



## Autumn News 2019

Welcome to the first newsletter from the NSW Weed Biocontrol Taskforce. The Taskforce comprises of a voluntary collaboration of members from a number of like-minded agencies responsible for managing weeds. This newsletter is designed to summarise key information communicated from Taskforce biannual meetings. Our meetings are designed to build an environment for sharing information and facilitating collaboration on current and future biocontrol programs. We hope you enjoy our first issue.

### New agents are on their way

Stay tuned – reports from researchers in Victoria and the ACT indicated that release applications have been, or are nearing completion for submission, for the biocontrol of Cabomba, Sagittaria, Sea spurge, and Tradescantia.

### Biocontrol facility upgrades

Productivity is on the way up! The NSW government has recently invested in new mass-rearing and research facilities at Grafton, Lightning Ridge and Orange. These facilities will ensure that suitable biocontrol agents can be efficiently reared to meet the demand of weed practitioners. They will also ensure that prospective new biocontrol agents can be developed into the future.

### New research opportunities

Looking forward, the Taskforce has provided financial seed money to leverage funds for biocontrol researchers to develop new management tools for African boxthorn, African lovegrass, fleabane, giant rat's tail grass, leaf cactus, and silverleaf nightshade. Well done Taskforce.

### Monitoring programs

A new publication has been released looking at the long term impacts of biocontrol agents on bitou bush, demonstrating the importance of an integrated approach towards management of this weed target.

French K., Barrett K.L. and Watts E. (2019) The fickle activity of a fly and a moth: variation in activity of two biocontrol agents of *Chrysanthemoides monilifera*. *Biol Invasions*, 21:1807-1815

### The Australian Biocontrol Hub

Dr Greg Lefoe from Agriculture Victoria presented to the Taskforce a talk on the Australian Biocontrol Hub and smartphone app. These online databasing resources and user friendly app were designed to ensure the legacy of knowledge gained through historical and current biocontrol activities remains up-to-date and accessible beyond the life of any given biocontrol program. Housed within the Atlas of Living Australia website, the biocontrol hub is a one-stop-shop for weed biocontrol information. It provides information on weeds targeted for biocontrol, where and how to obtain biocontrol agents for your region, and how to integrate them with weed management activities. Currently 28 weeds and their biocontrol agents are targeted, however information on agents and their target weeds is constantly evolving. The site is now ready for you to upload your release and establishment data. Don't forget to include photo's. <https://biocollect.ala.org.au/biocontrolhub>



research & action in partnership



## Biocontrol of *Cylindropuntia* species (with a focus on Hudson pear)

Dr Andrew McConachie presented the latest research on the biocontrol of *Cylindropuntia* species to the Taskforce. Currently biocontrol agents are available for all eight invasive *Cylindropuntia* species, using different lineages of the scale insect (*Dactylopius tomentosus*) that were matched against each of the targets. For agent information see Table 1 (page 5).

One of the more concerning invasive cacti in NSW is Hudson pear (*Cylindropuntia pallida*) which inflicts significant damage to stock and native fauna. This species is easily spread by livestock, native and feral animals, vehicles and water. NSW DPI, in conjunction with NW LLS and Northern Slopes Landcare, are developing an awareness program with affected communities to mitigate the spread of Hudson pear and ultimately reduce its impacts. This community approach will also play a vital role in future plans to mass-rear the Hudson pear cochineal at Lightning Ridge. As part of a collaboration with Castlereagh Maquarie County Council, and drought relief funding from the Office for Environment and Heritage, tubs of fresh Hudson pear collected by the community will be exchanged for tubs of cochineal infected material for field release. The cochineal will be reared en masse in a large poly-tunnel tunnel (30 x 10 m). Expected completion of this facility is Summer 2019/2020. It is hoped that the outputs of the facility will be sufficient to flood the core of the Hudson pear invaded range in NSW over a period of two to three years.



**Top left:** Dr Andrew McConachie (Senior Research Scientist, NSW DPI) and Andrea Fletcher, (Senior Weeds Officer, Castlereagh Maquarie County Council) releasing *Dactylopius tomentosus* ('californica var. parkeri' lineage) on Hudson pear.

**Top right:** The same Hudson pear plant 18 months later.

**Bottom left and right:** Impacts of Hudson pear on fauna.





**Above** Mass rearing of biocontrol agents

### Meet Jo the Cactus Control Coordinator

The North West LLS has partnered with the Northern Slopes Landcare Association to employ Jo-Anna Skewes as a Cactus Control Coordinator in the fight against highly invasive species, *Harissia martinii* (Harissia Cactus) and *Cylindropuntia pallida* (Hudson Pear). Jo's role involves working with the community to implement control programs for these highly invasive weeds in the North West. Both species are spreading quickly in the northern part of the region and are causing heavy economic losses to graziers, where stock are unable to access large tracts of affected land. Jo's role also involves supporting the community in their commitment to controlling these Cacti species from public and private land. In doing so, she provides information workshops, updates on management programs, mapping of both species and assists landholders to implement coordinated control programs. Watch out for the new Cactus Quarterly e-newsletter. Sign up to subscribe <http://eepurl.com/dH1wAv>



Jo-Anna Skewes North West Cactus Control Coordinator



## 20th NSW Weeds Conference 26 -29 August 2019

The Taskforce will be providing sponsorship at the upcoming 20th NSW Weeds Conference. Mr Troy Brown – NSW DPI and Executive Officer to the Taskforce will be providing a talk on the Taskforce titled “NSW Weed Biological Control Taskforce – collaborating to maintain a functional biocontrol agent delivery pipeline”.

The Taskforce will have a stall at the conference. A roster for stall attendance is under development. Please get in touch with Troy Brown if you'd like to help out.

Other Taskforce presenters include: Dr Andrew McConnachie who will be providing a plenary entitled ‘Weed Biocontrol: Mass-rearing our way to success’ and a plethora of other presenters in this space including:



*Troy Brown at the Weed Biocontrol Taskforce stall  
2018 Australasian Weeds Conference*

- Jo-anna Skewes ‘Community approach to Cactus control’
- Matthew Savage ‘Hudson pear management: an integrated approach underpinned by the community’
- Dr Louise Morin ‘Major biological control initiative for environmental weeds in NSW: update and future investments’
- Jenny Schabel ‘Investigating tiger pear infestations in Greater Sydney and observations following cochineal biocontrol release’
- Dr Ben Gooden ‘Wandering trad: impacts on native vegetation and prospects for fungal biocontrol’
- Dr Daniella Egli - visiting research scientist from University of KwaZulu-Natal South Africa ‘Update on native range studies in South Africa for the biological control of fireweed’



## Facebook



NSW Weed Biocontrol Taskforce now has a newly created facebook group. Please join (simply search in FB for ‘NSW Weed Biocontrol Taskforce’). This is a great outlet for sharing of information, including the latest developments in weed and biocontrol research.

**Table 1. Current agents available for redistribution in NSW**

Weed	Weed species	Biocontrol agent	Agent common name
Alligator weed	<i>Alternanthera philoxeroides</i>	Flea beetle	<i>Agasicles hygrophila</i>
Cat's Claw Creeper	<i>Dolichandra unguis-cati</i>	Jewel Beetle Tingid bug	<i>Hylaeogena jureceki</i> <i>Carvalhotingis visenda</i>
Crofton Weed	<i>Ageratina adenophora</i>	Crofton weed rust fungus	<i>Baeodromus eupatorii</i>
<i>Cylindropuntia</i> spp. and <i>Opuntia</i> spp.	A range of species (and in some cases various lineages) are available for cactus biocontrol. See the weeds extranet for more details	Cochineal Moth	<i>Dactylopius</i> spp. and their lineages <i>Cactoblastis cactorum</i> .
Giant Parramatta grass	<i>Sporobolus pyramidalis/S.fertilis/S. africanus</i>	Crown rot	<i>Nigrospora oryzae</i>
Madeira vine	<i>Anredera cordifolia</i>	Madeira beetle	<i>Plectonycha correntina</i>
Salvinia	<i>Salvinia molesta</i>	Salvinia weevil	<i>Cyrtobagous salviniae</i>
Water hyacinth	<i>Eichhornia crassipes</i>	Water hyacinth weevils (temperate)  (sub-tropical)	<i>Neochetina bruchi</i>  <i>Neochetina eichhorniae</i>
Water lettuce	<i>Pistia stratiotes</i>	Water lettuce weevil	<i>Neohydronomus affinis</i>

See the Weeds Extranet for more details: <https://extranet.dpi.nsw.gov.au/weeds>

Many thanks for your support this season  
Steering Committee: NSW Weed Biocontrol Taskforce

For further information on the Taskforce please contact Executive Officer  
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