they played a major role in increasing the knowledge, attitudes, skills and aspirations of willow managers across Australia. Participants commented that the workshops were relevant, timely and very good in updating and increasing their knowledge of willows, particularly in the areas of willow identification, sawfly and management priorities.
- ⇒ *Creating and/or updating regional maps highlighting where willow occur:* The workshops played a major role in the creation and updating of regional willow distribution maps and generated considerable interest in the mapping of willows within regions. To many regions, the workshops highlighted the distinct lack of willow distribution information in their region and inspired them to continue to update this following the workshop. Two particular highlights were the confirmation of and rapid response to *Salix cinerea* in the Mt Lofty ranges, South Australia, and the discovery of *Salix nigra* in Grafton, NSW. This mapping information will be further refined and will then feed into the weed risk assessment process to be conducted in the next phase of this project.
- ⇒ *Enhancing willow practitioner networks on a national and regional level:* The workshops provided a clear networking opportunity for willow managers working within a region. An average of 20 participants (ranging from 8-28) attended each workshop, with an average of 9 organisations (ranging from 2-16) represented. Of the 410 responses in evaluation forms, only 3% said that the workshop did not

increase their networks with other willow managers, and this only occurred within regions where there was a small number of organisations represented.

Future recommendations:

Key recommendations for the National Willows Taskforce and this project:

- Explore the possibility of conducting state-wide willows practitioners' workshops to address the need for information on management practices;
- Work with South Australia in developing a strategy to eradicate grey willow (*S. cinerea*) from the State;
- Develop responses to the list of 'common questions asked by willow practitioners' during workshops, and post this on the Weeds Australia website;
- Review the success of awareness raising meetings and workshops on the impacts of willows in Queensland and Western Australia and determine a process for collating and updating willow distribution information for these states;
- Ground-truth mapping information in Queensland and Western Australia in spring 2007 to accurately identify the willow taxa present, determine the potential threat of further spread and determine if eradication of any highly invasive taxa found to be present in these States is feasible;
- Collate and digitise the workshop maps created and provide back to each region for review and an opportunity to add further information prior to spring 2007.
- Identify priority areas for further investigation of highly invasive willow populations across Australia, with a focus on outlying infestations, including grey willow, willow (*S. cinerea*) in South Australia and black willow (*S. nigra*) in northern NSW.
- Write up the discoveries of seeding willows in South Australia and northern NSW as media releases to be circulated in these regions;
- List the names of individuals and organisations who have contributed existing willow distribution data to the project in the final report of the project to acknowledge their contribution;
- Meet with the Landscape Protection Strategies team to update them on the workshop series and the process used for collating and updating willow distribution maps, paying particular attention to any formatting issues that have arisen with existing data;
- Evaluate the extent to which networks that were developed through workshops have led to collaborative projects and willow management works within regions, in February 2008;
- Determine the extent to which the workshop series has contributed to the increased amount of willow distribution data on a national and regional scale;
- Follow up on any reports of willow sawfly that have arisen as a result of the workshops.

Key recommendations for other potential weeds workshops:

- Consider adopting a similar process used in delivering this willows workshop series, including the division of tasks among project team members with different skills (e.g. facilitation, mapping and technical knowledge of weeds) and the use of regional key contacts to assist in organising the workshops;
- Limit the number of participants to a maximum of 20 to ensure good group interaction and learning for participants;
- Include interesting topics in order to attract participants and give them increased value in attending the workshop (e.g. identification training, management advice);
- Allow ample time for planning prior to the workshops commencing and between the pilot workshop and workshop series;
- For national workshop series, consider the use of state-based facilitators to deliver workshops for each state.

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Introduction & Background

Although a familiar and well loved icon of the Australian landscape, willows are among the most serious riparian and wetland weeds in temperate Australia. In 1999, willows were listed as one of Australia's 20 Weeds of National Significance (WoNS) due to their highly invasive nature and negative impacts on hydrology and biodiversity.

Prior to 2006, information on the distribution of willows across Australia was extremely limited. Electronic records could be found on the Australian Virtual Herbarium and in individual organisations databases where access to the data can be limited. There was no up to date centralised database detailing willow distribution data.

The National Willows Taskforce recognised this as a major drawback to being able to effectively implement the National Willows Strategy and sought to develop a project to update willow mapping data based on the principle that 'you can't manage what you don't know'. In June 2006, a project titled 'Developing willow management priorities from the local to the national level' was funded by the Australian Government's Defeating the Weeds Menace Program. The project is being supported and administered by the Department of Primary Industries Victoria on behalf of the National Willows Taskforce.

The key phases of this project are;

- Phase 1: Collate and digitise currently available mapping information.
- Phase 2: Conduct a weed risk assessment of all willow taxa in Australia to prioritise willow taxa for management action.
- Phase 3: Conduct workshops and interviews in each willow-affected NRM region across Australia to create and/or update regional willow distribution maps, adapting the classification outlined in Strategic Planning for Willow Management in Tasmania (Farrell, 2003).
- Phase 4: Identify inconsistencies and gaps in information. Where these exist, GIS and local weeds officers will conduct on-ground identification and mapping and utilise aerial photography or Landsat imagery where available and relevant. This is most important in lower order streams (e.g. headwaters), where information is scant. Detailed mapping will focus on outlying reaches, regions and states.
- Phase 5: Collate information into a centralised database and produce interactive national maps that are scalable down to state, regional and local areas and 'hot spots'.
- Phase 6: Using current distribution information, refine weed risk assessment of all willow taxa, giving potential distribution and relative invasiveness and impact.
- Phase 7: Produce a prioritisation matrix based on weed risk and feasibility of coordinated control.
- Phase 8: Produce reports on regional and State priority actions for willow management and recommendations for the legislative classification of each taxa and present these to each state and NRM region.

The project team consists of;

- Weed risk assessment team, based at DPI Frankston,
- National Willows Coordinator, based at DPI Geelong,
- Willow sawfly research scientist, based at DPI Frankston,

- National Willows Taskforce, consisting of representatives from each State/Territory of Australia (except NT), the Nursery and Garden Industry of Australia and the community,
- Workshop Facilitator, based at DPI Ballarat, and
- DPI Landscape Protection Strategies GIS team.

Phase 1 was conducted in conjunction with phase 3 of the project between August 2006 and April 2007 and phase 2 is currently in progress. This report details the findings and evaluation from phase 3 which entailed the delivery of willow mapping workshops across all willow affected regions of south eastern Australia.

The key aims of the workshops were to;

- Train willow managers in willow identification techniques, the willow sawfly, and willow mapping,
- Collate existing electronic data detailing willow distribution,
- Create and or update regional maps highlighting where willow occur, and
- Enhance willow practitioner networks on a national and regional level.

Methodology

The following section details the methodology used to organise, deliver and evaluate the willow mapping workshops.

Delivery of workshops

A series of workshops were organised and delivered to all willow affected regions across south eastern Australia. In total, 29 willow workshops, attended by a total of 576 people, were held across 29 CMA or NRM regions in 5 States/Territories across south-eastern Australia between September 2006 and March 2007.

The workshops were used to collate and update mapping information using the methodology and classification system outlined in Strategic Planning for Willow Management in Tasmania (Farrell, 2003), and to educate willow managers in the topics of willow identification, willow sawfly, willow mapping and setting priorities for willow management.

This phase of the project was delivered by a team of staff from DPI Victoria, including:

- A Workshop Facilitator, who was responsible for the planning, organisation, delivery, evaluation and reporting of the workshops;
- The National Willows Coordinator, who was responsible for managing and providing support to the project, supervising and providing guidance to the workshop facilitator, developing the resource kit and co-facilitating and delivering technical information at most of the workshops;
- Two weed risk assessment staff, who were responsible for sourcing existing mapping information, producing electronic maps of known willow distribution for each workshop, organising topographic maps to be used in the workshops and delivering technical information at some of the workshops;
- Two willow sawfly researchers, who assisted in the design of the workshops, developed Resource Sheet 3 for the resource kit, provided technical advice on the willow sawfly and delivered technical information at some of the workshops.

The National Willows Taskforce provided guidance and advice to the project team throughout the delivery of the workshop series. Many other individuals and organisations also contributed to delivery of the workshops (see Acknowledgements).

Organisation and promotion of workshops

A workshop was planned for each willow affected Catchments Management Authority (CMA) or Natural Resource Management (NRM) region across Australia. Each workshop was hosted by a local agency, including CMAs, NRM bodies, State government departments, local councils, non profit organisations or specific projects.

The workshops were organised through a regional key contact, who was responsible for organising workshop logistics including the venue, catering, audio-visual equipment, promotion through local networks and, in some cases, collation of registrations.

Promotion and registration

A flier was produced for each workshop with details of topics covered, venue, times and registration details (see Appendix 1 for a sample flier). Registrations were collated by DPI Victoria or the regional key contact for the workshop.

Each participant was asked to fill in a pre-workshop questionnaire to gain an idea of their level of knowledge and expectations prior to the workshop. The questionnaire also asked questions regarding willow mapping to determine which topographic maps were needed for the workshop and also if there was existing electronic mapping data for the region (see Appendix 2 for the pre-workshop questionnaire).

Costs

The workshops were free of charge to attending participants. The hosting agency funded the costs associated with the venue and catering for the workshop and, in most cases, provided maps for use in the mapping component of the workshop. The project covered all other costs, including employment of the workshop facilitator, production of the resource kits, travel costs and personal expenses for the facilitator and co-presenter and other materials required to run the workshop.

The overall project budget invested for Phase 3 of the project was \$83,000. However, the real cost was much greater than this as, in most cases, the co-presenter was the National Willows Coordinator, who is funded through a separate project, and the maps, catering and venue were all provided in-kind.

Pre-workshop confirmation

Participants were sent a confirmation email in the week prior to the workshop. This email confirmed the date, venue and times of the workshop as well as providing information on what would be covered in the workshop and what participants needed to bring along. Participants were asked to bring along;

- mapping resources including map books, data or references that they currently use for willows;
- pictures, photos or aerial photographs showing willow distribution or stands in region and
- willow plant samples that they would like identified.

A one page summary of the project and the willow infestation class table were provided as attachments to the email to provide further information on the purpose of the workshop.

Workshop resources

A National Willows Program Resource Kit was produced specifically for these workshops and given to each participant, for them to use as a reference during and after the workshop. The Kit contained the following 6 resource sheets:

1. One page description of the Developing Willow Management Priorities project
2. Willow identification guide
3. One page description of willow sawfly
4. Mapping and willow sawfly monitoring sheet
5. Infestation class table
6. Impacts and management survey

Each resource sheet was placed on the Weeds Australia website (www.weeds.org.au/wons/willows) as pdfs for people to obtain additional copies. Many kits were also sent to individuals or agencies who were unable to attend a workshop. A total of 1000 copies of the Kit were printed and all were distributed throughout the course of the workshop series.

Copies of the workshop presentation were also provided to participants upon request, as many participants were keen to deliver some of the presentations to community groups (e.g. through WaterWatch or Landcare groups) or to other colleagues.

What was covered in workshops?

Workshops utilised a mix of delivery techniques, including formal PowerPoint presentations, practical group activities and open forum discussions. Quiz questions were used as discussion prompts throughout the PowerPoint presentations which helped to create the informal and relaxed learning environment for participants.

The workshop format was designed around the adult learning cycle to cater for all learning styles; activists, reflectors, pragmatists and theorists. A session plan can be found in the appendices of this report which details the stages of the adult learning cycle throughout the workshop.

The workshops covered four key topics;

1. Willow impacts and activities of the National Willows Program
2. Willow identification techniques
3. Willow Sawfly – what it is, what it does and potential impacts
4. Willow mapping and setting priorities for willow management.

All topics apart from setting priorities for willow management were covered as stand alone topics in the workshop. Setting priorities for willow management was incorporated as a component of all of the other topics, as they all contribute to our ability to set priorities for management.

1. Willow impacts and priorities for the National Willows program

This topic was delivered by a PowerPoint presentation which focused on;

- the impacts of willows;
- methods of spread;
- case studies of seeding willow population explosions;
- the role of and priorities for the National Willows Taskforce;
- background to the 'Developing willow management priorities' project; and
- where to access further information.

A local representative was then asked to present about the local or regional context relating to willows and to highlight current or past strategies, projects or funding opportunities. These presentations were a mix of stand and deliver talks and PowerPoint presentations.

Image 1: Sophie Wadley (Workshop Facilitator – National Willows Program) presents information on willow impacts and priorities for the National Willows program to participants at the Canberra willows workshop.



2. Willow Identification

This topic was delivered through a theory-based presentation followed by a practical session using willow samples collected within the region where the workshop was held.

The theory-based presentation was delivered through PowerPoint and focussed on;

- Why identification is important for willow management;
- The subgeneric groups of the genus *Salix*;
- Key features that distinguish tree willows from shrub willows;
- Determining the sex of willows;
- Seed viability and hybridisation; and
- Key distinguishing features of common willow taxa.

Image 2 and 3: Sarah Holland Cliff (National Willows Coordinator) demonstrates the 'crack test' to determine the likelihood of willows to spread by fragments (left) and runs through the answers from the willow identification practical session (right).



The practical session followed the theory presentation to allow participants the opportunity to practice their new skills.

Using resource sheet 2 (the identification booklet) from the Resource Kit, participants separated into small groups and visited two identification stations. Participants had

approximately 20 minutes at each station to identify between 4 and 5 willow samples. Samples included:

- Branches, leaves and catkins (when available) of fresh willow material collected in the region, just prior to the workshop,
- photos of the form, bark and catkins, and/or
- pressings and dried catkin samples.

At station 1, participants were asked to answer the following questions about each sample, which focussed on the key identifying features of willows:

- Is it a tree or a shrub?
- Is it weeping or upright?
- Is it male or female or both?
- Are the branches brittle or rigid at the base (rating 1-5, 1= very brittle, 5= flexible or rigid at the base)
- Are the female catkins just emerging or are they shedding seed?

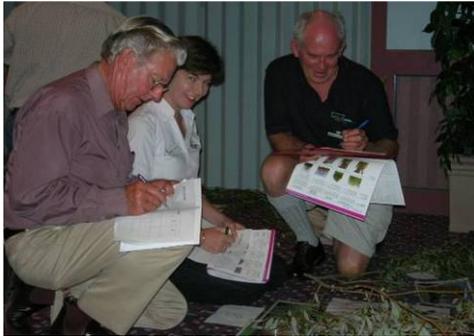
At station 2, participants were asked to identify some of the common willow taxa, focussing on the distinguishing characteristics of these taxa and what makes identification difficult.

At the end of the session, the workshop facilitators then ran through the answers to each question and participants were given the opportunity to discuss their answers and ask questions. See Appendix 10 for the list of willow taxa that were collected and used for each workshop.

Image 4 and 5: Layout of willow samples for the practical identification section of the workshop, showing (left) sample A) fresh plant material, photos and a dried specimen of *Salix fragilis* and (right) sample B) fresh plant material and photos of *S. reichardtii*.



Image 6, 7 and 8: Workshop participants identifying willows during the willow identification practical activity at Cowra (left), Melbourne (right) and Cooma (bottom centre).



3. Willow Sawfly

This session was delivered using a PowerPoint presentation. It focussed on;

- What is willow sawfly and where did it come from;
- What does it look like?
- What are its potential impacts?

Willow sawfly samples were collected in regions where it is present and shown to workshop participants. In other workshops, dried samples of the adult sawfly, cocoons and leaf damage were shown.

Participants were urged to report and monitor willow sawfly sightings in their region and to fill out resource sheet 4 (Mapping and willow sawfly monitoring sheet) in order to assist us in monitoring the spread and impact of sawfly across Australia.

Image 8 and 9: Willow sawfly researchers Fiona Ede (left) and Valerie Caron (right) presenting the sawfly session at the Bairnsdale (left) and Cowra (right) workshops.



4. Willow mapping and setting priorities for willow management

This session was delivered through a theory presentation followed by a practical exercise where participants were asked to draw on maps where they know willows to occur in their region.

The theory component was presented via a PowerPoint presentation and included information on:

- Why mapping willows is important for management;
- Setting priorities for willow management;
- Weed risk assessment and preliminary results for willows;
- Methodology for the mapping activity.

In the practical exercise, 1:100,000 (in a few cases 1:50,000) scale topographic maps with acetate sheets overlaid were used. Participants were asked to draw where they knew willows were either present or absent according to eight infestation classes (see resource sheet 5), using coloured pens to indicate which infestation classes applied to each location.

At the end of the mapping exercise, participants were given the opportunity to have an open forum discussion. This enabled them to ask and respond to questions relating to willow management, share their experiences and, in some instances, discuss the need for collaboration on future work.

Who was targeted?

As the main aim of the workshop was to update maps on where willows occur, the target audience was broad, and included anyone involved in or interested in willow management. Individuals were reached through networks held by the regional key contact who was hosting the workshop and via the National Willows Network e-group (which currently has 336 subscribed members). The workshops primarily attracted individuals or agencies who are working with landholders to implement willow management programs. It was hoped that these participants could then filter the information and lessons learnt through to colleagues, community members and landholders that they work with.

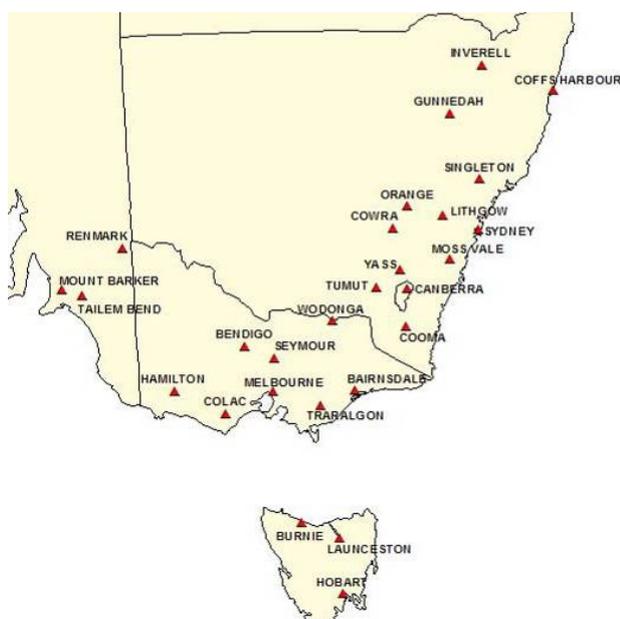
Participants included:

- CMA & NRM agency staff,
- Council weeds officers,
- State government weeds officers & policy staff,
- Parks rangers,
- Waterwatch facilitators,
- Landcare facilitators & group members,
- Local NRM group representatives,
- Non profit organisations e.g. Greening Australia and Conservation Volunteers Australia,
- Contractors,
- Consultants,
- Landholders, and
- Other WoNS coordinators.

Where and when were the workshops held?

Twenty nine willows workshops were held across south east Australia (including Victoria, Tasmania, New South Wales, the ACT and South Australia) between the months of September 2006 and March 2007.

Figure 1: Map of workshop locations across south eastern Australia



Victoria

Ten workshops hosted by eight CMA regions were held across Victoria. Although Mallee and Wimmera CMAs did not host a workshop, staff from these CMAs attended the Renmark and Hamilton workshops.

Table 1: Victorian workshop locations, dates, hosting agency and number of participants

Workshop location	Date	Hosting Agency	Number of participants	Number of agencies represented
Melbourne	13 September 06	Melbourne Water	21	7
Wodonga	4 October 06	North East CMA	21	7
Box Hill	17 October 06	DPI Victoria	21	7
Bendigo	9 November 06	North Central CMA	22	10
Bairnsdale	21 November 06	East Gippsland CMA	13	2
Traralgon	22 November 06	West Gippsland CMA	23	3
Melbourne	15 December 06	Melbourne Water	16	5
Seymour	23 January 07	Goulburn Broken CMA	23	5
Colac	24 January 07	Corangamite CMA	28	12
Hamilton	6 February 06	Glenelg Hopkins CMA	19	11

Figure 2: Locations of Victorian willows workshops



New South Wales & ACT

Twelve workshops were held in NSW, hosted by 9 CMA regions. Murrumbidgee and Hawkesbury Nepean CMAs hosted multiple workshops. Murray CMA did not host a workshop but some of their staff attended the Tumut workshop. Western CMA region was not targeted for a workshop due to the lack of willows in the region. Lower Murray Darling CMA was invited to the Renmark workshop, although they did not attend, and were not interested in hosting a workshop in their region.

One workshop was held in the ACT, hosted by Greening Australia, ACT Landkeepers program and the Upper Murrumbidgee Catchment Coordinating Committee (UMCCC).

Table 2: NSW & ACT workshop locations, dates, hosting agency and number of participants

Workshop location	Date	Hosting Agency	Number of participants	Number of agencies represented
Tumut	3 October 06	Murrumbidgee CMA	22	15
Lithgow	16 November 06	Hawkesbury Nepean CMA	14	6
Orange	17 November 06	Central West CMA	22	9
Moss Vale	5 December 06	Hawkesbury Nepean CMA	20	8
Yass	7 December 06	Murrumbidgee CMA	8	7
Coffs Harbour	30 January 07	Northern Rivers CMA	16	12
Inverell	1 February 07	Border Rivers Gwydir CMA	24	11
Gunnedah	14 February 07	Namoi CMA	23	14
Singleton	15 February 07	Hunter Central Rivers CMA	19	10

Sydney	16 February 07	Hawkesbury Nepean CMA	22	16
Cooma	1 March 07	Murrumbidgee CMA & Southern Rivers CMA	28	16
Cowra	21 March 07	Lachlan CMA	17	9
Canberra (ACT)	8 December 06	Greening Australia, ACT Land Keepers, UMCCC	21	10

Figure 3: Locations of NSW and ACT willows workshops



South Australia

Three workshops were held in South Australia, with 2 of these hosted by the Murray Darling NRM board and one by the South Australian Department of Water, Land, Biodiversity and Conservation (SA DWLBC). Staff from the Adelaide Mt Lofty NRM board attended the workshop at Mt Barker.

The South East region was targeted for a workshop at Mt Gambier although insufficient registrations were received and the workshop was cancelled. The three people that did express interest in attending a workshop were instead sent a copy of the Resource Kit and were engaged through Rural Solutions South Australia to participate in the mapping of willows for the region.

Rural Solutions South Australia was contracted by SA DWLBC to collate all South Australian willow mapping information. Their primary role was assist in further updating the distribution data on willows in SA, by:

- liaising with people in regions where willows may exist that were not targeted through workshops,
- liaising with people from regions where workshops were held who did not attend a workshop but have knowledge of where willows exist, and
- collating all maps and acetate sheets and sending to the project team.

Table 3: South Australian workshop locations, dates, hosting agency and number of participants

Workshop location	Date	Hosting Agency	Number of participants	Number of agencies represented
Renmark	2 November 06	Murray Darling NRM Board	25	10
Mt Barker	28 November 06	South Australia DWLBC	23	11
Tailem Bend	29 November 06	Murray Darling NRM Board	18	5

Figure 4: Locations of South Australian willows workshops



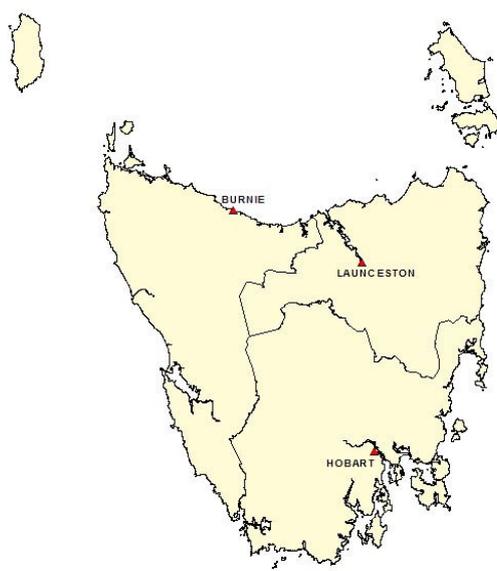
Tasmania

Three workshops were held in Tasmania, hosted by NRM North, Cradle Coast NRM and the Department of Primary Industries and Water (DPIW). NRM South was engaged through staff attending the Hobart workshop.

Table 4: Tasmanian workshop locations, dates, hosting agency and number of participants

Workshop location	Date	Hosting Agency	Number of participants	Number of agencies represented
Burnie	10 October 06	Cradle Coast NRM	13	8
Launceston	11 October 06	NRM North	17	15
Hobart	13 October 06	DPIW Tasmania	17	10

Figure 5: Locations of Tasmanian willows workshops



Queensland and Western Australia

Queensland and Western Australia are States where willows occur but are generally perceived to be less of a problem. A preliminary weed risk assessment revealed the potential for willows to become problems in these two States, if certain willow taxa become established. After liaison with key contacts in these two States, it was deemed that there was insufficient awareness of and interest in willows at this time to warrant conducting full willows workshops in these States. These States were therefore targeted for an awareness raising approach rather than willow mapping workshops as held in other states.

This approach is based in extension theory that identifies people into categories according to their awareness of and response to an issue. These categories are:

- unaware,
- non active seekers,
- active seekers and
- active implementers.

The workshops that were delivered to the south eastern States were designed for an audience that is well aware of the problem with willows and is actively seeking and implementing ways to manage them. In contrast, the audience in Queensland and Western Australia could be classified as unaware to non-active seekers. The best approach for this audience is to first raise awareness of the issue and then move on to more targeted extension programs in the future.

In total, two presentations were given in southeast Queensland and 6 in southwest Western Australia in April and May 2007 to raise awareness of the potential threat of willows and the need for more detailed mapping data in these 2 States. These presentations were given in conjunction with other events being held, in order to attract a broad audience. Basic, on-ground surveys were also conducted to determine the key willow taxa present in these States.

A process for the further collation and/or creation of willow mapping data in these two states is yet to be determined. This process will flow into phase 4 of the project.

Table 5: Southeast Queensland and Western Australian willow awareness presentation locations, dates, audience and associated events.

Loation	Date	Number of agencies represented	Number of participants	Associated event
Ipswich, QLD	18 April 07	40	Approx. 60 people	Southeast QLD Pest Advisory Committee meeting
Warwick, QLD	19 April 07	3	8	Field trip to sites with firethorn and devil's rope pear
Geraldton, WA	30 April 07	7	9	Combined WONS bridal creeper, boneseed and willows workshop
Northam, WA	1 May 07	9	26	Combined WONS bridal creeper, boneseed and willows workshop
Woodanilling, WA	2 May 07	13	19	Combined WONS bridal creeper, boneseed and willows workshop
Albany, WA	3 May 07	8	14	Combined WONS bridal creeper, boneseed and willows workshop
Bunbury, WA	4 May 07	6	13	Combined WONS bridal creeper, boneseed and willows workshop
Perth, WA	8 May 07	8	22	Combined WONS bridal creeper, boneseed and willows workshop

Figure 6: Locations of Western Australian willow awareness sessions



Figure 7: Locations of QLD willow awareness sessions



Process used for updating mapping information

The process used for the mapping component of the workshops was adapted from the methodology and classification system outlined in Strategic Planning for Willow Management in Tasmania (Farrell, 2003). This document detailed an eight class infestation class system based on the density of the willow populations and the surrounding vegetation. Density was separated into 'occasional or scattered willows', 'scattered stands with isolated trees interspersed' and 'large dense infestation'. Surrounding vegetation was separated into 'mostly native vegetation in good or excellent condition' and 'mostly weeds, grass or native vegetation in poor condition'.

After the initial pilot workshop, the following changes were made to this system, based on suggestions made by the pilot workshop participants:

- Class 7 'Broad willow swamp' was removed and included as part of 'large dense infestations',
- Class 8 'Willows removed' was changed to 'willows treated and/or removed', to reflect areas where control has been conducted but trees were left standing, and
- A 'No willows present' class was added to distinguish between areas where people know willows have never been present, compared with areas that we have no information on.

Each of the 8 classes was assigned a colour, which corresponded to a coloured pen which was used to draw on the acetate sheets in the workshop. This ensured that the same colour was used in each workshop to represent the same infestation class. The refined system was then developed into a one page A3 sheet as resource sheet 5 in the Resource Kit, with descriptions and pictures of each class to help guide workshop participants.

Gathering of mapping data pre workshop

Existing electronic mapping data was collated where accessible prior to the workshop. DPI Victoria staff sourced this through contacts provided by the regional key contacts and National Willows Coordinator and through information provided on the workshop registration forms. This information was produced into catchment-scale maps showing willow distribution information, as a reference tool for participants during the workshop mapping exercise.

Gathering of mapping data in the workshop

Workshop participants were given between 20 and 30 minutes to draw on the acetate-covered topographic maps where they knew willows to be present or absent, following the infestation class table provided in their Kits. Participants were provided with 8 different coloured pens representing the 8 infestation classes and sticky notes to enable them to record any additional information, including:

- Are males, females or both present?
- Are trees, shrubs or both present?
- Are weeping or upright or both forms present?
- Which willow taxa are present?
- Are the willows deliberately planted or naturalised?
- Is willow sawfly present in the area?

Maps were generally grouped according to geographic locations and participants would find the group that represented their part of the region or would float between several groups if they had information to contribute on a number of areas.

Image 10 and 11: Workshop participants recording on maps where they know willows to occur or be absent during the mapping exercise at workshops in Traralgon (left) and Melbourne (right).



Gathering information after the workshop

The topographic maps with the acetate sheets still overlaid were left in the region for a few months after each workshop to enable workshop participants and other people in the region to further contribute information to the maps. Some regions expressed an interest in involving community groups, such as Waterwatch and Landcare groups, in updating distribution information for their region.

Collation and digitising of the maps

All regional contacts who hosted the maps after their workshop were contacted in early April 2007 and asked to return the maps to the project team at DPI Frankston for digitising. The maps will be digitised between June and August 2007 and then, as part of Phase 4 of the project, the electronic maps will be sent back to participants to give them a final opportunity to add or clarify any information and identify gaps in the

data for their region. The National Willows Taskforce will then highlight gaps that will become a focus for on-ground surveying in Spring.

Evaluation

To evaluate the workshops, a program logic and evaluation plan was developed using Bennett's Hierarchy. The following six key evaluation questions were developed:

- 1 How effective was the pilot workshop in delivering the required outcomes and refining the workshops process?
 - How did the participants rate the effectiveness of the pilot workshop?
 - How did the facilitators rate the effectiveness of the pilot workshop?
- 2 To what extent did the workshops increase networks between agencies and willow managers within willow affected regions in Australia?
- 3 How effective were the workshops in collating mapping information for willows?
 - How effective was the mapping process used in the workshops?
 - How effective was the project in updating willow distribution information at the national and regional level?
 - To what extent did the workshops provide the information required by the weed risk assessment team?
- 4 How effective were the workshops in increasing the knowledge, attitudes, skills and aspirations (KASA) of willow managers?
 - To what extent did the knowledge, attitudes, skills and aspirations of willow managers vary between states?
 - Were their expectations met?
 - What did they learn?
 - How will they apply their learnings?
- 5 How engaged was the National Willows Taskforce in this phase of the project?
- 6 What other outcomes were achieved through the workshops series?

How were the workshops evaluated?

The following range of techniques was used to evaluate the workshops;

- Evaluation Dartboards to measure understanding of topics at the start and end of each workshop;
- A questionnaire was used to collate qualitative data;
- Open Forum Discussion during the workshop to gather qualitative feedback.

Evaluation Dartboards

Evaluation Dartboards were used to gauge the change in understanding of the four key topics covered in the workshop. At the beginning and end of each workshop, participants were given sticky dots and asked to place them in each quadrant according to their level of understanding of willow identification, willow sawfly, willow mapping and setting priorities for willow management. The change in understanding was assessed by converting the dartboards dots to scores where 1= no understanding, 2= limited, 3= good and 4= very good understanding. This enabled an average to be calculated and to determine the change in participant understanding of each topic. See Appendix 5-Appendix 8 for photos of the dartboards for each of the workshops.

Evaluation form

Questionnaire evaluation forms were used at each workshop to gather qualitative data at the conclusion of the workshop. Participants were asked the following questions and to provide comments where applicable:

- Did the workshop meet your expectations?
- Did the workshop help to increase your networks with other willow managers in your region?
- Which session did you find most beneficial and why?
- List three things that you liked about the workshop;
- List three things that you would change about the workshop;
- How will you apply the information you learnt in the workshop?
- Please list any further information you require or questions you still have about willows.

Examples of the questionnaire responses can be found in **Appendix 12-Appendix 16**.

Open forum discussion

An open forum discussion was held at the end of each workshop to give the participants an opportunity to reflect on their learnings, share experiences and to ask questions. This forum provided useful qualitative data from participants in relation to their learnings and how they would apply this information.

In addition, a list of the most common questions asked by participants during the workshops was collated and is included as **Appendix 11** in this report.

Pilot workshop

A pilot workshop was held in Melbourne on the 13 September 2006 with Melbourne Water staff and their contractors. This workshop was used to trial the process to be used in the following willows workshops.

Evaluation of this workshop focussed on gauging the reactions from the participants and facilitators. The evaluation techniques included the use of the dartboards and a detailed questionnaire. In addition to the questions asked on the standard evaluation form at other workshops, the pilot workshop questionnaire asked participants to rate each session presented according to the time allocated, presentation format and content. Participants were asked to fill in the evaluation form after each session was presented throughout the day.

The organisers of the pilot workshop also debriefed at the completion of the pilot workshop, recording their own perceptions on the flow of the day, content and timing of sessions.

The workshop structure was reassessed and altered according to the feedback received from the participants and organisers. The pilot workshop questionnaire was again used at the following two workshops held in Tumut and Wodonga, to further evaluate the process and clarify the changes that were made after the initial pilot.

Reporting of evaluation results

The discussion section in this report is structured around the six key evaluation questions that were developed for the project. Answers to these questions have been provided, where possible, although some questions may warrant further investigation over the life of the project.

Quantitative data from the dashboards and evaluation questionnaire has been reported in the results, discussion and appendices. Summaries of the expectations and networking questions have been used in the discussion and results. The dashboard information was averaged and summarised for key topics across all workshops in the results and discussion.

The qualitative data collected through the workshop questionnaires was used primarily to help continuously improve the workshop process over time. Due to the extensive amount of data that was collected, only a representative amount is included in this report. Quotes have been included where applicable, to highlight particular points or topics. In addition, we have presented the full set of qualitative data for a subset of workshops that appeared representative of those held in each State (see Appendix 12 - Appendix 16). Access to the evaluation results from a particular workshop can be obtained from the National Willows Coordinator.

Results & Discussion

This section of the report is based on the six key evaluation questions that were developed for stage three of the project titled 'Developing willow management priorities from the local to the national level.

The pilot workshop

The pilot workshop was considered to be very effective both in training participants in the four key topics and trialling the process to be used for the willow workshop series. The results of this evaluation were used to make changes and refine the workshop program used for future workshops.

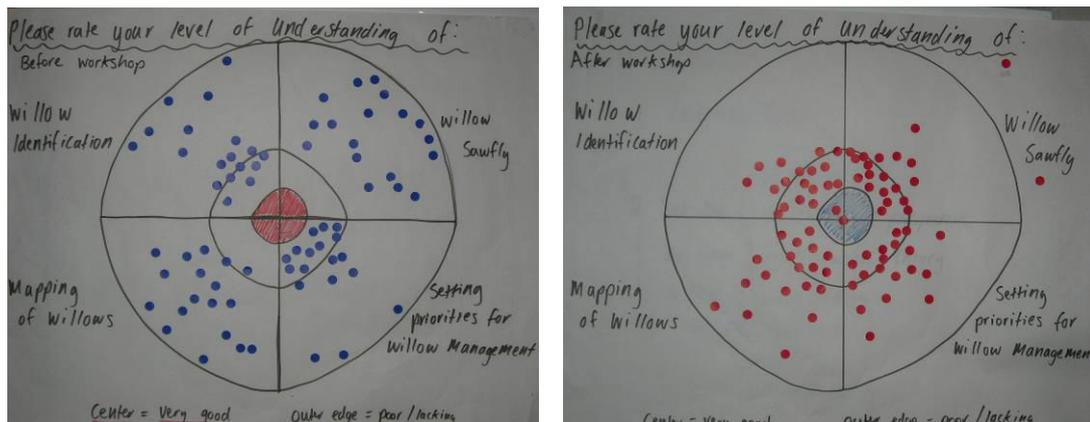
Participant reactions

The response from the participants was very positive. Sixteen of the participants said the workshop met their expectations and 2 said it partially met their expectations. Comments related to the overall workshop included;

- *"It was really good, very succinct I learnt a lot";*
- *"Gave an overview of all areas I needed information on. My knowledge improved greatly after the workshop";*
- *"Provided a really good overview of willows for a beginner audience"*
- *"Working in groups added further information";*
- *"Excellent – learnt a lot about willow ID and ecology".*

The comments were supported by the dashboard results, which broadly demonstrate the participants increased understanding of the key workshop topics (see Figure 8).

Figure 8: Dashboard results from pilot workshop



The dart boards showed that the willow sawfly and identification topics led to the greatest increase in participant's understanding. During the open forum discussion of the dartboard results, two participants expressed that they felt they had little understanding of willow sawfly at the end of the workshop, accounting for the two outlying dots on the dartboard. These participants felt that the sawfly presentation raised more questions than answers about sawfly, which is to be expected as the impacts of sawfly in Australia are still being researched. As a result, the sawfly session was modified slightly to emphasise that the purpose of the session is to update participants on known information on sawfly and to explain the future research focus for Sawfly.

Mapping and setting priorities for willow management showed some change in understanding although it was small in comparison to the other two topics. The main criticism made in the evaluation was about the process used in the mapping session. Many felt that the maps did not provide enough detail and that they did not fully understand the purpose of the session. Comments included;

- *"Needed better scale maps, 1:50,000 or 1:25,000 would be best. Would have been better use of time if maps were more detailed. I felt we spent too much time on an exercise that didn't get to a useful detail."*
- *"Inadequate maps not enough info about where the data would be going, therefore what should the level of accuracy QA/QC be?"*
- *"I don't really think there was much theory about how we could use this or other kinds of mapping wasn't really covered."*

The small change in understanding in these two topics is possibly due to the criticism of the process used, the lack of clear definition of the importance and purpose of mapping and lack of a defined setting priorities session. Although setting priorities for management was not covered as a stand alone topic, it is a component of all of the other topics covered in the workshop. As this was not presented directly, participants may have felt that they did not increase their understanding of this topic. This is supported by the following comments;

- *"More info about strategic approaches and their effectiveness based on studies";*
- *"Expand on strategic management and predictive modelling";*
- *"Maybe a bit more on strategic planning".*

As a result of participant feedback, the mapping presentation was changed to include a detailed explanation of why willow mapping is important and how this leads into setting priorities for willow management. A decision was made by the project team to continue to use 1:100,000 topographic maps, as it was felt that using smaller scale maps would be too costly as there would be too many maps needed to cover most regions. As the pilot workshop was held in an urban region, where the participants

are used to working on smaller scales, it was thought that other larger scale regions would not have the same issues with the scale of the maps. This assumption was confirmed at the Tumut and Wodonga workshops, where they did not express any issues with the scale of the maps and the mapping session was generally well received. A comment from a Tumut participant about the mapping session included *“Worked really well – definitely needed to be done great way of kicking it off... gets everyone thinking”*.

The workshop presentations were changed to highlight how each topic contributes to strategic willow management. Specific case studies were included to highlight important considerations for management. For example, the Wingecarribee Swamp in NSW was used as an example of how seeding willows can spread rapidly and produce a monoculture within just one or two seasons, given the ideal conditions for germination.

The group size for the pilot workshop was aimed at 20 participants to enable group interaction and to ensure participants felt comfortable to ask questions and share ideas. The pilot confirmed that this number worked well and some participants commented that they liked the small group size and hands on nature of the workshop.

The workshop kits that were produced for the pilot workshop were very well accepted by the participants, with comments such as

- *“Resources were very good” and*
- *“Pack of information was well put together”.*

The kits were edited after the workshop and 1000 copies printed for use in future workshops. Each of the pilot workshop participants were sent a copy of the final version of the kit.

When asked if the workshop helped to increase networks, 2 replied yes, 14 replied partially and 1 replied no. This highlighted the need to promote future workshops to a range of organisations to ensure greater representation from different agencies. From the comments received, this was mainly due to the workshop being represented by only one organisation, e.g.:

- *“Mostly Melbourne Water dominated, more diverse audience would facilitate better networking”;*
- *I knew 80% of people in the room already. It was good to meet the presenters and organisers”.*

Facilitator reactions

The facilitators rated the pilot workshop as a success and provided excellent feedback upon which to improve future workshops. Based on this feedback, changes were subsequently made to the workshop program. These included:

- the decision that at least two people would deliver all future workshops - it was originally planned that the workshops would be organised, facilitated and delivered solely by the Workshop Facilitator. It was agreed that the format developed for the workshops was too difficult for one person to deliver, and so required a minimum of two people to share the delivery and facilitation of the session.
- Shortening the workshop presentations, particularly the content of the introductory presentation. The facilitators felt that the morning session was too long and too theory-based. Details on the weed risk assessment process were therefore moved to the afternoon mapping theory session, to avoid unnecessary repetition of information, a morning tea break was added to break up the morning, and the sawfly theory session was moved to the afternoon.

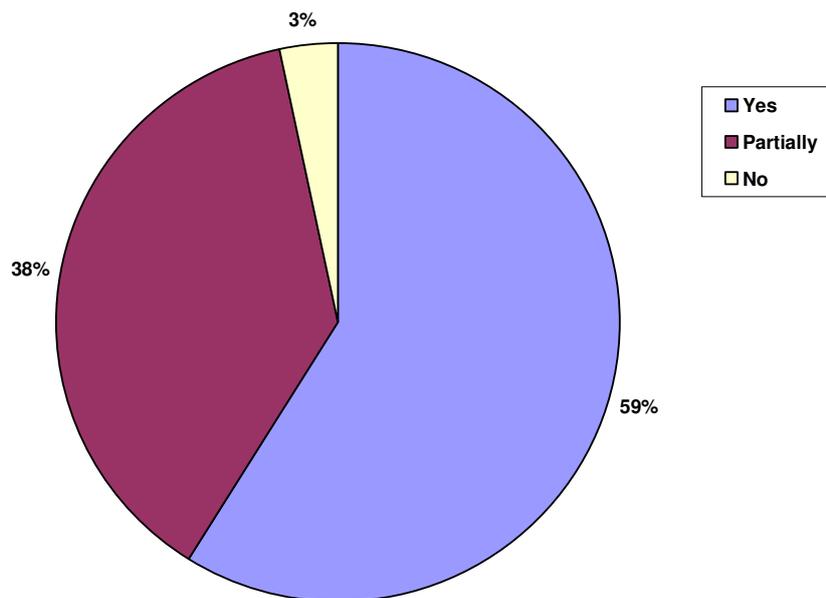
- The willow identification practical session was changed slightly to include more willow taxa (only 4 willow taxa were used at the pilot), remove the sawfly station (which had been station 3) and to redesign the answer sheets to a more easy to use table format. Only few changes were made to this session, as it was highly commended by both the participants and the facilitators in the pilot workshop.
- A kit of photos, pressings and dried catkin samples was created to aid this session at future workshops, particularly for workshops that were not held in the spring flowering period and regions where the amount of willow taxa present was limited.

Networks between agencies and willow managers

The workshops provided a networking opportunity for willow managers working within a region. A total of 576 people participated in the workshop series. Table 1 to Table 5 shows the number of participants at each workshop and the number of agencies they represented.

Of the 410 responses to the question ‘did the workshop help to increase your networks with other willow managers in your region’, 59% of participants said ‘yes’ 38% said ‘partially’ and 3% said ‘no’.

Figure 9: Responses to the question ‘Did the workshop increase networks between willow managers?’



The responses to this question varied between workshops according to the range of agencies represented. For example, the pilot workshop held in Melbourne consisted mostly of Melbourne Water staff and contractors to Melbourne Water and therefore most participants felt they only partially increased their networks. In comparison, at the Moss Vale workshop, there were 8 different organisations represented and all participants surveyed felt they increased their networks with other willow managers in their region.

An average of 20 participants (ranging between 8 and 28) attended each workshop, and an average of 9 agencies (ranging between 2 and 16) were represented. The smaller workshops provided a more interactive learning environment, leading to more questions being asked and interaction between participants.

Comments relating to this question included:

- *“Networking was very effective at all levels, national, state government, local and contractors.”*
- *“Met some new people that are key players.”*
- *“Good networking opportunities with Sydney Catchment Authority, Dept lands, and local government.”*
- *“Was able to meet people working in the region, has given me ‘points of contact’. Have been able to find out what people are doing.”*
- *“It was a great opportunity to meet other people who work with or have a problem with willows. Could prove to be contacts regarding willows in the future.”*
- *“Already familiar with most of the managers in the local area.”*
- *“I knew a lot of the key stakeholders but it was good in a couple of cases to put names to faces”*

A contacts list for each workshop was developed through the registrations and included as part of the workshop kit. Many participants casually commented that they appreciated the contact list as it would enable them to maintain their networks with people they had met at the workshop. One participant from Cooma wrote in their evaluation questionnaire *“Thanks for the contact list”*.

It would be useful to assess the longer term impacts of the workshop in enhancing regional willow management networks, evaluating whether any of these networks have led to collaborative projects or strategies being developed within the regions.

Image 12: Workshop participants networking during a practical activity at the Seymour willows workshop.



Methodology to collate mapping information for willows

The methodology used for collating and updating willow distribution information was very effective. The extent of willow information that was collated through the workshop series is still to be determined, but in many cases was significant in comparison to the data available prior to the workshops in many regions. The data available prior to the workshops was very limited and, in some regions, there was no mapping data available at all.

Review of the mapping process used

The mapping session in the workshop served an important role in increasing the amount of willow mapping data available at the national level, informing participants of the importance of collating willow mapping data and inspiring them to create or update maps for their region. In addition, having conducted the workshops via a national process, this approach has provided willow managers with a uniform system for recording willow infestations across Australia.

The process was well designed for use in a workshop situation, where mapping data can be created or updated in a short period of time, in a simple manner and at low cost compared to other mapping techniques. There were, however, clear limitations to this process, including:

- the level of detail of the information collated,
- the reliance on the knowledge of the participants in the workshop and
- the reliance on the participants to be enthused and see the benefit to participate in the activity.

The detail and amount of information collated will also vary from region to region.

Level of detail recorded

During the mapping activity, participants tended to focus on major rivers and tributaries within their region, which may lead to a lack of information on minor creeks and streams. This was also found by Farrel in 2003 during the Tasmanian willow mapping project on which the methodology was based. After the maps are digitised, they will be sent back to each region to highlight potential gaps in information. This process will enable each region to further update and/or ground truth information on the maps.

The infestation class system that was used focused only on the density of willow infestations and did not take into account other important information used in setting priorities for willow management (e.g. taxa present, sex of willows and whether the willows present can produce viable seed). Participants were given sticky pads to record such additional information, although the extent to which these were used was limited. The review of the maps and on-ground surveys in Phase 4 of the project will help to identify areas where more detailed information is needed.

Spring is the best time to identify willow taxa and to determine the sex of willow trees and shrubs. Many of the workshops were held in late spring and summer after the willows had finished flowering and many participants expressed that they would get out and identify willows in their region in the upcoming spring to help add further detail to regional maps.

One participant suggested they would survey the willows in spring to identify the taxa and sex of the willows in their region and then would use spray paint to mark the trees that they had identified as male (as this was the least common sex in their region). This would then enable them to later control the male willows, once flowering had finished.

Image 13 and 14: Workshop participants at the Cowra workshop drawing on maps where they know willows to occur (left) and a map covered with acetate sheeting, showing the level of mapping detail provided in the workshop (right).



Knowledge of participants

The pilot workshop highlighted to the project team that it was important to have a broad range of participants with knowledge of willows in the region at the workshop. The initial pilot workshop in Melbourne was held primarily with staff and contactors of Melbourne Water. As Melbourne Water is the lead agency conducting most of the willow management projects in this region, a large amount of data was already available and further data was collated via the workshop. Two other workshops held in the Melbourne and Port Phillip region attracted staff from other agencies involved in willow management in the same region, including Parks Victoria, Department of Sustainability and Environment, private consultants and contractors. These agencies added additional willow distribution information for this region in areas that the initial workshop had not recorded. This highlighted the benefit of having participants from a range of organisations and areas across a region contributing information to the maps.

Other workshops were promoted to attract a wide range of participants as this led to a diverse range of mapping data being collated in the mapping activity.

Enthusiasm of participants and managing their expectations

The mapping session in the pilot workshop received some criticism due to the scale of the maps and the lack of clear explanation as to why the activity was being conducted and how the information would be used. This highlighted the importance of clearly explaining these topics prior to the activity and also of effectively managing the expectations of participants about what the project and mapping activity could realistically achieve. It was emphasised that it was the workshop participants' responsibility to update the information and provide the level of detail they required for their region. The workshop facilitators clearly articulated that the project would not have the resources to provide mapping equipment such as GPS units to regions or provide ground truthing of data for every region.

Creating current distribution maps prior to the workshops

Prior to each workshop, available electronic distribution data was collated and produced into maps to show the currently known distribution of willows. The amount of data that was collated varied between regions. For example, the ACT region and Lachlan CMA already had a large amount of willow mapping information, whereas the Namoi region did not have any data. These maps served an important purpose of highlighting to participants where gaps existed and in many cases the sheer lack of information for their region.

Collation of existing willow data was a time consuming and, at times, difficult task. Data was often hard to find due to difficulties in knowing who to talk to. The project

team worked closely with the regional key contacts to determine who may have existing willow mapping data and monitored incoming registration forms for people who indicated that they had willow mapping data. There were also minor problems associated with the format of certain data sets and in combining them into the one system. Despite the minor difficulties associated with this process, it played a very important role in bringing together existing willow mapping data into a centralised location, rather than being stored in individual databases where access is limited.

The benefits of this process were highlighted in situations where this information was not able to be obtained prior to the workshop. In some cases, during a workshop, participants would alert the facilitators to available datasets that were previously unknown. These participants often felt less inclined to contribute information to the maps at the workshop, believing that it would be duplicating the data that would be supplied electronically later on. In contrast, where a participant's data had been incorporated into the maps provided, they would often realise gaps in that information that they could fill in on the acetate sheets during the mapping exercise.

Impact on updating willow distribution data at the national and regional level

The workshops have played a major role in the creation and updating of regional maps of willow distribution. The full extent as to the amount of willow data that was generated as a result of the workshops is not yet fully understood as regional willow mapping data and the acetate sheets that were used in the workshops are still being collated. It is expected that this question will be answered by the end of the project.

The project did however generate much interest in the mapping of willows within regions. The workshops highlighted to many regions the lack of willow distribution information and inspired them to update this. One participant from Singleton commented that they would apply the information they had learnt by *"Mapping and identifying willows in our region"*.

Although the same process was used in every workshop, the uptake of the mapping exercise varied among workshops and States/Territories.

Victoria

In Victoria, willows are primarily managed as a component of river health programs by the Catchment Management Authorities (CMAs) and Melbourne Water, following priorities set out in their Regional River Health Strategies. In many regions, willows dominate a large number of watercourses and cause significant impacts to river health. Therefore, willow management has become a substantial component in implementing Regional River Health Strategies and are being managed as part of a holistic approach to waterway management based on current impacts being caused. As a result, there has been limited mapping of willows conducted in Victoria.

The amount of willow mapping data available before the workshops varied between regions. For example, Melbourne Water had data recorded for the Yarra River following aerial surveying in 2005, but no information recorded on minor tributaries within the catchment. Wimmera CMA had previously commissioned DPI to map all of the willows in their region, whereas Glenelg Hopkins had very little data available for their region. North Central CMA commissioned Ecology Australia to undertake a detailed survey of the willow taxa present in part of their region, which will be used to develop a regional willow strategy. In many cases, detailed mapping was available for specific rivers or sub-catchments, but not on a broad regional scale.

The workshop series in Victoria has helped to update current distribution data and also challenged waterway managers to realise the importance of identifying and mapping key willow taxa in their region, when determining priorities for management, in order to help prevent further spread as well as reduce existing impacts.

New South Wales

Willow distribution information in NSW was extremely variable prior to the workshop series. The southern and central parts of NSW (e.g. Murrumbidgee & Lachlan regions) had reasonable records of willow information prior to the workshops, and the mapping activity was used to update these and fill in gaps. The northern regions (e.g. Namoi and Border Rivers Gwydir) had considerably less to no willow mapping records and the workshops played a major role in creating maps for these regions.

Originally, there was no workshop planned for the Namoi CMA region, as there was no known willow distribution data for that region. After being contacted by this CMA to request a workshop, a workshop was planned and held in this region and mapping information recorded. This highlighted to the project team the immense gaps that exist in the current distribution of willows and reinforced the importance of the project.

Groups such as Willow Warriors have been very active in many parts of NSW and have very accurate and detailed mapping information for specific rivers and catchments.

ACT

The ACT already had a large amount of willow distribution information prior to the Canberra workshop. The mapping session in the workshop helped to fill in gaps and add further detail to existing data.

The National Willows Taskforce worked closely with the UMCCC in conducting the Canberra and Cooma workshops. The UMCCC are currently developing a willow management strategy for the Upper Murrumbidgee and are undertaking intensive mapping and running additional workshops as part of this process. This partnership has greatly enhanced the collation and sharing of willow distribution data for ACT and the Upper Murrumbidgee region of NSW.

South Australia

Willow information in South Australia prior to the workshop series was primarily confined to the River Murray. It was also thought that there were very few, if any, seeding willows found in South Australia and they were not recognised as a great threat.

The mapping session was well received at the Renmark workshop. Following the workshop, the Murray Darling NRM Board mapped all willows along their section of the River Murray in conjunction with a weed survey that had already been planned.

Through funding from the South Australian Government, a partnership was developed between Rural Solutions South Australia and the National Willows Program, which led to the engagement and collation of willow mapping information in regions not targeted through workshops.

The workshops helped to update mapping information in heavily infested areas, such as the River Murray, and in other areas such as the Mt Lofty Ranges, Adelaide Hills and Fleurieu Peninsula. The workshops also led to the confirmation of a population of

S. cinerea (grey willow) after a sample was brought to the Mt Barker workshop for identification.

Rural Solutions are currently mapping grey willow and other shrub willows along the Fleurieu Peninsula to determine the extent of the *S. cinerea* population.

Tasmania

The Strategic Planning for willow management in Tasmania project conducted in 2003 and the current Tasmanian Seeding Willow eradication project has led to a large amount of willow mapping information being collected for the state. This data was collated prior to the workshop series and the workshops were used to add further details in areas where data did not exist.

Queensland and Western Australia

Maps have not yet been created or updated for Western Australia or Queensland. Some initial, on-ground surveying was conducted during visits by the National Willows Coordinator to each of these States, which has contributed a significant amount of data for these States. Willows were found in all regions surveyed in both States, but only a limited number of taxa were identified.

Prior to visiting Western Australia, there was only one confirmed record of willows in this State (a *Salix babylonica* specimen lodged at the herbarium). As a result of the surveys, there are now 42 records of willows in Western Australia and 18 anecdotal records yet to be confirmed. Through the survey, the key taxa identified were:

- *Salix cinerea* grey willow
- *Salix x sepulcralis* var. *chrysocoma* golden weeping willow
- *Salix babylonica* weeping willow,
- *Salix matsudana* Peking willow (still needs confirming),
- *Salix matsudana* 'Tortuosa',
- Tortured willow, *Salix humboldtiana* (syn. *Chilensis*) and
- Chilean pencil willow.

Prior to visiting Queensland, there were 49 records of willows collated from the Queensland Herbarium. The willow taxa recorded in the herbarium were *Salix x rubens*, *S. aurita*, *S. babylonica*, *S. cinerea*, *S. discolor*, *S. humboldtiana*, *S. nigra* and *S. viminalis*. Through the survey, the following additional willow taxa were identified:

- *Salix matsudana* Peking willow (still needs confirming),
- *Salix matsudana* var. *Tortuosa* Tortured willow,

An additional anecdotal record of *S. nigra* potentially occurring in the Casino area was received from a participant at the Coffs Harbour workshop.

A detailed plan to further collate and update willow distribution data for these States will need to be determined as part of Phase 4 of this project.

Information to aid willow weed risk assessment process

The workshops have helped to update the current distribution of willows across Australia, which will feed into the weed risk assessment process to be conducted in Phases 2 and 6 of this project.

The workshops have helped to collate some information on specific willow taxa and where they are found across Australia. A list of willow taxa collected for each workshop will assist the weed risk assessment team in identifying which taxa are found in each region and will aid the potential distribution modelling. This list can be found in **Appendix 10**. The workshop held in Renmark led to the recording of the first known potentially 'naturalised' specimen of *S. humboldtiana*, Chilean pencil willow, which was found on the River Murray near Kingston-on-Murray.

The project team will need to be realistic about the shortcomings of the mapping process and the detail of the data recorded. The data collated will be useful on a broad national scale. Further detail will be required for specific areas and regions to effectively aid the weed risk assessment.

Image 15 and 16: Project team members Sarah Holland Clift, Jackie Steel and Brett Mitchard speak to John Garvie (South Australian Murray Darling NRM Board) (left) following the discovery of a potentially naturalised specimen of Chilean pencil willow (*S. humboltiana*) (right)



Knowledge, attitudes, skills and aspirations of willow managers

Although the workshops were originally planned with the aim of updating willow mapping information, they also played a major role in increasing the knowledge, attitudes, skills and aspirations of willow managers across Australia. Willow managers commented that the workshops were relevant, timely and very good in updating and increasing their knowledge willow identification, willow sawfly and willow management priorities. For example, one participant from Tasmania commented that the workshop they attended was *“the best workshop I’ve ever been to. It was very well structured, interactive and helped to increase my knowledge immensely”*. Another participant from north east Victoria commented that *“it is the first time we have had a ‘willows workshop’, it was very relevant as there is a great demand fro this type of information among willow managers”*.

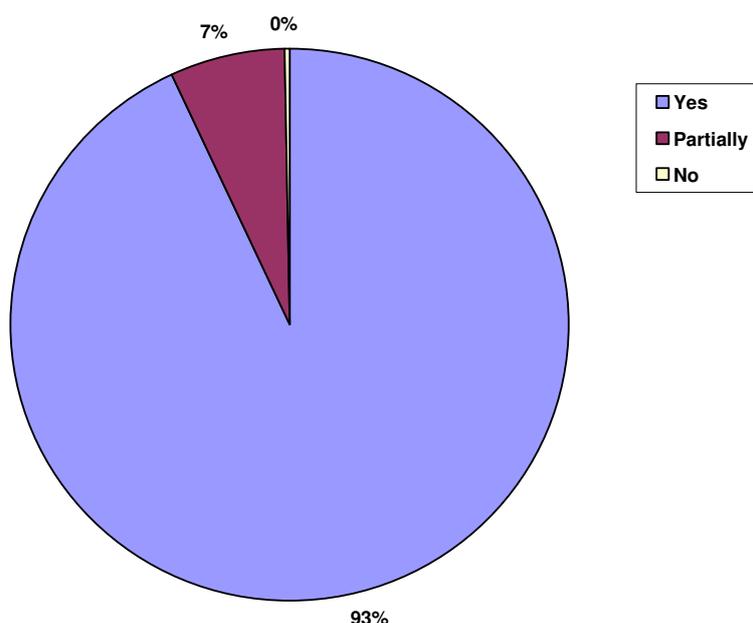
Were their expectations met?

In the workshop questionnaire, most willow managers responded that the workshop met their expectations (see

Figure 10). Of the 413 responses to this question, 93% said that the workshop met their expectations and 7% said the workshop partially met their expectations. Some participants also made the comment that the workshops exceeded their expectations. There was only one participant who said that the workshop did not meet their expectations, but this was immediately followed by the comment "*it exceeded them*".

At most workshops, some participants commented that they were expecting more information to be provided on management techniques and willow control methods. This topic was not addressed as a stand alone topic throughout the workshop series. This was because it was not part of the workshop focus, there was insufficient time in the program and that the topic was too large to adequately address in a small time period and warranted its own dedicated workshop.

Figure 10: Responses to the question ‘did the workshop meet participant expectations?’



An open forum session was introduced into the program to give participants the opportunity to ask questions relating to management techniques and for participants to share their experiences. In many cases, there were practitioners attending the workshops that were able to share on-ground experience and advice about management techniques to the group during the workshop. Participants were also informed about the upcoming Best Practice Management Guide for Willows which is currently being produced and will be released in August 2007.

As there was such a high demand for information and advice on management techniques, it would be advisable for the National Willows Taskforce to explore the possibility of conducting some workshops in this field to address this need. These workshops could coincide with the launch of the Best Practice Management Guide. This concept is discussed further in the recommendations section of this report.

Comments relating to participant expectations included;

- *“The workshop was more enjoyable than expected; I enjoyed the informal presentation and was able to draw more from it.”*
- *“The workshop exceeded my expectations. I found the day ran smoothly, not too quick or slow, identification was clear and comprehensive and interactive. I really enjoyed it, the length of the day was good too, not too long.”*
- *“Very interesting, there is always something new to learn about willows.”*
- *“Was very educational and will assist with future planning”*
- *“Well presented and good information that was easy to understand and relate to.”*
- *“Would have liked more information on on-ground management and best practice guidelines although I understand this is on its way!”*
- *“I would like to have seen more on willow mapping and removal considerations.”*

It was important to manage the expectations of the workshop participants during the workshops to ensure that they maintained realistic expectations of what the project could deliver and also what the National Willows Program can do to assist regions and States. The workshops were pitched to participants as a 'train the trainer' exercise and they were encouraged to share the information they had learnt with others in their organisations and regions. To assist this process, copies of the presentations used in the workshop and some extra copies of the workshop kit were handed out and participants were referred to the Weeds Australia website for additional information.

What did they participants find beneficial?

When participants were asked in the evaluation questionnaire what sessions they found most beneficial, all topics were mentioned. The most popular session was the willow identification session, as it was the one that participants felt was most relevant, increased their knowledge in and could apply in their work. Sawfly was also a very popular topic because, in many cases, it was new information to the participants. Many participants had not seen or heard of the willow sawfly prior to the workshop series. Mapping was also mentioned as a beneficial topic to workshop participants, although less frequently than other topics.

What did the participants like about the workshop?

When asked what things participants liked most about the workshop, a diverse range of topics were listed. The most common responses included;

- Willow identification,
- Willow sawfly,
- Workshop presentations and presenters,
- Workshop format,
- Practical sessions and hands on nature,
- The food,
- Networking,
- The Resource Kit, and
- The venue.

What things would participants change about the workshop?

When asked what things they would change about the workshop, the participants listed a range of topics. The most common response was a request for more information on management techniques. As discussed above, this topic was not covered as a set topic in the workshops. Other suggestions included a field trip, more time in the sessions, more willow kits to take away and, at some workshops, a better venue. Many participants answered that they would not change anything about the workshop and that would should keep running it exactly as it is.

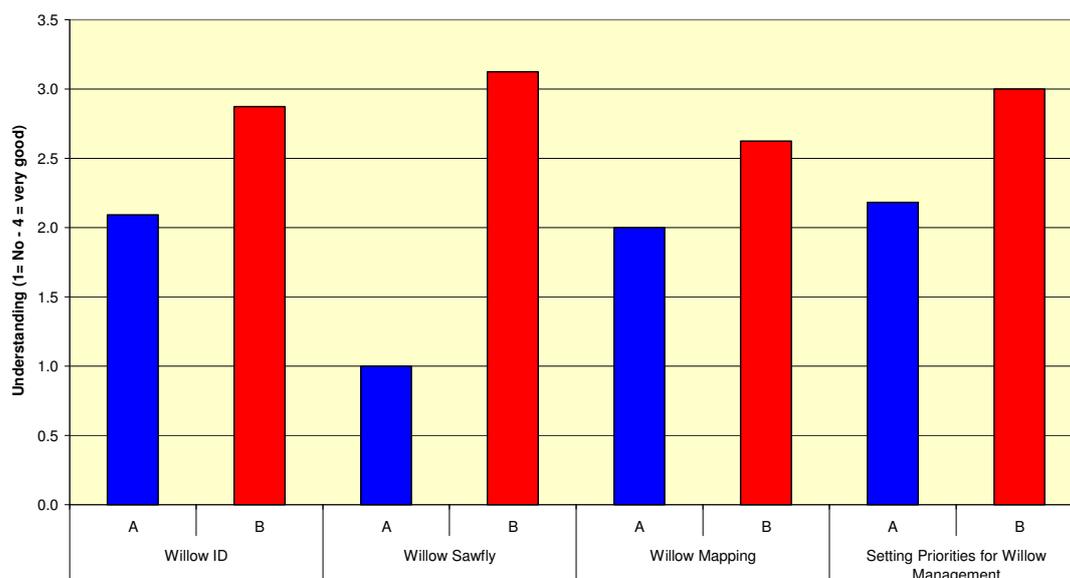
What did they learn?

Participants responded well to the workshop format and presentations and most left the workshops feeling that they had learnt new information. Participant learning was measured through the change in evaluation dartboards at each workshop as well as through qualitative data collected through the evaluation questionnaires.

Evaluation dartboard results

The evaluation dartboards enabled a quantitative measure of the change that occurred to participant understanding of the four topics covered at the workshops. The dartboard results provide an interesting comparison of which topics resulted in the greatest increase in understanding at each workshop, Figure 11 illustrates an example of this from the Burnie workshop.

Figure 11: Increase in participant understanding at Burnie willows workshop.

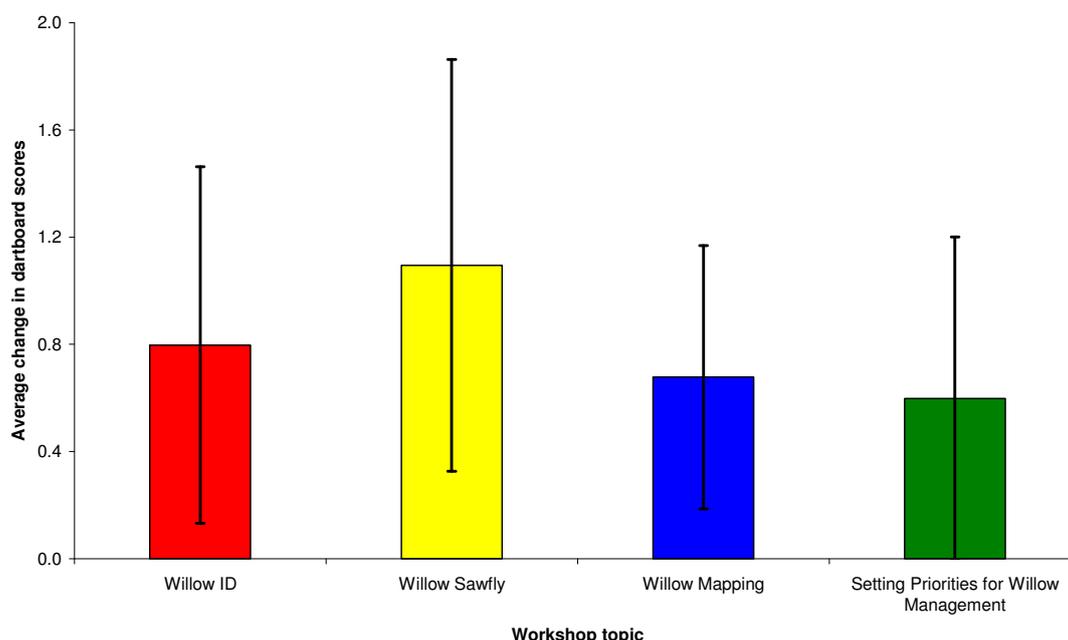


It is difficult to compare one workshop as being more successful than another as participants may rate their understanding differently between workshops. Dartboard results for individual workshops can be found in the appendices of this report as well as a summary of the increase in participant understanding for the workshop topics for all of the workshops.

Figure 12 demonstrates the average increase in participant understanding across all of the 29 workshops held. This graph shows some interesting trends in comparing the four topics with one another.

The topic which, on average, shows the largest increase in participant understanding is 'willow sawfly'. This result is not surprising as the willow sawfly is a relatively new organism to Australia and for many of the workshop participants this was the first opportunity for them to learn about it and its potential impacts. For example, when asked what they liked about the workshop, one participant commented, "*Sawfly – I didn't even know it existed until today.*" The dart board results also show that most workshops participants started at a very low level of understanding of willow sawfly compared to the other topics (see **Appendix 9**). The sawfly presentation and samples of sawfly that were used in the workshop were very effective in increasing both the awareness and understanding of the willow sawfly in Australia. The workshop series led to 10 reports of willow sawfly presence to researchers based at DPI Victoria. This is discussed further in the 'Other outcomes of the workshop series' section of this report.

Figure 12: Average and range of participant increase in understanding of workshop topics across all workshops



Willow Identification was a very popular topic with the workshop participants. It received many comments and was often considered the most beneficial topic covered at the workshop. Comments included;

- *“Willow identification was very good – very good field ID features for recognition for a diverse range of specific species and hybrids.”*
- *“I found the willow identification session useful as I have always been confused about which species is which.”*
- *“It was useful to learn about other taxa not known to be found in the area where I work.”*

Appendix 9 shows participants at all workshops increased their understanding of willow identification. Many participants commented that they would put their identification skills into practice during the following spring in order to identify priority species, to determine the sex of individual trees or shrubs and to add detail to mapping information. For example, one person commented, *“I will identify willows in my region and assess what action is required”*, and another commented, *“I will look to identify willows more accurately, pay more attention to gender of species and contribute to the mapping”*.

Willow mapping recorded a lower average increase in participant understanding than did willow sawfly and identification. The mapping session was presented as a combined theory and practical-based session to teach participants why it is important to map willows and then asking them to draw on maps to show where willows occur. As this session was less ‘teaching’ oriented, it is understandable that the increase in understanding was not as great. Some participants also felt that they needed more time to collate mapping information and contribute to the maps. The session was therefore often seen as a work in progress that still needed to be built upon.

Although the level of change in understanding for mapping was not as great as the identification and sawfly sessions, it was still considered a useful session by the participants. One participant from Cooma commented that *“the mapping of willows system is sensible because if staff in a region changes the information is still*

retained.” Another participant from Singleton commented that *“Need more mapping detail. I want to work with Sarah and the National Willows Program to refine mapping and priority setting”*.

Setting priorities for willow management was not covered as a stand alone topic within the workshops. It was, however, covered through aspects of the other presentations given throughout the day and particularly as a component of the mapping presentation. The change in understanding of this topic was the lowest of all four topics. Two potential reasons for this are:

- some participants perceived that they already had a reasonable grasp of this topic and therefore their change in understanding was not as great. This is evident in the evaluation dartboards, where participants’ understanding of this topic at the beginning of the workshop was, on average, considered much greater than that of other topics.
- some participants found that this topic was more complicated than they initially perceived and thus their understanding did not increase or may have decreased from their initial score in light of this.

How will they apply their learnings?

When asked how participants would apply their learnings from the workshop series there was a variety of responses. The common themes included: in the field, identifying willows, looking out for sawfly, sharing information with others and mapping of willows. Some specific comments are listed below. See Appendix 12 to Appendix 16 for more responses to this question.

Comments relating to applying learnings in the field:

- *“In the field and feed back to landholders concerned.”*
- *“On ground control works”*
- *“Know of type will be important in assessing their acceptability in the landscape”*
- *“In the field deciding to eradicate particular trees – is it worth the time if the species is no threat”*

Comments relating to applying learnings through identifying willows:

- *“Every time I go out in the field, I’ll try to ID willows so that I can prioritise for their management and or removal.”*
- *“I will look to identify willows more accurately, pay more attention to gender of species and contribute to the mapping.”*
- *“I will be more mindful of willows when I am out in the field and determine what species are present and GPS their locations”*
- *“Identifying – high priority (seeding willows) S.cinerea.”*

Comments relating to applying learnings through looking out for sawfly:

- *“Be on the look out for Sawfly”*
- *“Learning to look out and report on willow sawfly.”*
- *“By keeping an eye out for sawfly and to map when out and about.”*
- *“I am out in the field a fair bit so I will be using this information to look at willows and hopefully find some sawflies.”*

Comments relating to applying learnings through sharing the information with others:

- *“Share with broader community and landcare network, run refresher sessions on ID.”*

- *“Maybe have a mini workshop.”*
- *“I’ll write an account of the workshop for friends of the grasslands newsletter.”*
- *“Pass on info to landholders in developing river restoration programs.”*
- *“Pass on to other staff, make resources available for teachers.”*

Comments relating to applying learnings through mapping willows:

- *“Will begin to map willow infestations and try to determine what type of willow”*
- *“I will be more able to help with mapping and recording willow details throughout the CMA”*
- *“Already, today explored ways into which more GPS and mapping of willows can take place.”*
- *“Improve my mapping skills – I will map willows in GIS.”*

Involvement of the National Willow Taskforce

The National Willows Taskforce has been involved at many levels through the delivery of phase 3 of the project.

The Taskforce were initially given the opportunity to comment on the content, process and delivery of the workshops before and after the pilot workshop. The Taskforce moved a motion to accept the process being used to deliver the willow workshops series across south eastern Australia.

Many of the representatives on the Taskforce helped organise workshops in their regions and/or States, by providing contacts for NRM and CMA organisations to host workshops and through promoting workshops.

The following taskforce members presented sessions at workshops;

- Sarah Holland Clift – National Willows Coordinator
- Drew English – National Willows Taskforce Chair
- Karen Stewart – Tasmanian representative
- Mal Gibson – Victorian CMA representative
- Paula Ash – NSW local government representative.

The following taskforce members attended workshops;

- Andrew Hodges – Victorian State Government representative
- Stephanie Straub – ACT representative
- Stephen Johnson – NSW State government representative
- Jeff Cottrell – NSW community representative
- Dennis Gannaway – South Australian representative

Image 17: National Willows Taskforce Chair, Drew English, presents to the Canberra willows workshop



The National Willows Taskforce was kept up to date with progress of the workshop series, through regular emails and via presentations at Taskforce meetings. The Workshop Facilitator presented the initial findings of phase 3 of the project to them at their meeting on 28 February 2007 in Canberra and the recommendations stemming from this report at their teleconference on 24 April 2007.

Other outcomes from the workshop series

In addition to playing an important role in updating willow distribution across Australia and educating willow practitioners, there were several other outcomes that arose from the workshops. The following case studies present some of these outcomes.

Discovery of *Salix cinerea* in South Australia

Prior to the workshops in South Australia, the national program was not aware of *S. cinerea* (grey sallow) being present in South Australia. This species is considered to be one of Australia's worst willows due to its prolific ability to spread by seed.

Participants were asked to bring along samples of willows to the workshops that they would like to have identified. At the Mt Barker workshop a participant brought along a sample, which was identified as *S. cinerea*. This has since led to the confirmation of a population of *S. cinerea* on the Onkaparinga River along the Fleurieu Peninsula, near Adelaide.

Rural Solutions South Australia were immediately contracted by the South Australian Government to map the distribution of grey sallow and other shrub willows on the Fleurieu Peninsula to determine the extent of this seeding willow population. By identifying and responding to the presence of this species while the population levels are still localised, there is still a chance to eradicate it from the State before it spreads further and causes significant impacts as it has in Victoria and New South Wales.

Discovery of *Salix nigra* in Grafton and southern QLD

S. nigra (black willow) is another highly invasive seeding willow that is known to have become invasive in parts of north east Victoria and in NSW. Prior to the workshops, black willow was already known to occur in the Bellingen Shire on the north coast of NSW, where it has been a target for eradication for a number of years.

Similar to the discovery of *S. cinerea* in South Australia, a participant brought along a sample of black willow to the Coffs Harbour workshop for identification. This led to the first positive identification of this species in the Grafton region. It was not previously thought to be present this far north in the State. An anecdotal report was

also received at this workshop of black willow being potentially present in the Casino area of southern Queensland.

The workshops have played an important role in informing people of the risk of further spread of this willow and has enthused willow managers in these areas to get out and monitor its distribution. The full extent of black willow distribution in this part of NSW is not yet confirmed, but it has now become a high priority for further investigation.

List of questions to guide future research

A list of common questions that were asked by willow practitioners throughout the workshop series was collated by the workshop facilitators. This list was presented to the National Willows Research Forum, held in Canberra in February 2006, where it was used to help prioritise future research needs for willows. The list of questions can be found in Appendix 11 of this report.

The list not only highlights gaps in research to date, but also areas where the research has been conducted, but the information has not reached those who need it. This highlights a further need for extension in some areas, to ensure that known information is reaching on ground managers.

Monitoring of willow sawfly

The inclusion of willow sawfly as a topic in the workshop series has not only helped disseminate information about sawfly to willow practitioners, but has also increased the known distribution of sawfly across Australia.

A research team from DPI Victoria is currently conducting a project to monitor the impact of willow sawfly in Victoria. The workshops assisted this research team in gaining a better understanding of the distribution of sawfly in other States/Territories. The workshops also helped to reinforce established relationships between the research team and Victorian CMAs and Melbourne Water and provided important contacts and information from outside Victoria.

Workshop participants were provided with an assessment form (resource sheet 4 in the Resource Kits) to use to report any sawfly observations they made following the workshop. Only five forms were received back, but numerous phone calls and emails reporting sawfly were also received. Reports were received from North Central, Goulburn Broken and West Gippsland CMAs in Victoria, but these CMAs were already involved in the willow sawfly project. In addition, many reports were received from New South Wales, including from Central West CMA, Upper Lachlan Shire Council, Blue Mountains City Council, NSW Department of Planning, Infrastructure and Natural Resources.

Most of these reports were individually followed up and it was found that willows at most of these sites had been severely defoliated, some for many kilometres. It therefore seems that people only reported sawfly when they observed major defoliation of willows. When sawfly is in low populations, it can be difficult to detect, and the importance of recording its presence is less obvious. Sawfly is therefore likely to be much more widespread than the records currently suggest.

All of these sites were outside the areas being monitored as part of DPI Victoria's sawfly research project. They all therefore contributed additional information that might not otherwise have been known. Some of these sites will be monitored next

year and the people who reported them will be contacted again in the future. It would be useful to re-evaluate how the workshops have contributed to the willow sawfly project in the coming year, once participants have had an additional season to report further sightings.

Additional information on sawfly was also collected by the workshop facilitators, who monitored for sawfly as they travelled to different regions. The regions where sawfly was found are shown in Appendix 10.

Image 18 and 19: Willow sawfly larvae on crack willow near Oberon, NSW, discovered following a report made by staff from Central West CMA.



Key Learnings

The below section is a review of the key learnings made by the Workshop Facilitator on the process used in the delivery of phase 3 of the project.

What worked well?

This phase of the project was delivered under very tight timelines and the project team worked well to deliver 29 workshops in a 7 month period. There were many factors that contributed to the success of this phase of the project which are explained in further detail below.

Workshop process and format

In general the process used for the delivery of the workshops worked well. The format and design of the workshops was effective for teaching participants but also easy to facilitate. Using a combination of theory-based presentations, practical hands on activities and interactive discussions throughout the day not only broke up the delivery for the workshop presenters, but also catered well to different adult learning styles.

Dividing of tasks between the project team

The division of tasks between the Workshop Facilitator and weed risk assessment team worked extremely well. The workshop facilitator was responsible for planning, organising, facilitating, delivering, evaluating and reporting on the workshops over an 8 month period. Two staff from the weed risk assessment team took responsibility for coordinating and sourcing all of the material and data needed for the mapping activity. Due to the very tight timeframes of the project, the delivery of all of the workshops would not have been possible if this division of labour did not occur. This process also worked well, as different skills were required for the two tasks. The weed risk assessment team had good knowledge of mapping software and terminology and were able to communicate easily with agencies hosting mapping information. This freed up the workshop facilitator to concentrate on organising the workshops and other tasks associated with their delivery.

At least two people delivering each workshop

It was initially planned that one person would deliver the workshop series. After the initial pilot workshop, the project team made a decision that there needed to be at least two people delivering each workshop, due to the amount of work that was required in delivering and running the workshops.

Having two people to act as a delivery team worked very well. This process enabled the presenters to split up the delivery of the topics, meant that the participants did not tire of listening to one person present and allowed for more effective time management in running the workshop. While one person was presenting, the other person was able to take notes of questions asked and comments made by participants, pack up the willow samples after the willow identification practical session and set up the mapping exercise. It was also beneficial to have two people working together to set up the workshop at the start of the day, as the identification stations were time consuming to set up.

Using regional key contacts and their networks

The delivery of 29 workshops in 7 months would not have been possible if the project team had not used regional key contacts to assist with organising and promoting the workshops. Using regional contacts enabled the project team to tap into existing

networks for promotion of the workshops and meant that local knowledge could be used for determining logistical details such as venue and catering.

Using regions to host the workshop and cover the cost of the workshop venue and catering was also a big benefit to the delivery of the project. It not only meant that the regions were contributing to a national project but gave them commitment and accountability to the project, workshop success and its outcomes. Using a local speaker in the workshop program gave the workshops a regional flair and helped to ground the information presented throughout the day in a regional context.

Running a pilot

The process of running a pilot worked very well. This enabled the project team to test run the workshop presentations and format. Comments received from the participants and facilitators enabled the project team to make changes to the workshop and Resource Kit prior to the full workshop series commencing.

Using topics to attract participants

Although the main aim of workshops was to collate mapping information on willows, the project team decided to include other topics, such as willow identification and sawfly, to further educate participants and attract them to attend the workshop. This process attracted a broad representation of participants to contribute mapping information, and provided a learning experience for the participants they can apply to their work.

Group size

The project team felt that it was important to limit each workshop to a maximum of 20 people, to allow for group interaction and the best learning environment for participants. Despite this, due to the popularity of the workshops, some workshops exceeded 20 participants. The facilitators found that, in larger groups, participants were less inclined to ask questions and interact during the day. With these larger groups, small group exercises in the practical sessions helped to encourage participants to interact and feel more comfortable to ask questions. The average group size across all the workshops was 20 and this worked very well.

Willow resources used for identification

The combination of using fresh willow material, pressed specimens and photos of willows for the identification practical exercise worked very well. Many participants suggested that a field trip would have been useful, but the project team decided that there was not enough time in the program to conduct a field trip and this would require too much effort to organise for 29 workshops. The use of samples in the workshops was more time efficient, and ensured that participants saw a range of willow taxa. This would have been very difficult to arrange on a field trip in some regions. A field trip is considered a good idea if time in the program allows and there is a variety of willows in one location.

Using maps from region

The project team tried where possible to source existing topographic maps from the workshop region for use in the mapping session of the workshop. The project provided the acetate sheeting to cover the maps and the pens needed for the exercise. This option not only saved the cost of buying maps, but meant that the hosting region only had to send the acetate sheets back to the project team for digitising.

The mapping process

The mapping process worked well to gather a large amount of willow mapping information on regional and national levels in a short space of time. The downside of this process is that the level of detail in the data is lost in this methodology compared to other types of mapping. The methodology is very good for updating information to form a base level to build on and add further detail to in the future.

What could have been done differently?

The workshop series were very successful, although there are several points that could have improved the planning and delivery of this phase of the project. These are outlined below.

Project planning

As previously indicated, this phase of the project was delivered under tight timeframes. The workshop facilitator commenced at the end of August, the pilot workshop was conducted mid September and then the workshop series commenced early October. This did not allow much time for initial planning for this phase of the project. In hindsight, it would have been beneficial to have more time prior to the workshops commencing to:

- Collate more mapping data prior to the workshops commencing, as at times this was done in the week prior to the workshop being delivered;
- Develop a more formal process to inform the CMAs and NRM regions of the project and workshop series and what would be expected of them in hosting a workshop. This was done to some extent, but in some instances, the workshop facilitator was cold calling the regions to organise the workshops.
- Allowing more time between the pilot workshop and the workshop series commencing to enable further analysis of the evaluation results and more time to implement necessary changes.

Use of other facilitators to run workshops in each state

The system of employing a workshop facilitator to organise, plan, deliver and evaluate the workshop series worked well, although it was a very demanding role. An alternative methodology could be to employ a workshop facilitator to develop the workshop process and trial this through one or two pilot workshops. The workshop facilitator could then run a 'train the trainer' workshop to train key facilitators in each State. These key facilitators would then run all the workshops in their State. This methodology could be used to run willow management workshops in the future.

Workshop resources

The workshop kit proved to be very popular with the workshop participants. Over 800 workshop kits have been distributed to willow managers across Australia. Many workshop participants also requested copies of the workshop presentations to take away and use to train up colleagues and community groups that they work with. It would have been more efficient to have CD's burnt and printed prior to the workshop series commencing to hand out with the workshop kit or to those who were interested in using them.

Recommendations

The following recommendations have been drawn from phase 3 of 'Developing willow management priorities from the local to the national level' for the following target audiences:

- the National Willows Taskforce,
- the project team and
- other people interested in running weeds workshops, or collating broad-scale weed mapping data in future.

Recommendations to the National Willows Taskforce

1. Explore the opportunity of conducting willow practitioners workshops to address need for information on management practices.

There was a very high demand from willow managers for information on willow management techniques and control methods. This topic was not specifically covered due to time constraints associated with the workshop format. Such workshops could potentially be combined with the launch of Willows Best Practice Management Guide. It is recommended that these workshops be State-based (possibly 1 or 2 per state) and that key individuals in each state be trained to deliver the workshops after an initial process and pilot workshop has been tested.

2. Work with the South Australian Government to develop a strategy to manage, and potentially eradicate, grey sallow (*S. cinerea*) from the State.

Prior to the workshops, the National Willows Program was unaware of grey sallow (*S. cinerea*) occurring in South Australia. This species has been identified through the weed risk assessment process and by a number of willow experts as one of the worst willow taxa in Australia, due to its ability to spread extensively by seed and colonise remote areas. The distribution of this species in South Australia currently appears to be quite localised. An opportunity therefore exists to potentially eradicate this species from the State. The South Australian Government is currently funding Rural Solutions South Australia to map the distribution of grey sallow in the State. In addition, funding has been received from the Australian Government's Defeating the Weeds Menace Program to control known plants in the Onkaparinga Catchment.

3. Review the list of 'common questions asked by willow practitioners' and action any gaps in information in line with current willow research and extension priorities. Develop responses to these questions and post this as a FAQ sheet on the Weeds Australia website.

A list of common questions asked by willow practitioners was developed throughout the workshop series. This list was presented to the National Willows Research Forum in Canberra in February 2007. This list identifies current gaps in knowledge of willows, and also highlights information that is known that needs to be better communicated to practitioners.

4. Assist the 'Developing willow management priorities' project team to determine the best method to collate detailed mapping data for willows in Queensland and Western Australia.

A process for further updating willow distribution information in Queensland and Western Australia has not yet been developed. It is important to identify exactly what taxa are present in these two States to determine the threat of further spread and what action is needed, if any, to prevent future spread.

Recommendations to the project team

- 1. Review the success of awareness raising meetings and workshops on the impacts of willows in Queensland and Western Australia and determine a process for collating and updating willow distribution information for these States.**

The process for collating and updating willow mapping data for Queensland and Western Australia still needs to be developed. The project team should consider the possibility of conducting detailed on-ground surveys in these two States in spring, 2007 to:

- accurately identify the willow taxa present,
- determine the potential threat of further spread, and
- determine if eradication of certain highly invasive taxa is feasible if found to be present in these states.

- 2. Prior to spring 2007,**

- **collate and digitise the workshop maps, send these back to each region for review, and identify high priority gaps where further detail is needed.**
- **liaise with key contacts to collect further information in areas determined as high priority gaps where further detail is needed.**

The mapping data collated and updated through the workshop series is still to be collated and digitised. This process will enable the project team and regional key contacts to identify gaps and areas that require further information for each of the regions targeted and on a national scale. As mentioned in the discussion of this report, the mapping data collected in many regions will be lacking important details (e.g. the type and sex of the willows present) that are important considerations when setting management priorities. Spring is the best time to accurately identify the taxon and sex of different willows.

- 3. Identify priority areas for ground truthing and further investigation of highly invasive seeding willow populations across Australia, with a particular focus on outlying regions/States, including:**

- **grey sallow (*S. cinerea*) in South Australia,**
- **Black willow (*S. nigra*) in northern NSW (e.g. Grafton) and southern QLD (e.g. Casino),**
- **any additional reports of these taxa in QLD or WA.**

The workshop series has highlighted in many regions areas where highly invasive seeding willow populations are or may be present, such as black willow (*S. nigra*) in northern NSW and QLD and grey sallow (*S. cinerea*) in South Australia. The extent to which these taxa occur is still poorly understood in many regions. Determining the extent to which these taxa occur on a national and regional scale is vital for developing strategic priorities for preventing further spread of these willows, especially in outlying, isolated infestations where they may be potentially eradicated. For example, the early detection and identification of isolated populations of seeding willows in Tasmania has led to a quick response to management of these populations and the prospect of eradicating all seeding willows from the State.

- 4. Undertake a media campaign to raise awareness of the discoveries of seeding willows in South Australia and northern NSW/southern QLD.**

Widespread promotion of the discovery of these willows and the potential threat in these States can only assist in our efforts to detect and manage these infestations.

- 5. Acknowledge all individuals and organisations who have contributed existing willow distribution data to the project in the final report.**

There were many individuals and organisations who contributed electronic and current willow distribution data for the creation of maps prior to the workshops. The contribution of these individuals and agencies should be acknowledged.

6. Meet with the DPI Landscape Protection Strategies team to update them on the workshop series and the process used for collating and updating willow distribution maps, paying particular attention to any formatting issues that arose through the process.

There were some minor formatting issues associated with some of the willow distribution data received prior to the workshops. A separate team will be digitising the maps from the workshops and undertaking on-ground surveying. It would be useful if the weed risk assessment staff who have sourced and formatted existing willow data met with the Landscape Protection Strategies team who will be digitising the workshop data to discuss and resolve any issues.

7. Evaluate the extent to which networks that were developed through workshops have led to collaborative projects and willow management works within regions.

The workshop evaluation showed that participants felt that they had increased their networks with other willow managers in their region by attending a willow workshop. It would be worthwhile to evaluate the extent to which these networks have led to collaborative projects or strategies in regard to willow management within a region or on a national scale, as a long-term measure of success for the project. It is recommended that this be evaluated through phone interviews to each of the key regional contacts and/or to selected participants near the end of the project (e.g. February 2008).

8. Determine the extent to which the workshop series has contributed to the increased amount of willow distribution data on a national and regional scale.

The extent to which the workshop series has contributed to the increased amount of willow distribution data on a national and regional scale is not yet known as maps are still being collated. It is important for the project team to provide a measure of this in determining the success of the project. This should be determined immediately after the workshop maps have been digitised and again at the completion of the project, once ground truthing and collation of further mapping information has been conducted.

9. Re-evaluate the reporting of willow sawfly that has stemmed from the workshop series in spring and summer 2007/08.

The sawfly session led to the reporting of willow sawfly presence in a number of locations across Australia. It would be valuable to see if this reporting continues next spring and summer.

Recommendations to other people interested in running weeds workshops, or collating broad-scale weed mapping data in future.

The basis for the below recommendations are detailed in the 'Key Learnings' section of this report.

Based on the key learnings of this project, it is recommended that people interested in running weeds workshops in future:

- adopt a similar process used in delivering this willows workshop series;

- Divide tasks between the project team to enable efficiencies in time management and utilisation of individual skills needed;
- Consider the use of both a facilitator and technical presenter for each workshop to enable the division of tasks and efficient time use during the workshop,
- Limit the number of participants attending 20, to ensure good group interaction and learning for participants;
- Include interesting topics in order to attract participants and to give them additional value in attending the workshop;
- Understand the shortcoming of the mapping process (as listed in the discussion of the report) and implement systems to overcome these if applicable;
- Use regional key contacts to assist in organising the workshops;
- Allow ample time for planning prior to the workshops commencing and between the pilot workshop and workshop series;
- If running a national workshop series, consider the use of state based facilitators to deliver workshops for each state.
- Consider the timing of the workshops and tailor them according to the best time of year to display plant material for identification (e.g. when flowers are available, prior to leaf drop etc.).

Acknowledgements

The National Willows Taskforce would like to acknowledge the contribution that the following people and organisations made to the willow workshops and collation of willow mapping information:

The DPI Victoria project team who have contributed to this phase of the project: Sophie Wadley, Sarah Holland Clift, Fiona Ede, Jackie Steel, Valerie Caron, Brett Mitchard and John Weiss.

The financial support of the following organisations in hosting a willows workshop:

- **Victoria** - Melbourne Water, North East CMA, North Central CMA, East Gippsland CMA, West Gippsland CMA, Goulburn Broken CMA, Corangamite CMA, Glenelg Hopkins CMA and DPI Victoria.
- **NSW** - Murrumbidgee CMA, Northern Rivers CMA, Southern Rivers CMA, Hawkesbury Nepean CMA, Central West, Border Rivers Gwydir CMA, Namoi CMA, Hunter Central Rivers CMA and Lachlan CMA.
- **ACT** - Greening Australia and ACT Land Keepers.
- **South Australia** - Murray Darling NRM Board and South Australian DWLBC.
- **Tasmania** - Cradle Coast NRM, NRM North and DPIW Tasmania.

The following individuals for their support in hosting a willows workshop and acting as a key contact in the organisation of a workshop:

- **Victoria** - Graham Rooney (Melbourne Water), Andrew Briggs (North East CMA), Melanie Tranter (North Central CMA), Sean Phillipson (East Gippsland CMA), Mal Gibson (West Gippsland CMA), Tom O'Dwyer (Goulburn Broken CMA), Denis Lovric (Corangamite CMA) and Peter Swanson (Glenelg Hopkins CMA).
- **NSW & ACT** – Paula Ash (ERNWAG & WRNWAG), Alison Roy (Hawkesbury Nepean CMA), Clayton Miller (Central West CMA), Geoff O'Connor (Hawkesbury Nepean CMA), Brad Parker (Murrumbidgee CMA), Ian Turnbull (Bellingen Shire Council), Andrew Walsh (Border Rivers Gwydir CMA), Ryan Breen (Namoi CMA), Peter Ainsworth (Hunter Central Rivers CMA), Kelly Saunderson (Hawkesbury Nepean CMA), Pam Vipond (Murrumbidgee CMA), John Rogers (Lachlan CMA) and Jo Harding (UMCCC).
- **South Australia** – John Garvie (Murray Darling NRM Board), Sarah Lance (Murray Darling NRM Board) and Dennis Gannaway (South Australian DWLBC).
- **Tasmania** - Greg Taylor (Cradle Coast NRM), Greg Stewart (NRM North) and Andrew Crane (DPIW Tasmania).

The following individuals who gave presentations at workshops:

- **Victoria** - Damian Magner (Melbourne Water), Andrew Briggs (North East CMA), Melanie Tranter (North Central CMA), Geoff Carr (Ecology Australia), Nina Roberts (Ecology Australia), Sean Phillipson (East Gippsland CMA), Mal Gibson (West Gippsland CMA), Tom O'Dwyer (Goulburn Broken CMA) and Mark Turner (Corangamite CMA).
- **NSW & ACT** – Paula Ash (ERNWAG & WRNWAG), Clayton Miller (Central West CMA), Brad Parker (Murrumbidgee CMA), Andrew Walsh (Border Rivers Gwydir CMA), Ryan Breen (Namoi CMA), Peter Ainsworth (Hunter Central Rivers CMA), John Rogers (Lachlan CMA), Tom Nielson and Val Wiseman (UMCCC).
- **South Australia** – John Garvie (Murray Darling NRM Board), Jennie Dale (Goolwa to Wellington Local Action Planning Inc) and Kathryn Rothe (Mannum to Wellington Local Action Planning Inc).

- **Tasmania** - Karen Stewart (DPIW Tasmania), Matthew Baker (Tasmanian Herbarium), Trevor Galbreith (Launceston City Council), Andrew Crane (DPIW Tasmania) and Sam Smee (Tasmanian Land and Water Professionals).

References

Farrell, B. (2003). *Strategic Planning for Willow Management in Tasmania*. Tasmanian Conservation Trust, Greening Australia (Tasmania) and Tasmanian Department Primary Industry Water and Environment (available on www.tct.org.au/wilo1a)

Appendix 1 - Willows workshop flier



FREE

You are invited to a ...

Willows Workshop

What's up with willows?

Which willow is which?

Which areas or species should we target?

What's eating our willows?

Come along to the workshop to;

◆ **hear about what's happening with willows across the region, state wide and nationally,**

◆ **receive training in willow identification and mapping,**

◆ **learn about the willow sawfly (an insect that attacks willows and is rapidly spreading nationally), how to detect and monitor it and how it is likely to affect willows across the region and**

◆ **help regional priorities for willow management.**

Who: Anyone involved with willows

Where: **Corangamite (Colac)**
– Corangamite CMA Offices
64 Dennis St, Colac, Vic

When: Wednesday 24th January 2007

Time: 9.45 for 10am start til 3.30pm

*******Places are limited*******

Please register to attend by 17th January by contacting and returning completed registration form to:

**Sophie Wadley 03 53366794 or
email Sophie.Wadley@dpi.vic.gov.au**

Appendix 2 - Willows workshop registration and pre-workshop questionnaire

Willows workshop Registration & pre-workshop questionnaire

Workshop Location:

Name:

Organisation:

Role/position:

Phone:

Email:

Postal address:

Are you happy for your contact details to be used on a workshop contact list? Yes No

Do you have any dietary requirements?

Questions:

1. Please list any topographic maps you use for mapping willows or weeds in your region?
2. Do you have any electronic willow mapping data? Yes No
3. Where did you hear about this workshop?
4. What is your current involvement with willows?
5. Have you had any additional involvement with willows in the past? Please explain.
6. What skills and/or information do you hope to gain from this workshop?
7. What topics would you like to see covered?

Please send completed forms to Sophie Wadley 03 5336 6794
or email Sophie.Wadley@dpi.vic.gov.au

8. How would you rate your level of i) knowledge and ii) interest in:

a) Willow identification:

i) Knowledge

- Extensive
- Reasonable
- Moderate
- A little
- None

ii) Interest

- Very interested
- Quite a bit
- Moderately
- A little
- Not at all

Any comments?

b) The extent and distribution of willows in your region:

i) Knowledge

- Extensive
- Reasonable
- Moderate
- A little
- None

ii) Interest

- Very interested
- Quite a bit
- Moderately
- A little
- Not at all

Any comments?

c) Willow sawfly

i) Knowledge

- Extensive
- Reasonable
- Moderate
- A little
- None

ii) Interest

- Very interested
- Quite a bit
- Moderately
- A little
- Not at all

Any comments?

d) Best practice management of willows

i) Knowledge

- Extensive
- Reasonable
- Moderate
- A little
- None

ii) Interest

- Very interested
- Quite a bit
- Moderately
- A little
- Not at all

Any comments?

e) Mapping & recording key information needed for prioritising management of willows

i) Knowledge

- Extensive
- Reasonable
- Moderate
- A little
- None

ii) Interest

- Very interested
- Quite a bit
- Moderately
- A little
- Not at all

Any comments?

f) Strategic planning for willow management

i) Knowledge

- Extensive
- Reasonable
- Moderate
- A little
- None

ii) Interest

- Very interested
- Quite a bit
- Moderately
- A little
- Not at all

Any comments?

9. Do you have any further comments / questions about the workshop?

Please send completed forms to Sophie Wadley 03 5336 6794
or email Sophie.Wadley@dpi.vic.gov.au

Appendix 3 - Willows Workshop Session plan

Time	Activities	Stage of Adult Learning Cycle	Resources
9.30	Participants arrive and grab a cuppa - Hand out nametags and sticky dots - Participants to rate their knowledge on the evaluation bulls eye on arrival.		- Sticky dots - Evaluation bullseye - Nametags - Pens - Participant list
10.00	Introduction to the day - Welcome everyone, run through the plan for the day.	Plan	-- Workshop kits
10.10	Introduction to the participants Each participant to answer the following - Name - Where they are from/ who they work for/ role? - Experience with Willows?	Act	.
10.30	National Willows Program (PowerPoint presentation) - Theory presentation detailing impact of willows and the priorities of NWP.	Review	- Laptop - Data show
11.00	Set the Scene – local & regional perspective - Extent of the willow issue in the State/ region & what has been done to date. - What are key projects for the region?	Review	- Handouts on local strategies or projects
11.15	Short Break – Grab a cuppa		
11.30	Willow identification theory (PowerPoint presentation) - Why is ID important - General ID characteristics for common willow taxa	Generalis e	- Laptop - Data show - sample of seed - samples of <i>S. cinerea</i> showing ridgelines under bark
12.15	Willow identification practical - 4 ID stations (2 x different ones) - 4 groups of participants - Each group must do both stations (15 mins to do each station -- 10 minutes to report back and discussion of each station at the end.	Act/ review	- willow samples - photos - pressings of catkins - handouts/ answer sheets
1.00	Lunch		

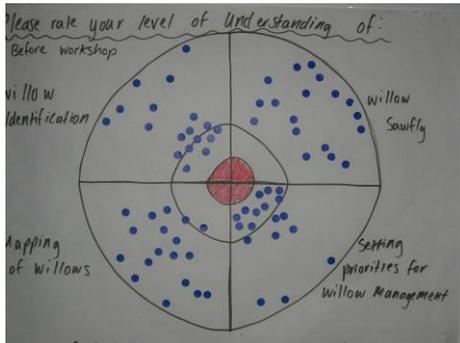
Time	Activities	Stage of Adult Learning Cycle	Resources
1.30	Sawfly Theory (PowerPoint presentation) - Set the scene for Sawfly (when discovered, spread & potential impacts) - How to ID Sawfly, monitoring & recording sawfly	Generalise	- Laptop - Data show - Samples of Sawfly
1.50	Mapping Theory (PowerPoint presentation) - Theory of weed risk assessment and the process to be used in mapping exercise. - go through class infestation table - how practical session be will run and what will happen to the info afterwards	Generalise	- Laptop - Data show
2.15	Mapping exercise - On 4 tables in groups, have a go at creating/ updating mapping info on willow distribution and infestation. - Tables set up representing different parts of the region. - Participants are able to move between groups if they want to. - Facilitators to float between tables and answer questions	Plan/ act	- Maps - Acetate overlays - Coloured pens - Staples & stapler
2.45	Open Forum session – Discussion & Review - Are there any questions you need answered or clarified? - Ask contractors and on ground staff to detail techniques used in willow control/ management and share other experiences - Open forum for participants to ask questions	Act/ review	
3.15	Review & Evaluation Detail where maps will be hosted and by who. Bullseye - Bullseye exercise and discussion of who has moved their sticker and why? - Fill in evaluation sheet and collect	Review	- Evaluation sheets - Sticky dots - Evaluation bullseye
3.00	Close		

Appendix 4 - Participant expectation and networking evaluation results, showing the number of respondents that gave that answer.

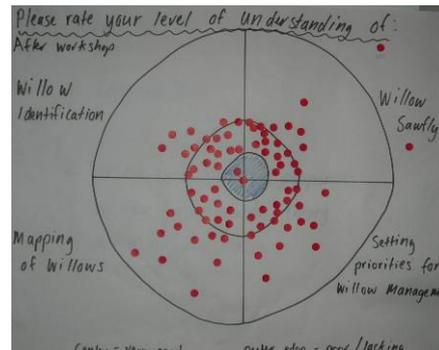
Workshop location	Were the participants expectations met?			Did the participants increase networks with other willow managers?		
	Yes	Partially	No	Yes	Partially	No
Victoria						
Melbourne	16	2	0	2	14	1
Wodonga	15	2	0	10	6	2
Box Hill	13	2	0	5	9	1
Bendigo	13	3	0	13	3	0
Bairnsdale	9	0	0	3	6	0
Traralgon	18	0	0	8	8	2
Melbourne (2)	13	0	0	5	8	0
Seymour	19	0	0	9	9	1
Colac	20	0	0	11	9	0
Hamilton	11	4	0	9	6	0
NSW / ACT						
Tumut	17	1	0	15	3	0
Lithgow	12	1	0	9	3	1
Orange	16	0	0	14	2	0
Moss Vale	13	1	0	14	0	0
Yass	5	0	0	3	2	0
Coffs Harbour	9	0	0	7	0	2
Inverell	15	2	0	9	7	0
Gunnedah	10	3	0	11	1	0
Singleton	15	1	0	11	4	1
Sydney	12	0	0	6	6	0
Cooma	8	3	0	9	2	0
Cowra	9	0	0	2	7	0
Canberra	16	2	0	12	5	0
South Australia						
Renmark	18	0	0	13	6	1
Mt Barker	15	1	0	8	8	0
Tailem Bend	18	0	0	5	11	1
Tasmania						
Burnie	10	0	0	4	4	1
Launceston	9	0	0	6	3	0
Hobart	11	0	0	9	2	0
Total responses	385	28	0	242	154	14
Percentage of responses	93	7	0	59	38	3

Appendix 5 - Workshop dartboard evaluation results - Victoria

a) Melbourne pilot workshop

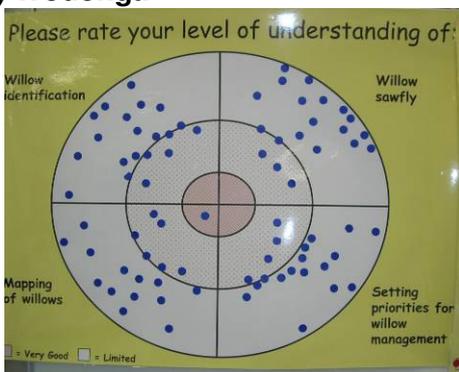


Before workshop

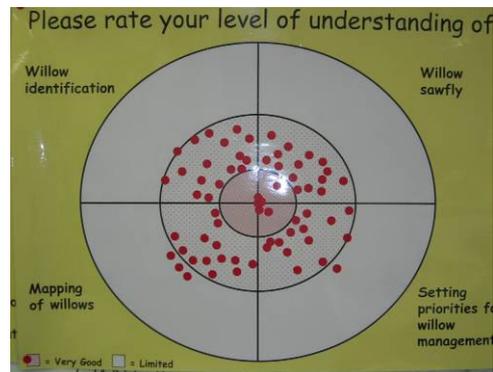


After workshop

b) Wodonga

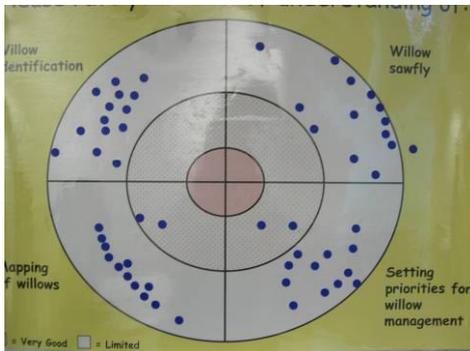


Before workshop

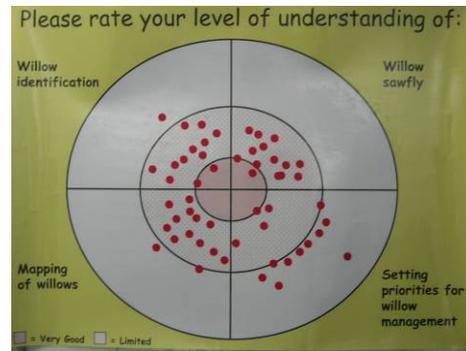


After workshop

c) Box Hill



Before workshop

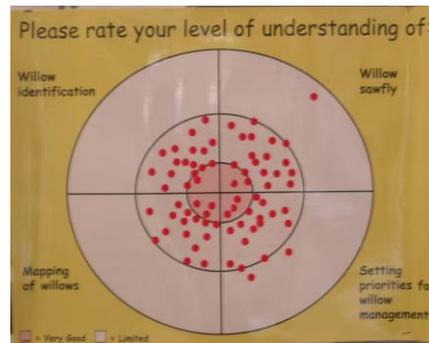


After workshop

d) Bendigo

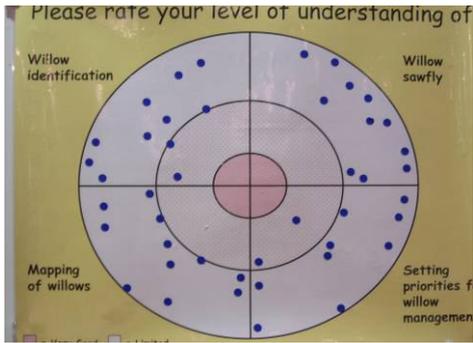


Before workshop

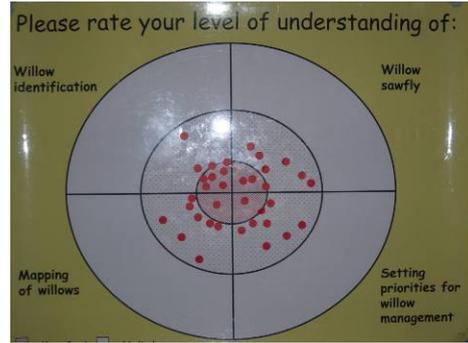


After workshop

e) Bairnsdale

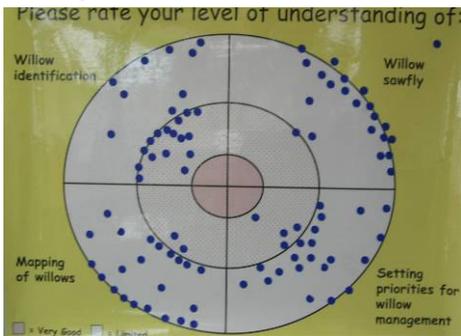


Before workshop

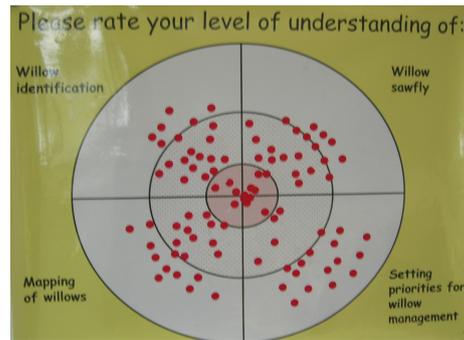


After workshop

f) Traralgon

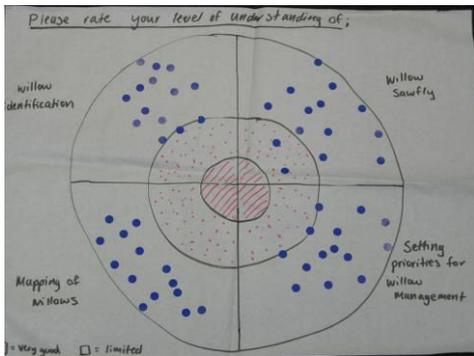


Before workshop

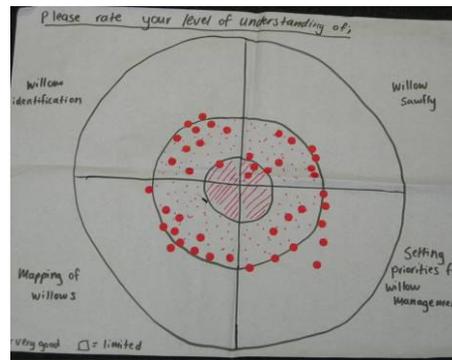


After workshop

g) Melbourne

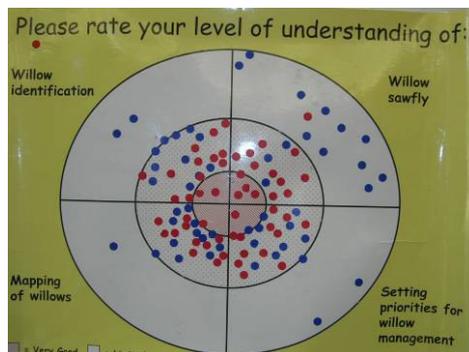


Before workshop



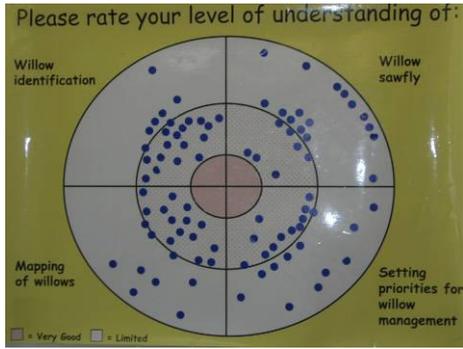
After workshop

h) Seymour

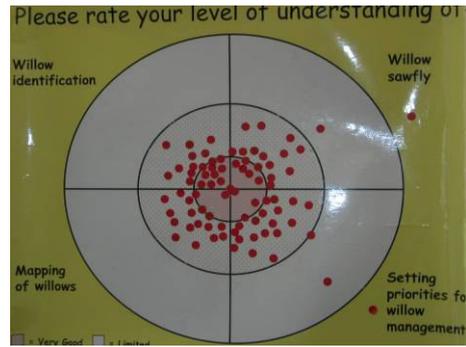


Before (blue) and after (red) workshop

i) Colac

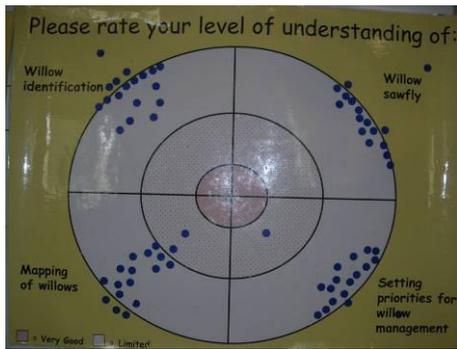


Before workshop

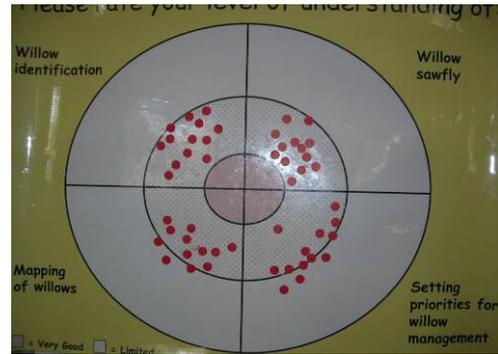


After workshop

j) Hamilton



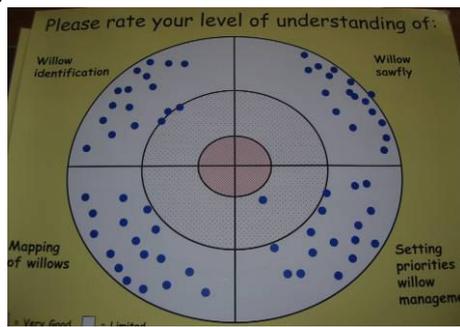
Before workshop



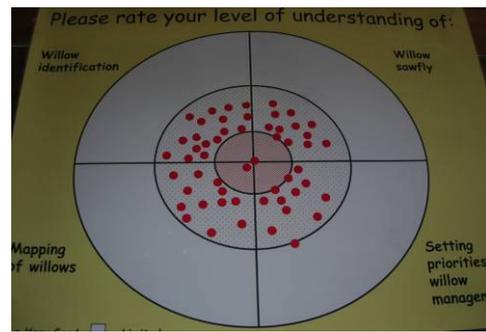
After workshop

Appendix 6 - Workshop dartboard evaluation results – NSW & ACT

a) Tumut

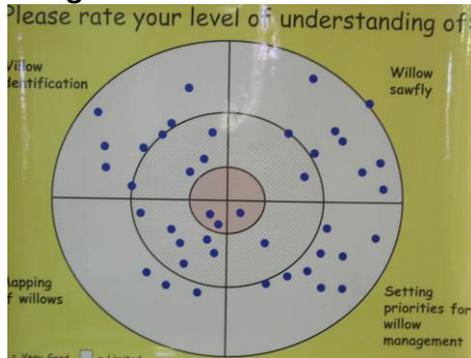


Before workshop

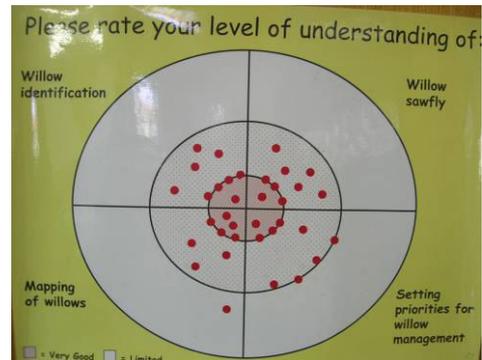


After workshop

b) Lithgow

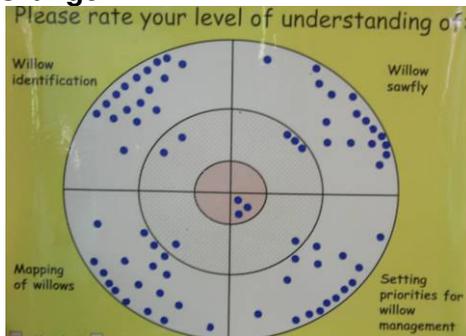


Before workshop

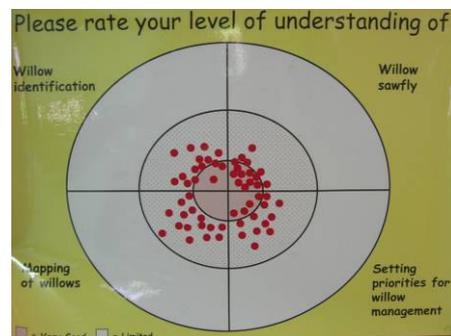


After workshop

c) Orange

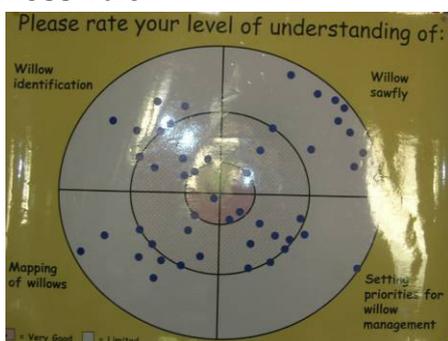


Before workshop

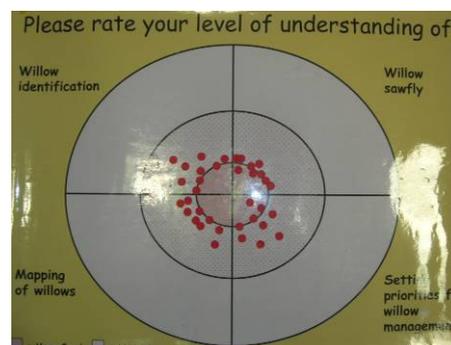


After workshop

d) Moss Vale



Before workshop



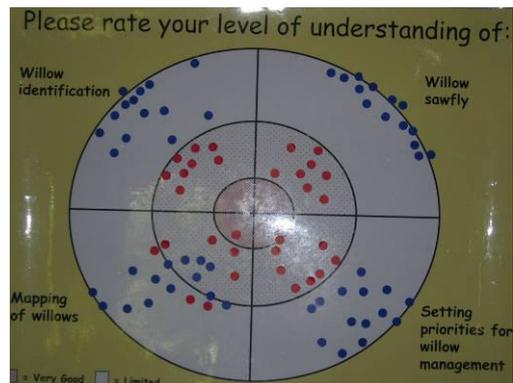
After workshop

e) Yass



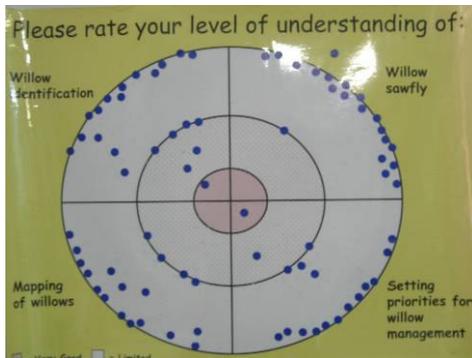
Before (blue) and after (red) workshop

f) Coffs Harbour

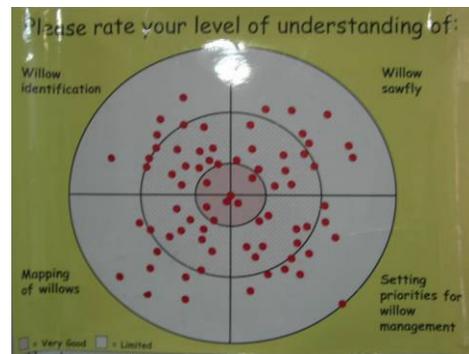


Before (blue) and after (red) workshop

g) Inverell

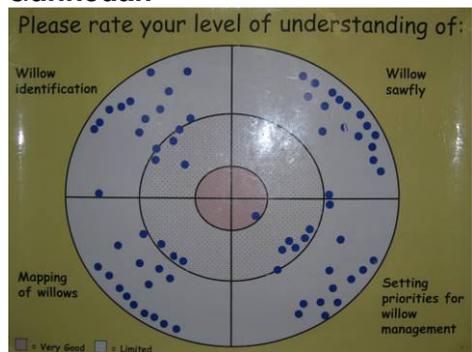


Before workshop

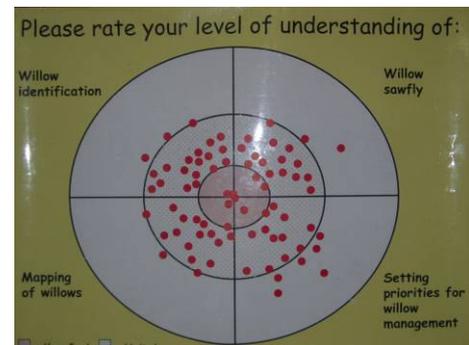


After workshop

h) Gunnedah

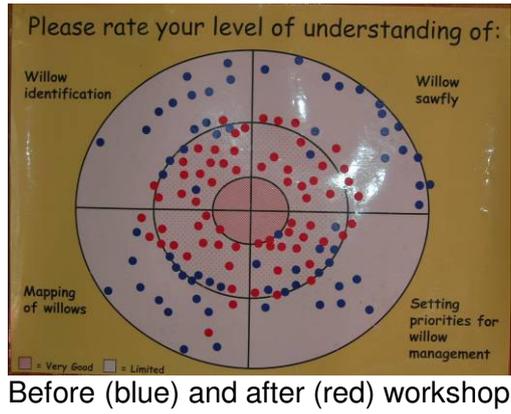


Before workshop

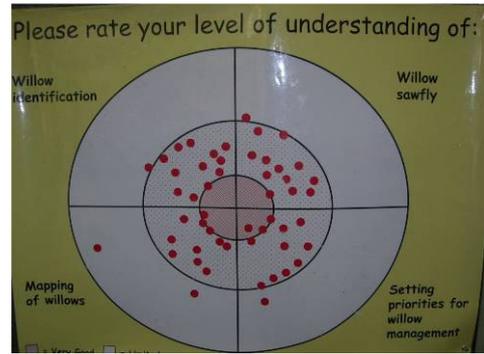
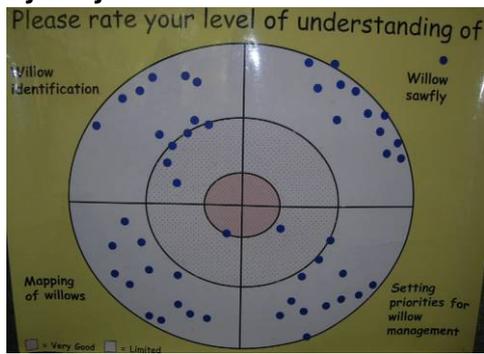


After workshop

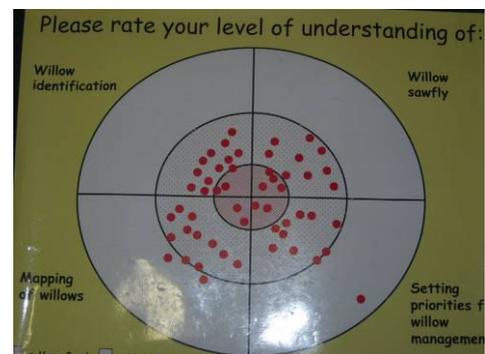
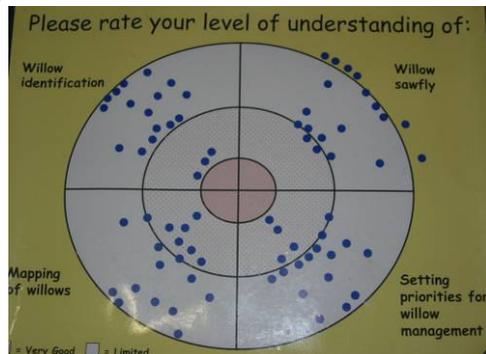
i) Singleton



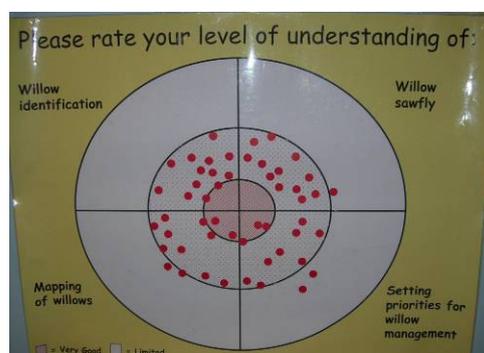
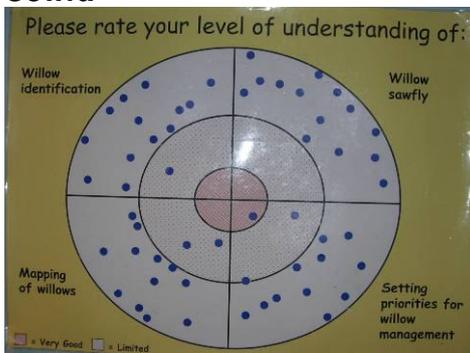
j) Sydney



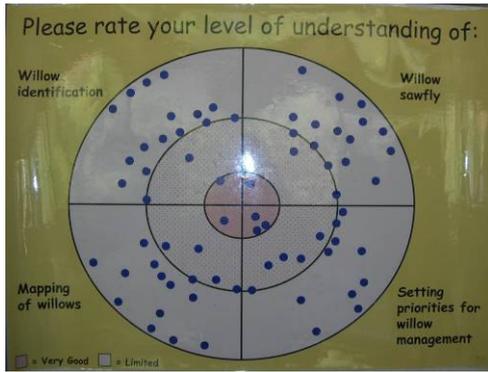
k) Cooma



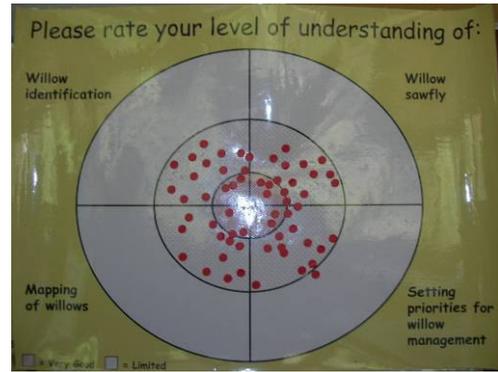
l) Cowra



m) Canberra



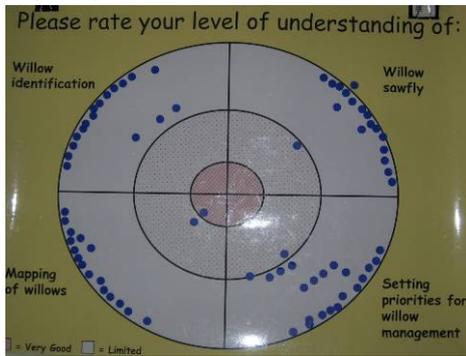
Before workshop



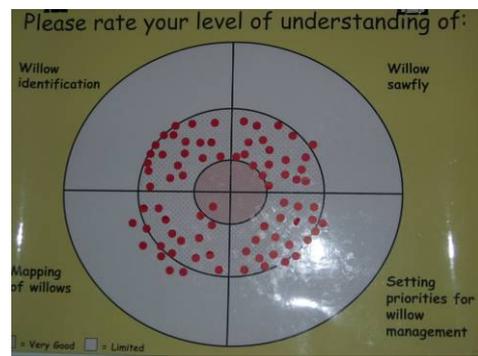
After workshop

Appendix 7 - Workshop dartboard evaluation results – South Australia

a) Renmark

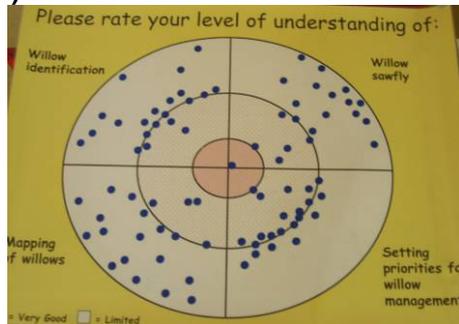


Before workshop

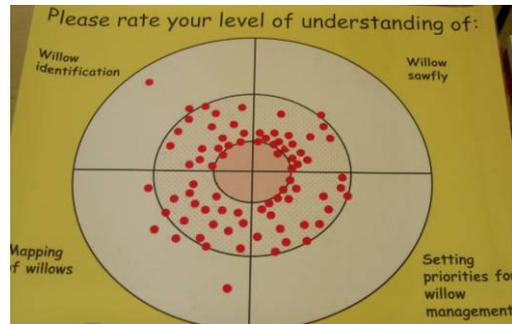


After workshop

b) Mt Barker

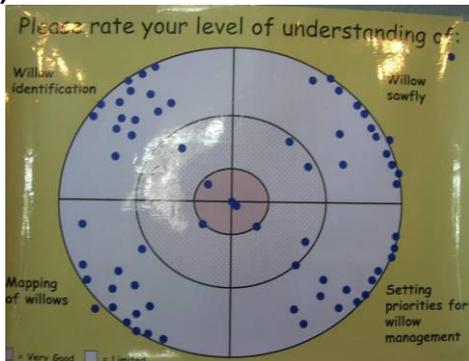


Before workshop



After workshop

c) Tailm Bend



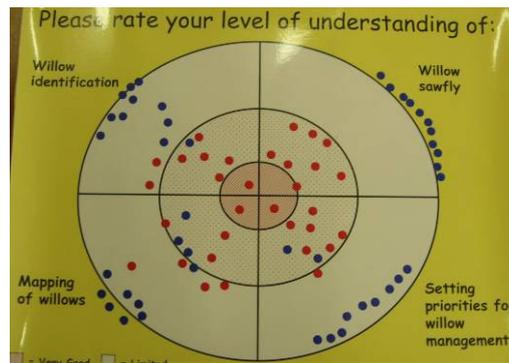
Before workshop



After workshop

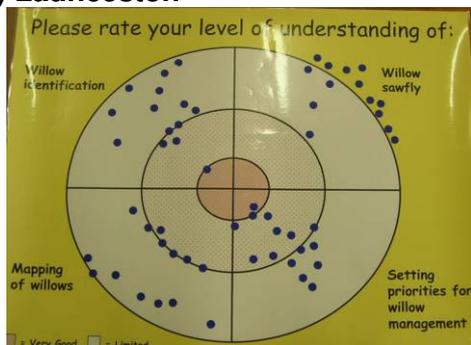
Appendix 8 - Workshop dartboard evaluation results – Tasmania

a) Burnie

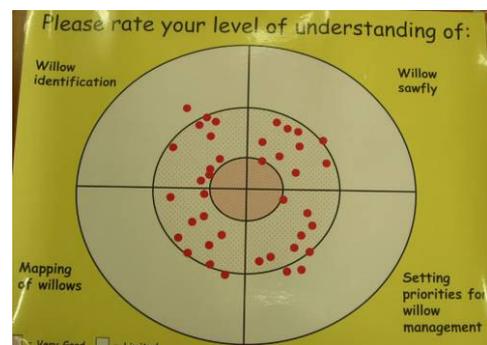


Before (blue) and after (red) workshop

b) Launceston

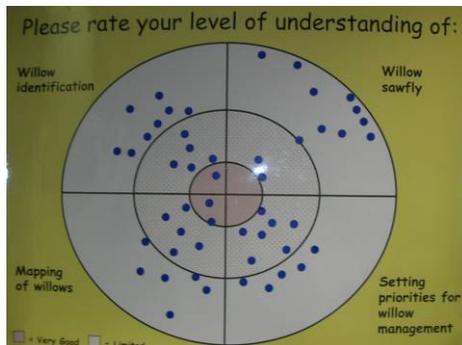


Before workshop

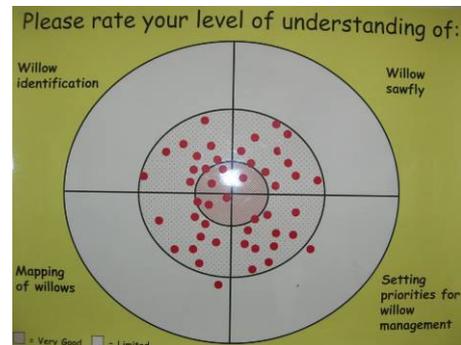


After workshop

c) Hobart

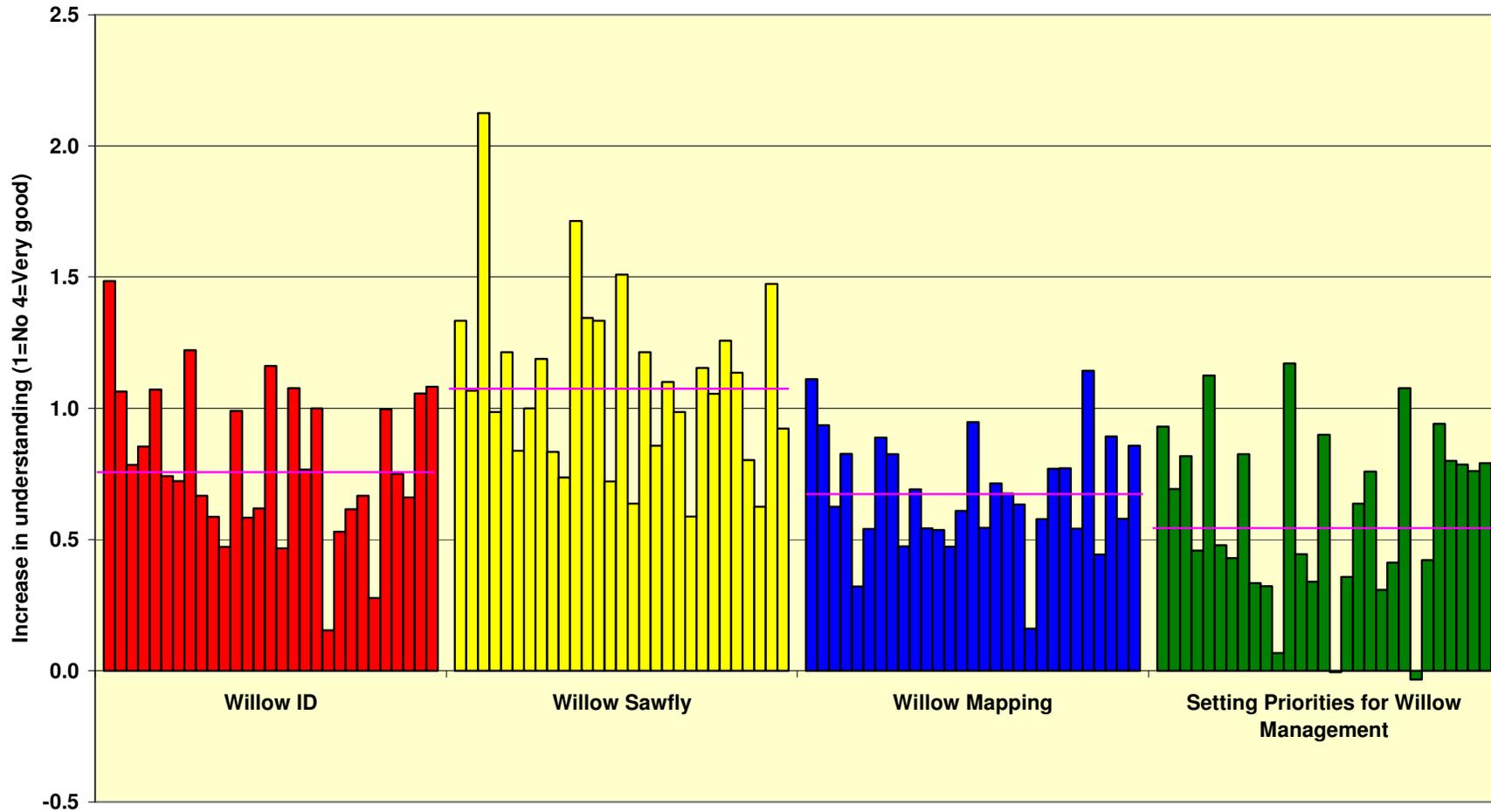


Before workshop



After workshop

Appendix 9 - Increase in participant understanding of workshop topics



Appendix 10 - Record of willow taxa collected for each workshop

Workshop location	Willow taxa collected (NCR = Sample not collected within the region)													
	<i>S. fragilis</i>	<i>S. alba</i>	<i>S. babylonica</i>	<i>S. sepulcralis</i> var. <i>chryscoma</i>	<i>S. matsudana</i>	<i>S. matsudana</i> ' <i>tortuosa</i> '	<i>S. matsudana</i> <i>x alba</i>	<i>S. nigra</i>	<i>S. chilensis</i>	<i>S. cinerea</i>	<i>S. x reichardtii</i>	<i>S. purpurea</i>		
	Crack willow	Golden upright willow	Weeping willow	Golden weeping willow	Peking willow	Tortured willow	NZ hybrid	Black willow	Chilean pencil willow	Grey sallow	Pussy willow	Purple ossier	Asian willow	Sawfly
Victoria														
Melbourne	•		•			•				•				
Wodonga	•	•	•	•		•		•		•		•		
Box Hill	•	•	•	•		•			•	•				
Bendigo	•	•	•	•		•			•	•				• (NCR)
Bairnsdale	•		•	•		•	• (NCR)			• (NCR)				• (NCR)
Traralgon	•	•	•	•	•		• (NCR)		•	• (NCR)				• (NCR)
Melbourne	•	•	•	•	•				•	•				•
Seymour	•	•	•	•	•				•	•				
Colac	•	•	•	•	•				•	•				
Hamilton	•	•	•	•	•				•	•				
NSW														
Tumut	•	•	•	•		•		•						
Lithgow	•	•	•	•	•	•				•				•
Orange	•	•	•	•	•	•				• (NCR)				•
Moss Vale	•	•	•	•		•				•	•			• (NCR)
Yass	•	•	•	•	•	•				• (NCR)				• (NCR)
Coffs Harbour		•	•			•		•	•		• (NCR)			
Inverell	•	•	•	•		•		• (NCR)	•		•			•
Gunnedah			•	•		•			•					• (NCR)
Singleton		•	•	•		•			•					• (NCR)

Record of willow taxa collected for each workshop (cont.)

Workshop location	Willow taxa collected (NCR = Sample not collected within the region)													
	<i>S. fragilis</i>	<i>S. alba</i>	<i>S. babylonica</i>	<i>S. sepulcralis</i> var. <i>chryscoma</i>	<i>S. matsudana</i>	<i>S. matsudana</i> ' <i>tortuosa</i> '	<i>S. matsudana</i> <i>x alba</i>	<i>S. nigra</i>	<i>S. chilensis</i>	<i>S. cinerea</i>	<i>S. x reichardtii</i>	<i>S. purpurea</i>		
	Crack willow	Golden upright willow	Weeping willow	Golden weeping willow	Peking willow	Tortured willow	NZ hybrid	Black willow	Chilean pencil willow	Grey sallow	Pussy willow	Purple ossier	Asian willow	Sawfly
NSW & ACT (cont.)														
Sydney		•	•	•		•			•					• (NCR)
Cooma	•	•	•	•		•					•			•
Cowra	•	•	•	•	•	•					•			•
Canberra (ACT)	•	•	•	•	•	•				• (NCR)				•
South Australia														
Renmark	•	•	•	•		•	•							
Mt Barker	•		•	•		•	•		•	•	•			•
Tailem Bend	•		•	•		•	•		•	•	•			•
Tasmania														
Burnie	•	•	•	•		•	•			•	•	•	• (NCR)	
Launceston	•	•	•	•		•	• (NCR)			• (NCR)	• (NCR)	• (NCR)	•	
Hobart	•	•	•	•		•	• (NCR)			•	• (NCR)	• (NCR)		

Appendix 11 - Common questions raised by willow managers through willow workshops

The most significant questions that may warrant further investigation are highlighted in blue in no particular order.

Biology/ ecology of willows

- What makes willows suit northern hemisphere rivers and not Australian ones?
- What makes willows weedy in southern hemisphere and not in northern hemisphere?
- Are all willows introduced? Are any native to Australia?
- Are there any ecological benefits of willows?
- Can we use willows as quick colonisers ie. the Peter Andrews way to improve degraded waterways?
- Are willow leaves toxic?
- What is the feed value of willows? Does this vary according to taxa?
- How long do willows last for and how can you determine the age of a willow?

Water use of willows

- Does water use of willows vary according to taxa?
- How does willow water use compare to household water use?

Spread & hybridisation of willows

- Can all willows spread vegetatively?
- How big does the material need to be in order to take root?
- How long is willow seed viable for?
- Does seed viability vary with different taxa?
- What conditions are needed for seed germination?
- How far can the pollen and seed of different willows spread?
- How far can willow seed spread by wind or water?
- How is willow seed dispersed?
- To what extent would ants and other burying insects spread the seed of willows?
- How far can pollen spread?
- How close do males and females need to be in order to produce viable seed?
- Will every catkin produce viable seed if male and females are present?
- What is the potential of *S. babylonica* hybridising and spreading by seed?
- Can hermaphrodite willows self-fertilise?
- Are willows spread by machinery?
- Can poplars hybridise with willows?

Willow Identification

- Do we need to worry about the exempt species eg. *S. babylonica*?
- How easy is it to ID hybrids?
- Are there any contacts we can go to for assistance with willow ID in the field?
- Do you have any references for willow ID for species that are not in the guide?

Management Techniques

- What is the best chemical treatment in terms of effectiveness?
- How many years follow up is needed post willow removal?
- How long does it take a willow to rot away after it has been killed?
- Is the control method used species-specific?
- How do you nominate the time between drill and fill and removing the willow?

- How deep do you need to cut with the drill and fill method?
- In what situations do you use drill and fill method and leave the tree standing to rot?
- How do you determine which willows to leave and which to remove?
- How close do you drill the holes or cut for drill and fill and frill and fill methods?
- Do you have to cut all the way around the stem of the willow?
- What is the best use of the willow wood after removal?
- [Can you foliar spray willows? And in what situations?](#)
- [What is the best time of the year to kill willows?](#)
- Most willow removal has been done when rivers are in low flow, what will happen when rivers return to high flows?

Sawfly

- Is it a good thing or a bad thing?
- Can we spread sawfly?
- Where can we get some sawfly?
- [Can sawfly kill trees?](#)
- [Have trees died from sawfly attack in Australia yet?](#)
- [To what extent will sawfly attack the same species in different regions? What causes the variation?](#)
- How does sawfly spread?
- How many eggs does a sawfly lay?
- How closely related are the eucalypt sawfly to the willow sawfly?
- Does sawfly attack native tree species?
- Will trees develop a resistance to sawfly over time?
- What role will sawfly play in pollen dispersal?
- Does anything attack willow sawfly?
- [Will sawfly impact on the effectiveness of management techniques?](#)
- [What is the potential for willow sawfly to prevent the spread of willows &/or reduce canopy cover allowing revegetation beneath them until they die, or can be removed?](#)

General/ Communications

- [How do you explain the impacts of willows to community? What are the top four?](#)
- Why do rabbis have to bring willows from overseas for the Sukkos festival? Why can't they use the willows here?

Re-Vegetation

- [Which are the best native species to plant after removal to stabilise the banks?](#)
- Is it possible to begin re-veg before the willows are removed?
- How does re-veg go in flooding events post willow removal?
- [Are there before and after studies available of improvements in river health eg. Increase in aquatic and terrestrial species post willow removal and re-veg?](#)
- Willows have a dense root mat and trap nutrients, what can we use instead of willows to absorb nutrient runoff from dairy farms?

Mapping

- Can aerial photography be used for mapping willows?
- Can satellite technology and remote sensing be used for mapping willows?

Appendix 12 – Questionnaire data – Victoria

The Colac and Traralgon workshops were chosen as two workshops which were representative of the 10 workshops held in Victoria. Below is a summary of the qualitative evaluation results from the workshop questionnaires for these workshops. Please contact the National Willows Coordinator if you require details from other Victorian workshops.

Colac Workshop

Did the workshop meet your expectations?

- Very informative (3)
- It was great (3)
- Wasn't too full on or fast, covered all the material well
- My knowledge of willows was very limited before the workshop. Now I feel confident in ID and passing on some info
- Both good communicators of the issue, well coordinated
- Exceeded them by far. Very informative and well presented
- Willow identification was excellent

Did the workshop help increase your networks with other willow managers in your region?

- I knew a lot of the key stakeholders but it was good in a couple of cases to put names to faces
- Generally, yes I think most people seemed to enjoy the interaction
- Good to meet them all
- Good to meet other people
- Diverse group
- No regional DSE was disappointing
- Good to meet contractors

Which session did you find most beneficial and why?

- Willow ID (18)
beneficial to know what species we are dealing with and what species may be a seeding problem
to learn the differences and what implications they have
increased my knowledge base
made a difficult issue relatively simple
wasn't experienced in this area
session was very good, will be useful to have a guide in the field
All different types of willows, I only knew 4 different ones previously
more applicable to my work
really reinforced practical parts about how to differentiate between species
- Sawfly (4)
aligns with the objectives of my future studies
- Everything
- The beginning introductory session and broader picture

List three things you liked about the workshop

- Workshop format and presentations(17)
Good mix of theory and practical
The question and answer/ quiz section/ fun facts broke up the

- presentation nicely
- Case studies brought home the message
- Well pitched general background presented in a logical way
- Willow identification (10)
 - Specimens that were brought in for the ID session
 - Learning about willow ID – hands on with willow samples
- Willow sawfly (9)
- Networking (5)
 - Group dynamic- broad cross sections
 - Mix of people - different agencies and roles
 - Brought good crew of people together to share knowledge
- Mapping exercise (2)
- Lunch (2)
- Resource Kit (2)
- Presenters (1)
 - Sophie and Sarah knew so much about willows and plant biology
- Information in general
- Breadth of issues covered
- Well attended
- Learning more about willows

List three things you would change about the workshop

- More info and problems with evidence
- Nil
- Perhaps take a bit more time as to the characteristics of the different species so it sinks in more
- Level of information/ scientific terms needs to be dropped to suit participants ie. contractors struggled a bit with the terms
- Good to have field session but always adds a lot of time
- Go in the willow projects in deeper details whether they be localised or from other regions
- Some case studies before eradication and after and compare to other waterways
- Field trip?
- Create some more opportunities for interaction and to gather a bit more knowledge from practitioners
- None
- Highlighted the issues well enough
- Nothing
- Bigger room
- Maybe a flier when you register to tell people to take note of willows in your area
- Room too stuffy
- Mapping – system collaborate info through GPS system – explain!

How will you apply the information you learnt in the workshop?

- Start IDing willows in my area
- To other workers and friends that have willows on their farm
- I learnt that even willows on dams can still spread (by seed) and that all willows wherever they are in the natural environment can be a source of threat

- Will begin to map willow infestations and try to determine what type of willow
- Yes, especially ID of willow Spp
- To understanding detail relating to species and applying it to development of projects
- Transfer of info to other work colleagues and community groups (interested)
- Show people resource kit
- The handouts will be useful for identification. The challenge remains for field officers to convince landholders and public of the need to manage willows
- On ground control works
- Know of type will be important in assessing their acceptability in the landscape
- Will implement in field operations
- The contacts will be beneficial
- Future projects
- Community capacity building
- Future willow projects
- Attempt my own willow ID
- In the field
- Educate the public

Please list any further information you require or questions you still have about willows?

- The sawfly: Do they spread seed or pollen from tree to tree?
- Detailed info on the impacts of willows/ facts and figures, as they help when talking to the public.
- Not having much experience in managing willows it would be good to get some detailed info on that.
- What are the impacts and other sp of willows like that that weren't covered today?
- What Sp are potentially brought in by nursery industry?
- I see this now being an ongoing learning process we are now more informed
- Great day
- A summary of the willow ID with main characteristics which sophie ran through with overheads would be useful
- Methods of removal
- Chemicals and use near waterways
- How much water they use/ take up?
- How to influence LC groups or other groups of people to want their waterways willow free

West Gippsland workshop

Did the workshop meet your expectations?

- Very informative (2)
- Very good (2)
- Well presented (3)
easy to understand, use of questions throughout effective and appreciated.
- Helped with a lot of knowledge.
- It was an excellent workshop.

Did the workshop help increase your networks with other willow managers in your region?

- I knew nearly everyone at the course.
- Already know the 'works' guys.
- I already have a great network.

Which session did you find most beneficial and why?

- All (4)
- Sawfly(13)
lack of knowledge
because I can now identify sawflies
very informative and interesting
- Willow identification (7)
I liked practicing with the pictures first and then the real examples.
Simple field guide was helpful.
Handouts made it easy
Take home messages for general public
- Mapping (1)

List three things you liked about the workshop

- Sawfly (6)
- willow ID (6)
- Food (6)
- Presenters and presentations (6)
- Informative (5)
information regarding willows in other regions.
- Mapping (3)
- Hands on & practical (3)
- Topics (2)
- Group participation & interaction (2)
- Venue (2)
- Timekeeping (2)
- theory then practice (1)
- Resource Kit (1)

List three things you would change about the workshop

- Nil (3)
- More on sawfly.
- Maps could be improved.
- Broader selection of land managers.
- Field trip if time permitted.
- Run course closer to infested site.

How will you apply the information you learnt in the workshop?

- In the field and at work (6)
I will have a better knowledge of what I'm dealing with.
It will help with my everyday activities to help reach my targets
- Identifying willows and sawfly (4)
I will be looking for sawfly and keeping as up to date as possible.
- Sharing information (2)
Teach volunteers and spread message through schools and general community ie. We run canoe tours and talk about willows.
Will be more confident in talking to groups about willows. Will look more closely at willows in our area. Water Watch training and information to the general public.
- Mapping willows (2)
I will try much harder to keep up to date mapping.

Appendix 13 – Questionnaire data - NSW

The Orange and Cooma workshops were chosen as two workshops which were representative of the 12 workshops held in NSW. Below is a summary of the qualitative evaluation results from the workshop questionnaires for these workshops. Please contact the National Willows Coordinator if you require details from other NSW workshops.

Orange evaluation results

Did the workshop meet your expectations?

- Good, maybe more time allocated to mapping.
- Well presented.
- Very informative and I learnt a lot.
- Learnt a lot about willows and sawfly.

Did the workshop help increase your networks with other willow managers in your region?

- No comments were received

Which session did you find most beneficial and why?

- Willow ID (11)
I learnt the most (went from very little knowledge to a whole lot of knowledge). Excellent use of presentation, supported by book and then practical session (real life material and pressed stuff). Now I will have to get out and do some ID'ing myself.
Because of my limited knowledge.
Wasn't confident to potentially ID willows previously, now happy to pinpoint distinguishing features.
- Willow sawfly (5)
to find out about a possible bio-control for such a huge environmental problem.
- Mapping (1)
for a regional perspective.
- All sessions of equal benefit (4)

List three things you liked about the workshop

- Willow identification (12)
Practical ID component with samples and photos.
Direct comparisons of different species.
- Willow Sawfly (9)
seeing real examples
Sawfly to find about a bio-control
Update on information on willow sawfly especially species affected and impacts (eg. In NSW).
- Mapping (3)
to ID problem areas.
- Willow management information (3)
- Presentations (3).
Well prepared presentation material
- Presenters (4)
Good knowledgeable workshop leaders.
- Resources (1)

- Relevant (1)
- Propagation details (1)
- Room set up (1)
- Finding out about the national approach (1)
- Hands on (1)
- Good range of participants & interaction (2).
- Early end (1)

List three things you would change about the workshop

- More time in sessions (4)
- Would be great to have more people come (although this is harder to manage logistically). We had a good number today.
- Nothing – it was very good.
- Less repetition.
- Get *S.babylonica* off the legal list!

How will you apply the information you learnt in the workshop?

- Through CMA (3)
Setting CMA regional objectives
Through CMA round 6 funding.
- By keeping an eye out for sawfly and to map when out and about.
- For willow control and components in rehab projects and community education.
- Continue to roll out management projects in a more strategic way.
- To weed prioritisation and management plans for region.
- Managing willows on travelling stock reserves and working in with landholders/ landcare.
- Very practically as a private consultant and project manager.
- Extension work.
- ID of willows & provide information for enquiries.
- Apply advice to developers and clients etc.
- Put information into practice.
- To undertake mapping – prioritise willow control.
- Talking more.

Cooma willow workshop

Did the workshop meet your expectations?

- Excellent structure, Sophie is an excellent presenter.
- Exceeded my expectations.
- More than met expectations, very well organised and informative.
- The stories from Sophie and Tom made the day useful.
- Very professionally worked.
- I expected focus to be on ID and this expectation was met.
- Concise and informative – covered off on topics relevant to ‘everyday’ willow management and control. Also provided helpful info to take away and reproduce for community groups.
- More coverage of the reasons why willows in some situations are beneficial. why removal in some areas is detrimental ie. stream bank instability, it would be good to emphasise knowledge of river processes essential before control.
- Thought there might have been a bit more on management but not a serious criticism.
- For the aspects covered very good but would have liked further discussion on pros and cons of willow removal.

Did the workshop help increase your networks with other willow managers in your region?

- Did meet other willow workers but did have a reasonable handle on who was about.
- Good to meet people I had spoken to on the phone.
- Thanks for the contact list.
- Able to meet with others having a vast range of experience – allowed for interaction and comments/ feedback.

Which session did you find most beneficial and why?

- Willow Sawfly (2).
had no idea, provided info to pass to community, busted myths surrounding defoliation and death
- Willow identification (10)
simple ID points on each genus very handy.
I know willows were bad but did not know how to ID which helps you make better project decisions.
Simple easy to follow, practical session was excellent!
especially identifying the sexes.
Excellent.
had received other information previously.
will be helpful to ID willows in Snowy Hydro lease/ licence areas.
species differences in invasiveness.

List three things you liked about the workshop

- Presentations and presenters (7)
Professionalism of the presentation – very smooth after 27 other willow workshops.
Presentation material very clear, questions kept audience interest
Sophie! Knowledge and presentation skills excellent.
Speakers very good and engaging.
Pace of presentation and level of detail – well pitched for diverse group of participants.
Bit of fun and history about willows to keep interesting.

- Information (3)
Had heaps of up to date info.
Not too much info
- Format and Structure of the workshop (2)
good mix of theory and practical.
- Practical sessions (3)
Practical session good experience supervised attempt at willow identification.
- Mapping (2)
Sensible eg. Mapping of willows, staff change but information retained.
Always good to look at you place and area on a map.
- Other participants (2)
Good turn out of participants, implies lots interested and concerned.
Talk from other participants on prioritisation and general stories.
- Willow identification (2)
Willow sawfly (3)
look forward to hearing research applicants..
- Resources (1)
Takeaways – info to pass on to community – web addresses.
- Understanding.

List three things you would change about the workshop

- Willow management techniques (7)
Would have liked to learn more on willow eradication – but understand why that's not possible given the rest of the subject matter.
Make it 2 days and include willow control.
Emphasise the process of willow removal (landholder involvement, permits, mechanical, reveg plan)
A stand alone component on priority removal
As above – more emphasis on being careful about removal to consult river techos.
Management techniques maybe a brief session.
Would be really good to generate discussion about pros and cons of willow removal/ retention.
Focus on current issues in willow management eg. Techniques, new species of concern.
More on prioritisation using real life examples.
- Follow up on mapping was already stated by Tom, but perhaps a greater pre-emphasis on bringing detailed info or maps of infestation.
- Resource kits (2)
More kits available to take home.
Provide a list in resource kit of useful contacts, research that can be accessed.
- Venue – more comfy chairs (air conditioning – too hot).
- If time allowed a site visit.

How will you apply the information you learnt in the workshop?

- Share knowledge (7)
Share with broader community and landcare network, run refresher sessions on ID.
Go back to landcare group and educate members.
Maybe have a mini workshop.
I'll write an account of the workshop for friends of the grasslands

newsletter.

I will present this to others and train them in ID and then encourage on ground work. I'll also go on to train in controls.

Directly pass workshop presentation to local landcare groups – present as is. Mapping!!! We are trying to do this now without past info.

Pass onto Landcare group.

- Identifying and assessing willows (5)

I'll go and identify the 2 willows on our property and assess the situation.

Assess willow infestations in South East Forest National Park, identify species, and prioritise management.

Identification and mapping especially.

ID of willows in the field for management.

- In the field and feed back to landholders concerned.
- Kill, kill, kill willows.
- Use contractors for info.

Please list any further information you require or questions you still have about willows?

- Promotional Material (2)
Promotion material/ posters ect for shows, council, DPI to get landholder attention.
- Willow removal & control techniques
How to kill them effectively, go through different options.
A workshop in itself on willow removal.
Control methods – mulching green/ stem injection.
- Response to NSF approach to willows.

Appendix 14 – Questionnaire data - ACT

The Canberra workshop was the only workshop held in the ACT. Below is a summary of the qualitative evaluation results from the workshop questionnaires for this workshop.

Canberra evaluation forms

Did the workshop meet your expectations?

- Very happy with presentation
- Very detailed and informative
- Excellent!
- Control methods, impacts, ecological effects not conveyed
- Exceeded
- Very informative
- Would need to look through material – but know where to go for info
- Good data / location (- presentation)
- Maybe a bit more time needed

Did the workshop help increase your networks with other willow managers in your region?

- Already a large network
- Informative about what willow programs (and where) are in place in our region and throughout Australia
- Met several new people – very useful!
- Would be helpful to have more background info on each participant's organisation
- Made some contacts concerning willow water

Which session did you find most beneficial and why?

- Hands on study; the whole course
- All sessions (2)
as I didn't know anything
- Willow ID (14)
Very specific ID features
more confident now
awareness increased of potential for seed production
- Sawfly (9)
add to existing info which is limited
- Mapping (1)

List three things you liked about the workshop

- Presentation & presenters (9)
pitched at good level of between fully tech and non-tech;
- Willow ID (8)
Everything about bark types;
- Willow Sawfly (5)
- Hands on and informal (4)
Felt comfortable in the group
- Venue & Catering (4)
- Information (3)
- Networking (3)
- Mapping (2)

- Well organised
- Input from participants on their experiences (2)
- Good length of time (2)
- Resource kit (2)
- Actual facts eg. amount water used;
- The course in general
- It met its objectives
- awareness of the problem;

List three things you would change about the workshop

- More time (4)
More opportunity for discussion
- Nothing (3)
- Reduce background/introductory part of workshop; different management techniques – good and bad; something about the “ecology” of willows (colonisation, senescing population, competition from other species)
- More species – where/if appropriate
- More technical info
- Have more capability for individual experience info exchange
- Discussion on treatment options and effects
- Don’t rush the identification session; not many Landcare people with good local info
- Include Willow Central Case studies

How will you apply the information you learnt in the workshop?

- Apply through work (7)
Willow strategy for upper Murrumbidgee Catchment
Management of willows in rehab sites
Improve management systems
To the projects that I will be involved with – mainly willow control in Namadgi National Park and Murrumbidgee River
Broadly through delivery of incentives to landholders to control willows
- Better on site ID (2)
- Knowledge will help with field work and identification control
- Sawfly (3)
particularly sawfly info/aspects (possibly translocating to areas of regrowth)
Be on the look out for Sawfly
- Sharing information (2)
Educate other people; Possibly carry out surveys; Allow interface when trying to do eradication projects
may hold similar workshops for others
- Contact other attendees to find out about containment projects and strategies for control and access for funding

Appendix 15 – Questionnaire data – South Australia

The Renmark workshop was chosen as a workshop which was representative of the 3 workshops held in South Australia. Below is a summary of the qualitative evaluation results from the workshop questionnaires for this workshop. Please contact the National Willows Coordinator if you require details from other South Australian workshops.

Renmark evaluation results

Did the workshop meet your expectations?

- Very informative (3)
A CASE product, Clear and Simple English
very informative as well as practical, a very worthwhile experience
- Increased knowledge (5)
I came here with absolutely no knowledge and now feel much more enlightened!; It was really enjoyable and I learnt a lot about willows potential impacts, sawfly and the presenters were wonderful with a great depth of knowledge; Never realised there were so many varieties. Pleased to hear that we aren't going to remove them (perhaps some?); Being new to the region and issues facing the region it has given me the info to be able to talk to people in the region about the issue; Good background to willow issues relevant to regrow.
- Very well run
- Was quite interactive which really helped break up the day.
- Interesting and practical.
- Provided all questions.
- All sessions were helpful given my low knowledge base.
- Good.
- Did not know what to expect.

Did the workshop help increase your networks with other willow managers in your region?

- Has created a network already.
- Somebody to contact.
- Was able to meet people working in the region, has given me 'points of contact'. Have been able to find out what people are doing.
- It was a great opportunity to meet other people who work with or have a problem with willows. Could prove to be contacts regarding willows in the future.
- Didn't make contact with any local managers – where most willows occur in Vic.
- Starting.
- Work closely with most anyway.

Which session did you find most beneficial and why?

- Willow ID (10)
being able to differentiate between species in the area.
know what to look for in the field
I feel that I learnt the most in this session as it was informative and interactive.
Willow identification because I can now determine the threats if certain species are found in our region.
provided easy hands on approach to identifying problem willows.

because I can go back to my area and gather information.
I can now look at willows with some knowledge.

- Sawfly (8)
certainly waiting to see whether it comes to the Riverland.
Something new to keep a watch on.
had not heard anything about it so was extremely interesting.
Will be interesting to see what impact sawfly will have in the Riverland area.
- All of them (4)
because I didn't know enough about any of them

List three things you liked about the workshop

- Knowledgeable presenters (8)
confident speakers who know their topic
- Willow ID (8)
great 'hands on'
Gave more confidence to identify
- Well presented (6)
Simple language not too much scientific terminology
- Information (6)
- Sawfly (3)
- Material (3)
Links for accessing further information and the best practice resource that is out in May 2007.
- Ability to network (2)
- Practical (2)
Was broken up well with the practical side of it.
- Casual and interactive (2)
- Willow mapping exercise (2)
- The professional way it was run (1)
- Good info on the for an against willows(1)
- Concept(1)

List three things you would change about the workshop

- Field trip & more hands on (5)
to see plants growing in real situation.
seeing different species 'in the wild'
- Nothing (5) –
excellent well organised workshop and good presentations.
No problems at all it was extremely well presented, congratulations to all who put it together.
- Involve high school students (3)
- Better clarification of local situation (3)
What the target is for our area?
What control methods are contemplated?
Do the promoters see our willows a serious problem?
- Better mapping (2)
Funding for GPS reading through LAP board / NRM board.
- Slight break in the morning session (2)
- If practical, more on control measures and their implications.
- Magnifying glasses for catkins

How will you apply the information you learnt in the workshop?

- Share learnings (6)
 - Give advice to Landholders for and against willows.
 - Forward to local networks. Have a greater understanding of willow management in relation to the local environment.
 - Pass on to other staff, make resources available for teachers.
 - Spread the information amongst community group.
 - Back through the Murray Darling Association and my local council.
 - Through my job as an authorised officer.
- ID and Mapping(7)
 - I will be more mindful of willows when I am out in the field and determine what species are present and GPS their locations.
 - Will use identification techniques and mapping to identify problem willows and prioritise management.
 - Look more at Willows when working with SARDI Fish Research.
 - Already, today explored ways into which more GPS and mapping of willows can take place.
 - By going out there and seeing what types of willows you got in your problem area.
 - Keep records.
 - I'll ID willows and look for Sawfly in my area.
- Networking (2)
 - Start networking and increase our database.
 - Networking through organisation.
- Not only have I learnt about willows, but also about the structure of workshops! I will apply the info wherever I can. (1)

Appendix 16 – Questionnaire data – Tasmania

The Launceston workshop was chosen as a workshop which was representative of the 3 workshops held in Tasmania. Below is a summary of the qualitative evaluation results from the workshop questionnaires for this workshop. Please contact the National Willows Coordinator if you require details from other Tasmanian workshops.

Launceston evaluation results

Did the workshop meet your expectations?

- Well structured format
- Excellent, informative, dynamic
- Well presented
- Good information, good networking and information exchange opportunity
- Well run, diverse information and good turnout.
- Very informative

Did the workshop help increase your networks with other willow managers in your region?

- Only a couple of contractors
- Unfortunately this workshop didn't target community group leaders who have information about willow distribution.
- On ground, scientific, community group and regional interests were present
- Good turnout of participants from a wide range of organisations
- Help to distinguish different willows

Which session did you find most beneficial and why?

- Willow sawfly (3)
new to me
- Willow ID (4)
importance of seeding willows and ability to identify.
- All sessions (3)

List three things you liked about the workshop

- Presentation (3)
Succinct and to the point
Photos were fantastic
Clearly articulated
- Willow sawfly (2)
- Information(2)
- Easy going
- Written material
- Willow Identification
- Sharing of knowledge
- Network
- Seeing that a plan is in place
- Quiz and dartboard were novel and break up sessions
- All was done very well

List three things you would change about the workshop

- More time for mapping as this is a priority
- More detail on re vegetation and eradication options
- Maybe a 5 minute morning tea / toilet break
- Nothing

How will you apply the information you learnt in the workshop?

- Identify willows (4)
Identify other problem willows that may be out there
Be more aware of the species through identification
- Look for sawfly attack (3)
Keep eye out for sawfly and feedback on this species
- Disseminate the information (3)
Transfer information to stakeholders
Share with local community group I am involved with and other parties