CENTRE FOR INVASIVE SPECIES SOLUTIONS

# weedSCAN
## WEEDS FACT SHEET

## WeedScan™ — an app and website for identifying, reporting and managing priority weeds in Australia

**"It's difficult to manage what you can't identify, and so it is with weeds!"**

WeedScan is being developed by the Centre for Invasive Species Solutions, CSIRO, the NSW Department of Primary Industries and the South Australian, Queensland and Victorian Governments to help overcome this barrier.

Mobile apps like PlantSnap and PictureThis have revolutionised plant identification through artificial intelligence — instantly suggesting plant names based on a digital photograph.

The potential of accessible, rapid diagnostic tools to aid the early detection of new weeds is clear. However, existing plant identification apps are often paywalled and typically do not tell users whether their plant is a weed. They certainly don't go the extra yard to link weed identification to relevant local weed management information or facilitate the reporting of priority weeds to government weeds staff.

WeedScan's identification suggestions will include links to existing weed profiles, filtered according to the user's state or territory, if known. Users will be prompted to make a record if the weed is a priority in their state or territory and if they proceed, notifications may be sent to government weeds staff. Public WeedScan records will be visible on a map which can be viewed and searched by users.



Salvinia (*Salvinia molesta*). Image by Andrew Mitchell (CISS)



European blackberry (*Rubus fruticosus* sp. agg.). Image by Richie Southerton (CSIRO)

**"WeedScan bridges this gap."**

### Backed by deep learning science

WeedScan's artificial intelligence model is being trained by CSIRO to recognise approximately 300 priority weed species across Australia to help people identify weeds from their photos.

### Tried and tested by end users

WeedScan is not just based on science. Before its release it will be workshopped and rigorously tested in the field by farmers, community groups, agronomists, park rangers and Weeds and NRM officers across Australia. The link between identification and what to do if a weed is identified must be tried and proven.

Top banner image: Ground asparagus (*Asparagus aethiopicus*). Image by Richie Southerton (CSIRO)

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Silver-leaf Nightshade (*Solanum elaeagnifolium*). Image by Dr Hanwen Wu (NSW DPI)

This new tool will provide graziers, farmers, bush regenerators, communities, NRM bodies and State, Territory and Australian government bodies, NRM groups with an easy–to–use digital tool enabling:

a)   priority weeds to be identified quickly without expert knowledge

b)   easy access to best practice management information

c)   action either at the individual enterprise level or as part of a community–led regional WeedScan network.

## The first release of the WeedScan website and smartphone app is scheduled for mid-2023
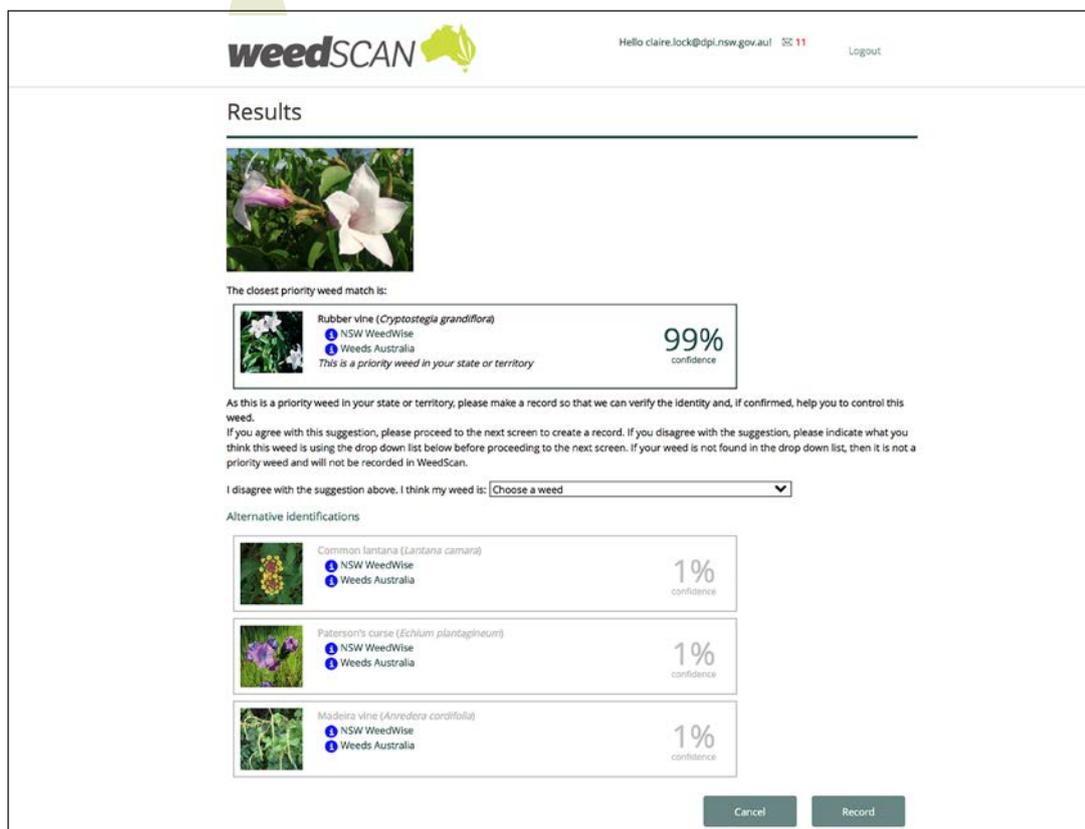


Prototype WeedScan website demonstrating how the machine learning matches a photo to the priority weeds included in WeedScan. The priority weed suggestion with the highest confidence will be displayed first, while alternative suggestions are listed below. Image by Claire Lock (NSW DPI)

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Top image: English broom (*Cytisus scoparius*).
Middle image: Alligator weed (*Alternanthera philoxeroides*). Images by Richie Southerton (CSIRO)
Bottom image: Rubber Vine (*Cryptostegia grandiflora*). Image by Andrew Mitchell (CISS)

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