Deployment of the first biocontrol agent for sea spurge across south-east Australia

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Impact and current management of sea spurge

Sea spurge (*Euphorbia paralias*) is highly invasive weed that forms dense infestations in a range of coastal habitats in southern Australia. Infestations in Tasmania are among the most severe in the country.

Sea spurge is problematic as it:

- outcompetes native and threatened coastal plant species.
- inhibits successful nesting by native and migratory shore birds.
- prevents the natural inland movement of sand creating steeper dunes that are more easily undercut by wave action.
- releases a latex, when damaged, that causes skin and eye irritation to humans and pets, thereby reducing the recreational amenity of beaches.

Sea spurge is currently managed using hand weeding and herbicide application. These labour-intensive control methods, however, are ineffective at sustaining long term sea spurge population declines due to the plants' ability to resprout or recolonise cleared areas through long distance dispersal of seeds via ocean currents.

Biocontrol of sea spurge is an attractive proposition because it would be a cost-effective, and sustainable tool to complement existing management approaches.

Finding the biocontrol agent

Australia's national science agency, CSIRO, initiated research to develop a biocontrol solution for sea spurge in 2009 and an agent was found in the Mediterranean region.

Preliminary host-specificity testing of two damaging fungi with potential for biocontrol of sea spurge were found during the field surveys. Of these, the foliar blight fungus *Venturia paralias* (previously referred to as *Passalora euphorbiae*) was identified as having most potential based on test results and damage it caused on sea spurge in the field.

Host-specificity testing with the blight fungus was conducted to gather comprehensive data to demonstrate that it would not pose a threat to non-target plant species if released in Australia. The research found while the fungus infects the sea spurge, all other non-target plant species tested were resistant.

An application to release the fungus was submitted to the regulators in September 2019 and following an extensive review and consultation process, permission to release the fungus for sea spurge biocontrol was obtained in November 2020[1].

Project timeline

July 2021 to June 2024

Project outline

Large-scale releases of the biocontrol agent in many sea spurge infestations in Victoria and Tasmania will be coordinated in partnership with local community members, State/Local Government land managers and Landcare groups.

The biocontrol agent will be cultured at the CSIRO Black Mountain Laboratories in Canberra and dispatched to participants in the release program. Guidelines on how to make a release and determine if the agent has established will be developed to assist community participants.

It is expected that the competitiveness, reproduction and spread of sea spurge across south-east Australia's coastal ecosystems will eventually decrease once the biocontrol agent is widely established and its population has built up.

Effective biocontrol of sea spurge will reduce the requirement for labour-intensive weeding practices and herbicide applications by land managers, allowing them to redirect their resources to other high priority weed threats.

Get involved

Releases of the sea spurge biocontrol agent will be carried out through community-led releases of the agent at many locations where the weed is present.

Dr. Gavin Hunter, CSIRO research scientist managing the project, would like to hear from community groups interested in participating in community-led releases of the sea spurge biocontrol in Tasmania.

The biocontrol agent, together with release guidelines, will be sent to participating groups toward the end of 2021 for community members to undertake releases at sea spurge infestations.

Should your group like to participate in the community-led releases, please email Dr. Hunter at **gavin.hunter@csiro.au**

[1] https://www.agriculture.gov.au/biosecurity/risk-analysis/biological-control-agents/risk-analyses/completed-risk-analyses/ra-release-venturia-paralias