Willow Sawfly - What Does It Do?

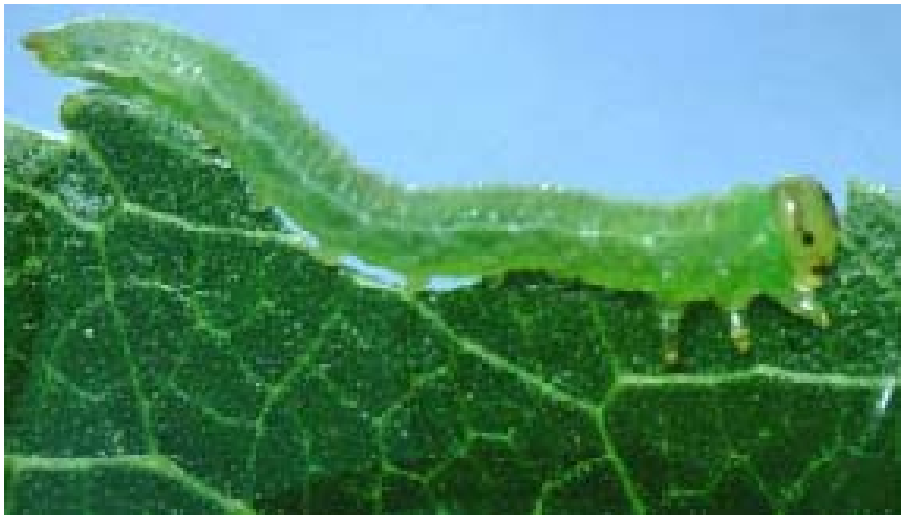
- Life cycle in 4 weeks in good conditions
- Seems to like warm, dry spring
- Not sure about hot summers?

Which willows?

- Tree willows more susceptible than shrub willows:
    - Crack
    - Black
    - Peking (*S. matsudana*)
    - Golden
    - Weeping (2nd preference)
    - Purple osier
    - Not grey sallow (*S. cinerea*)

Willow Sawfly - Why Does It Matter?

- Several generations per season
- Several defoliation events per season
- Trees die!
- > 4 defoliations per season over two seasons
- 2 - 4 defoliations per season may kill some trees
- Implications for willow and riparian management



Willow Sawfly - What Can We Do?

- Not possible to eradicate willow sawfly
- May be able to protect individual trees, but insecticide use in riparian areas a problem
- Project in Victoria with Melbourne Water, DSE, CMAs and PV
- Monitoring willow sawfly and willows
- Understanding impacts on willows
- And on riparian vegetation
- Data collection

Willow Sawfly - What Can We Do?

- Assessment sheets
- Report sightings and information
- Collate and analyse

Willow Sawfly - The Long Term...

- May seriously affect willow management

OR

- May have only minor impact

Quiz

- Which part of the willow sawfly life cycle is most destructive to willow leaves?

  a) egg

  b) larva

  c) pupa

  d) adult

Quiz

- Where would you expect to find a willow sawfly:

  a) egg

  b) larva

  c) pupa

  d) adult

Quiz

- TRUE or FALSE

- Tree willows are generally more susceptible to willow sawfly attack than shrub willows.

Quiz

- 4. Which of the following willow taxa **<u>is not</u>** susceptible to willow sawfly?
- a) crack willow (*S. fragilis*)
- b) grey sallow (*S. cinerea*)
- c) golden willow (*S. alba* var *vitellina*)
- d) purple osier (*S. purpurea*)
- e) black willow (*S. nigra*)
- f) Peking willow (*S. matsudana*)

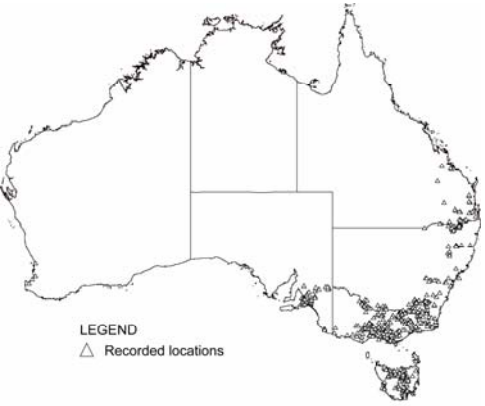
Further information & questions

- Willow Sawfly in Victoria Report, July 2006

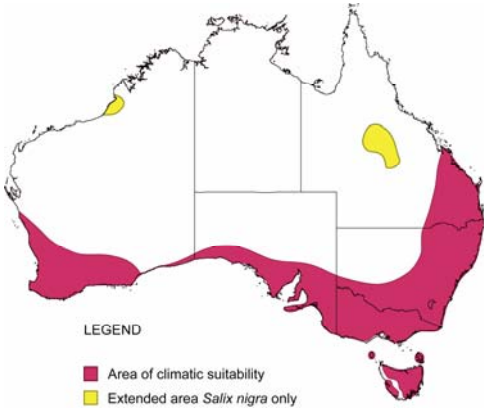
- www.weeds.org.au/wons/willows

Weeds of National Significance



WILLOW MAPPING



Supported by the State Government of Victoria.

State Government Victoria Department of Primary Industries

National Willows Taskforce

Australian Government

Did you know?

Q: What industry in South Australia is impacted by willows growing along the River Murray?

Clue: they float on water

A: Houseboating Industry

Nowhere to moor the boats in some sections

Why map willows?

Because you can’t manage what you don’t know!

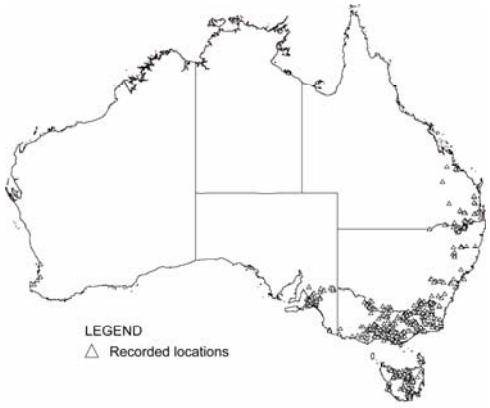
E.g. Wingecarribee Swamp

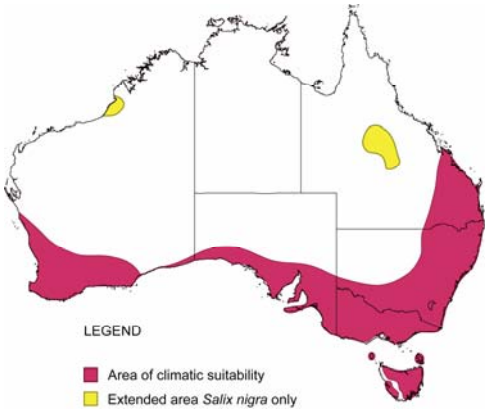
Why map willows?

- Setting priorities for management
- Eradication of all willows not feasible
- Prioritise for control, e.g. if they are:
  - females growing within approx. 2km of males
  - ‘fragile’ and growing along waterways
  - causing significant impacts

Weed risk management

- Weed risk is based on:
  - invasiveness (rate of spread)
  - impacts
  - **current** and potential distribution





Weed risk management

- A less invasive plant may rank as a more important weed than a highly invasive plant if:
  - its overall area and / or the number of ecosystems it invades are greater (invasiveness);
  - it impacts more on social, environmental and agricultural values (impacts)
  - it is presently localised - but could spread much further (current:potential distribution)

Feasibility of coordinated control

- Total cost is a function of:
  - total area infested,
  - annual control cost per unit area and
  - number of years required to achieve the desired level of control.

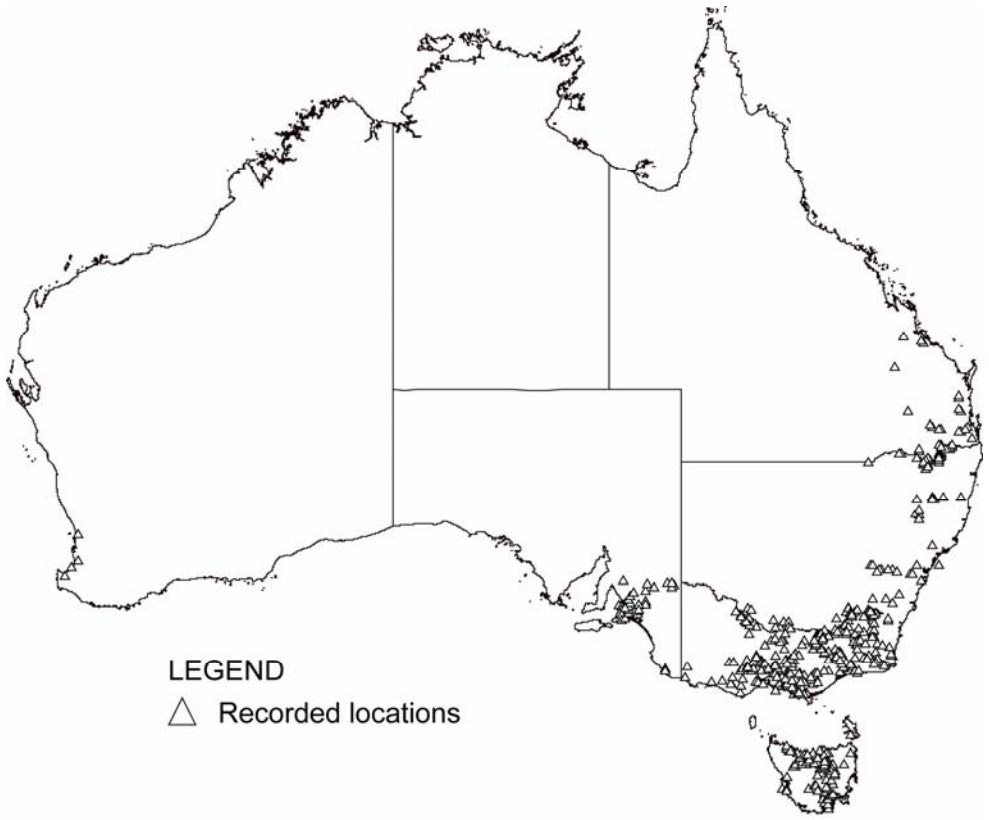
Impacts and invasiveness

Preliminary results

Name	Invasiveness	Impact	Rank
Salix cinerea	0.9190	0.6668	1
Salix purpurea	0.7995	0.6302	2
Salix x rubens	0.6057	0.6283	3
Salix fragilis	0.5141	0.6283	4
Salix alba	0.5995	0.5951	5
Salix nigra	0.5656	0.5594	6
Salix viminalis	0.5605	0.4960	7
Salix exigua	0.6271	0.4517	8
Salix aegyptiaca	0.5454	0.4664	9
Salix x seringeana	0.4565	0.4296	10
Salix matsudana	0.5980	0.3534	11
Salix glaucophylloides	0.5683	0.3593	12
Salix x sepulcralis	0.5920	0.3534	13
Salix humboltiana	0.5007	0.3397	14
Salix x dasyclados	0.4505	0.3309	15
Salix x pendulina	0.5864	0.2763	16

Current distribution?

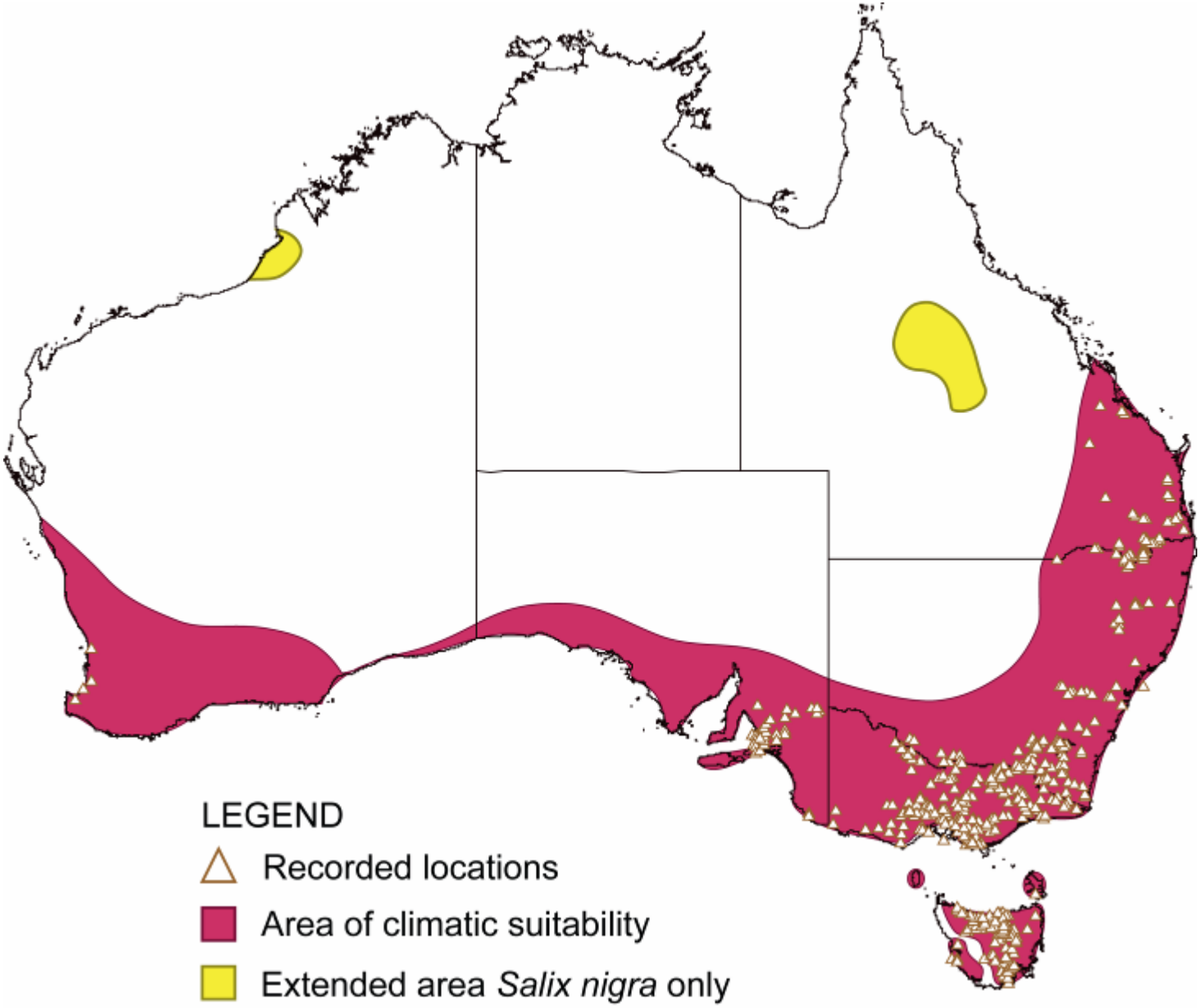
Collate all mapping information:



- Electronic data
- Workshops
- Fill in the gaps where possible through on-ground mapping

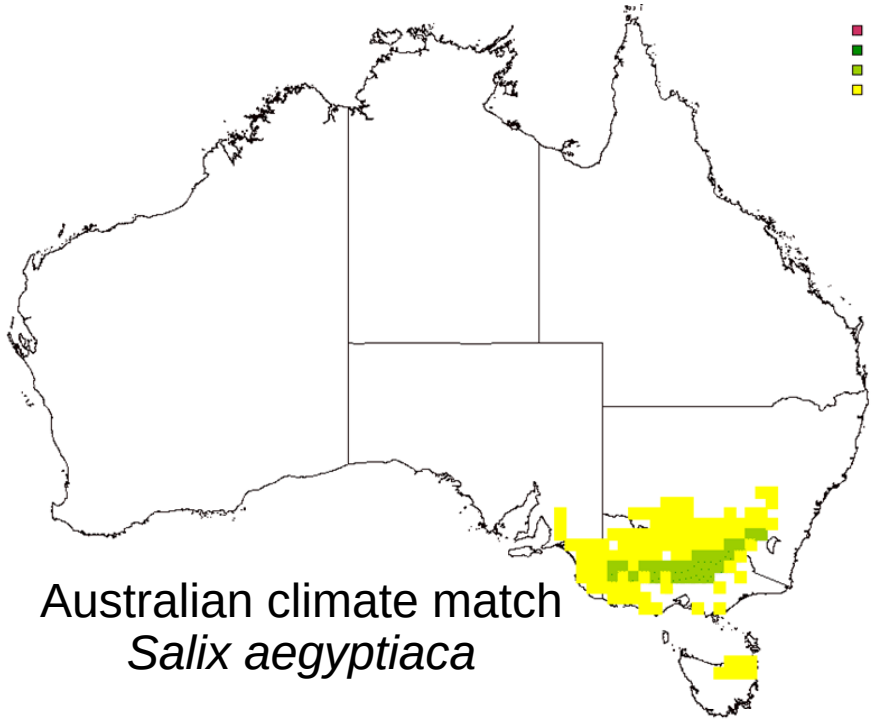
The more detailed the data is, the better the outcomes will be!

Potential distribution

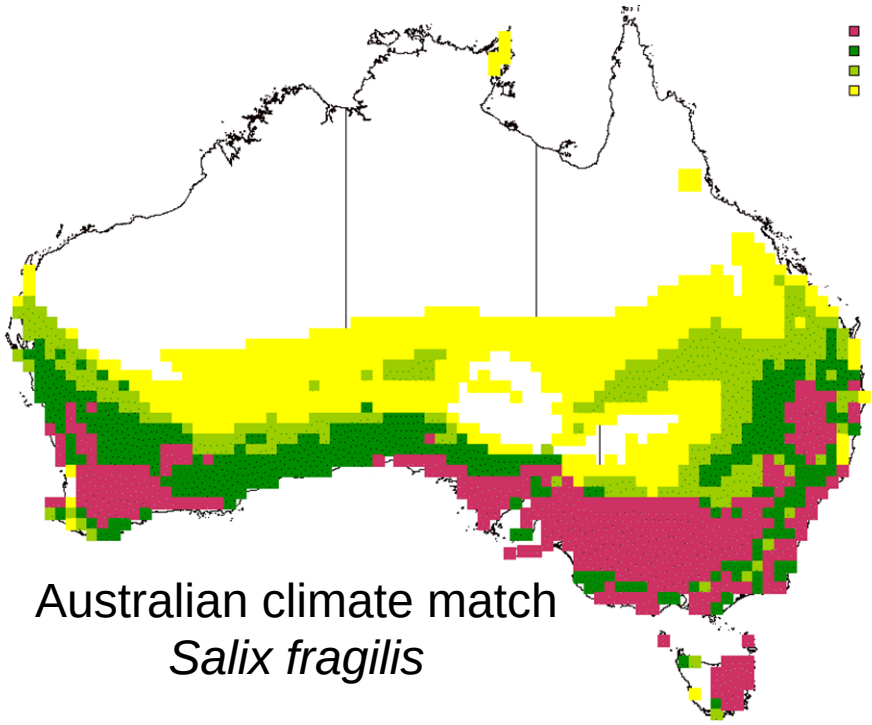


Potential Distribution

Sample maps

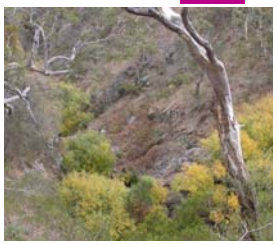


Australian climate match
Salix aegyptiaca



Australian climate match
Salix fragilis

Infestation classes 1-4

Class 1 	Occasional or scattered willows	Mostly native vegetation in good or excellent condition	Individual or small clusters of willows in association with native vegetation in good or excellent condition
Class 2 	Occasional or scattered willows	Mostly weeds, grass or native vegetation in poor condition	Individual or small clusters of willows in association with grass, other weeds or native vegetation in poor condition
Class 3 	Scattered stands with isolated trees interspersed	Mostly native vegetation in good or excellent condition	Up to 50% canopy cover of willows. They can be either continuous or fragmented along the river reach or site and occur in association with native vegetation in excellent or good condition
Class 4 	Scattered stands with isolated trees interspersed	Mostly weeds, grass or native vegetation in poor condition	Up to 50% canopy cover of willows. They can be either continuous or fragmented along the river reach or site and occur in association with grass, other weeds or native vegetation in poor condition

Infestation classes 5-8

Class 5 	Large dense infestation	Mostly native vegetation in good or excellent condition	50-100% canopy cover of willows covering the reach or site length that occur in association with native vegetation in good or excellent condition.
Class 6 	Large dense infestation	Mostly weeds, grass or native vegetation in poor condition	50-100% canopy cover of willows covering the reach or site length that occur in association with grass, other weeds or native vegetation in poor condition.
Class 7 	Willows not present	N/A	Reaches or sites where no willows are present. If willows were once present, but have been treated or removed, please use class 8 instead.
Class 8 	Willows treated or removed	N/A	Reaches or sites where willows have been treated. This could be either by cut and paint, stem injection or foliar spray control methods.

Additional notes ...

- Include further details if known, including:
  - males/female/both present in area
  - trees/shrubs/both
  - weeping/upright/both
  - willow species / taxa?
  - deliberately planted?
  - Sawfly present?