

SPRATS BRIEFING July 2020

TWWHA
coastal weed
management



SPRATS: aims and objectives

- Sea sPurge Remote Area TeamS
 - WildCare group using volunteers for remote area coastal weed management in western Tasmania
 - Macquarie Harbour to Cockle Creek
 - ~850 km of mostly World Heritage coastline
- detailed information collected on all work done

sea spurge

Euphorbia paralias

marram grass

Ammophila arenaria

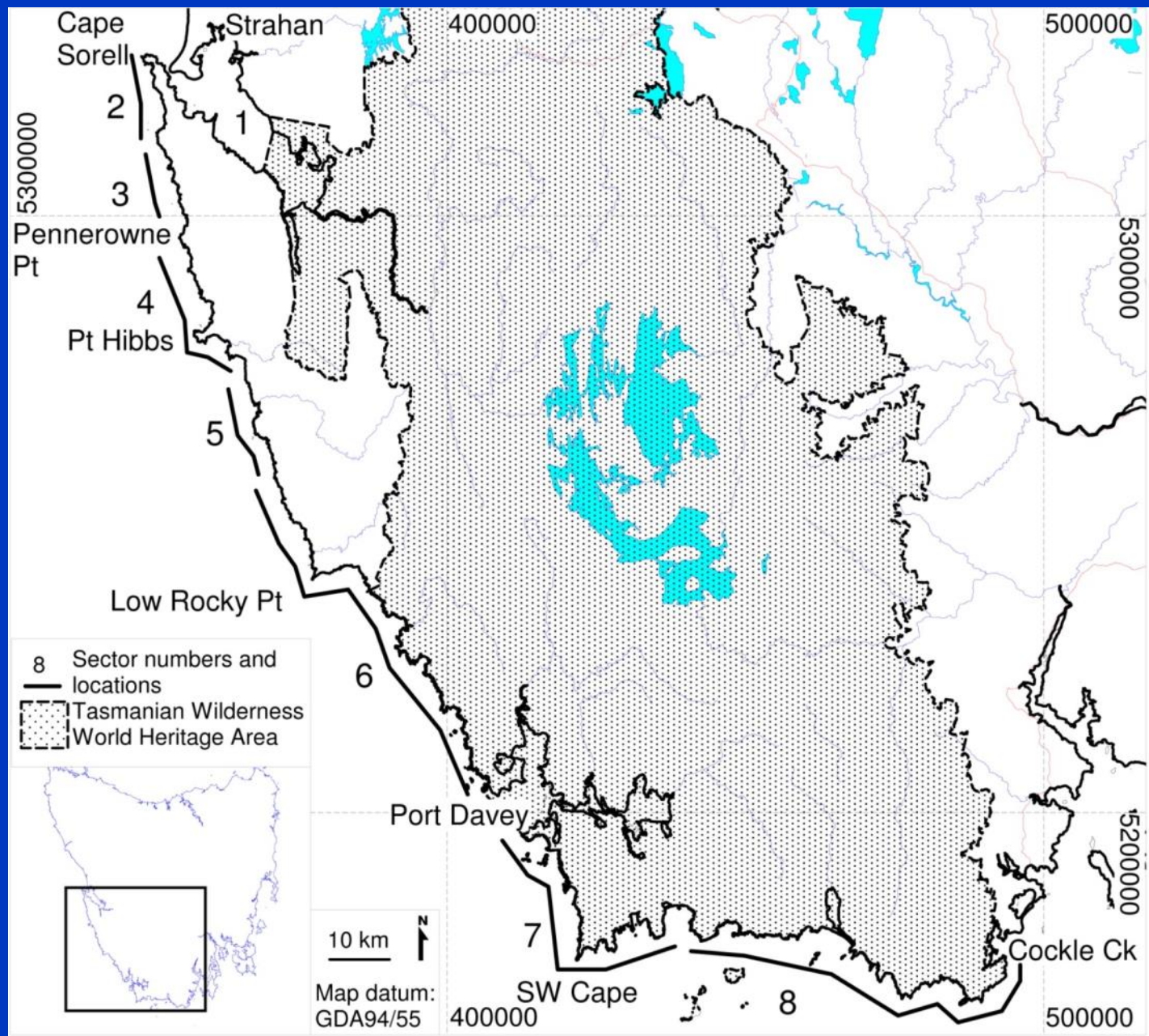


SPRATS: aims and objectives

- sea spurge and marram grass major weed threat
 - ecosystem transforming weeds
 - impact geoheritage values
 - transform beach structure
 - displace native species
 - impact shore nesting and feeding birds
 - forced to feed and nest closer to wave zone
 - Hooded plover: >15% of Tas population
 - Pied Oystercatcher: >10% of Tas population
 - Sooty Oystercatcher
 - Orange-bellied parrot during migration

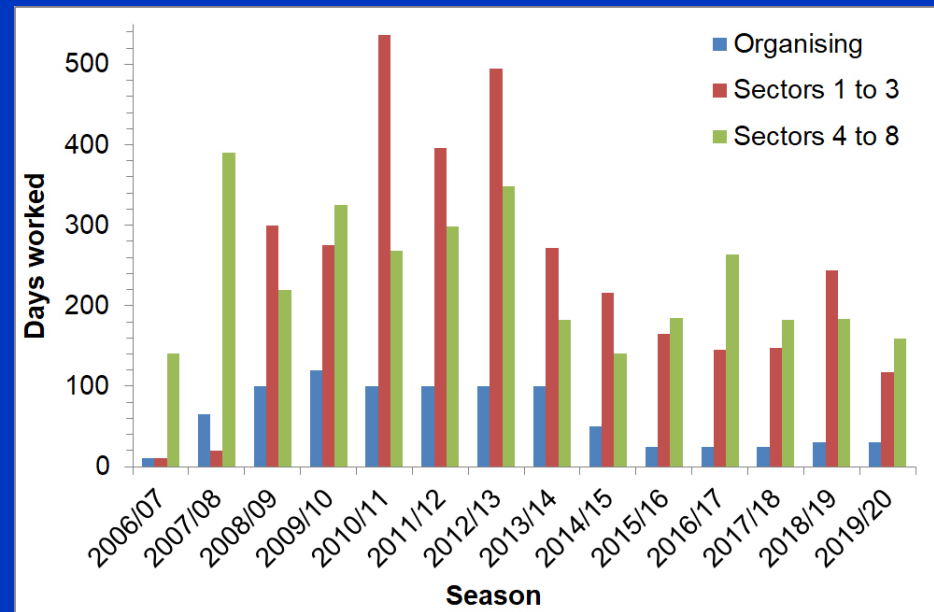
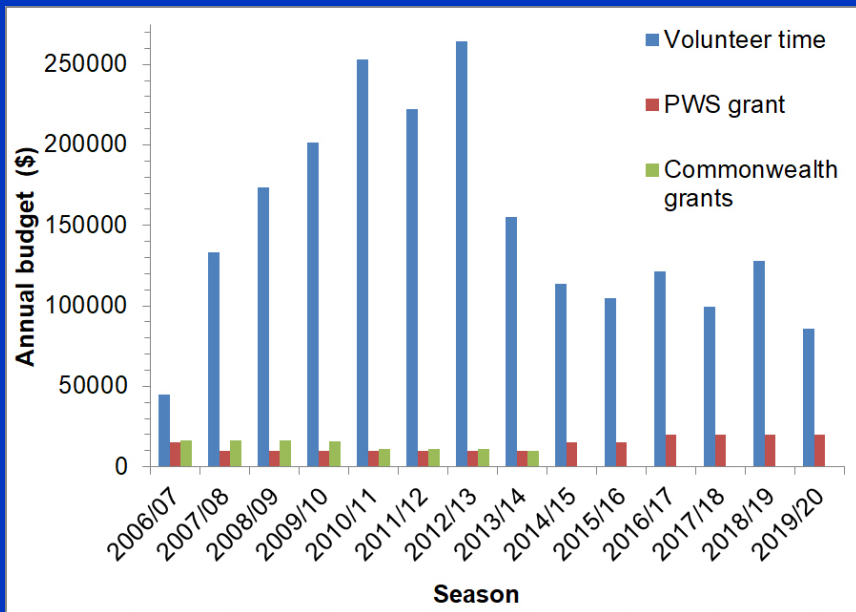


SPRATS: work area and sector locations



SPRATS: days worked and funds expended

- been operating for past 14 years: 2006/07 to 2019/20
 - main deployment in early Jan each year
 - all work performed by volunteers
 - ~25 to 70 people per year
 - >\$2.1M volunteer labour
 - ~\$303 000 of Commonwealth and State grants
 - mostly spent on helicopters
 - ratio of volunteer to grant money: ~7 to 1
 - program is not affordable using paid staff



SPRATS history: 2006/07 to 2019/20

- 2006/07

- surveyed most areas Cape Sorell to Cockle Creek
- trial of remote area weeding strategies
- formation of SPRATS

- 2007/08 to 2008/09

- development of effective and targeted weeding methodologies suitable for remote areas
- weeded Pennerowne Point to Cockle Creek
 - ~530 km of coastline
- started weeding Cape Sorell to Pennerowne Point
 - ~70 km of coastline containing large infestations

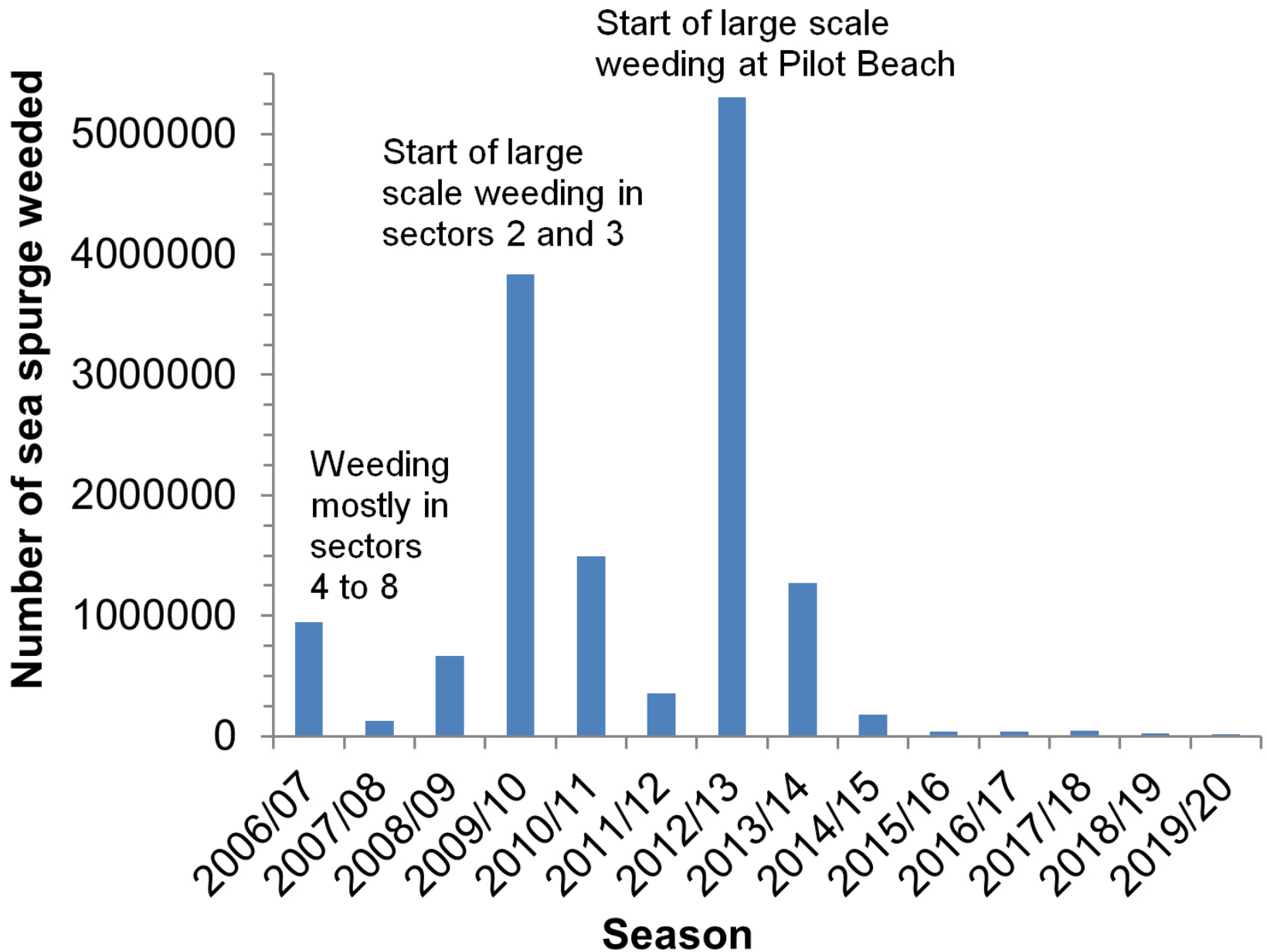
- 2010/11 to 2019/20

- weeded Cape Sorell to Cockle Creek
- extended to Bathurst and Macquarie Harbours
 - ~850 km of coastline

SPRATS work performed: 2006/07 to 2019/20

- 818 recorded weed infestations
 - sea spurge: 668 sites
 - pre-weeding: ~11 100 000 plants
 - total removed: ~14 315 000 plants
 - 2019/20: ~12 891 plants
 - ~99.9% reduction in pre-weeding number
 - marram grass: 146 sites
 - pre-weeding ~124 000 clumps
 - 2019/20: treated all known clumps
 - ~86% reduction in pre-weeding clumps
 - >95% reduction in marram grass biomass
 - blackberry: 4 sites
 - pre-weeding: ~400 canes
 - no canes recorded since 2013/14

Sea spurge weeding: 2006/07 to 2019/20



Sassy Ck example: part 1

2006/07: first weeding

- ~40 000 plants
- 60 weeding hours



2007/08

- ~10 000 seedlings
- 18 weeding hours



2008/09

- 225 seedlings
- 3 weeding hours



2009/10

- 35 seedlings
- 2 weeding hours



Sassy Ck example: part 2

2010/11

- 14 seedlings
- 2 weeding hours



2011/12

- 1 seedling
- 2 weeding hours



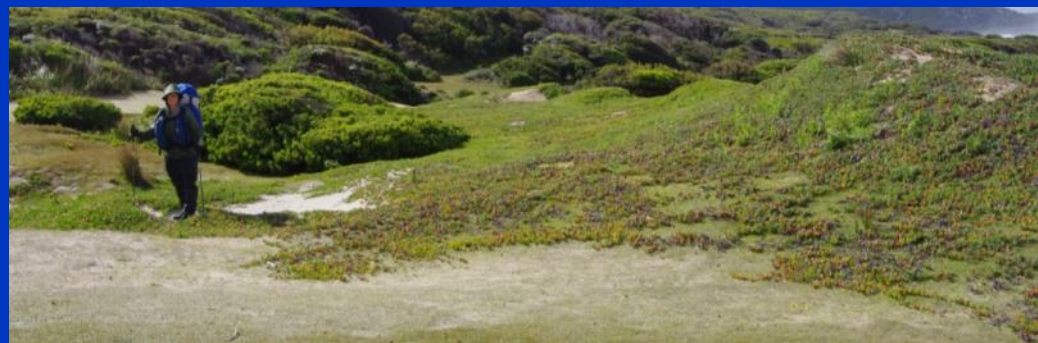
2012/13

- 0 seedlings
- 2 weeding hours



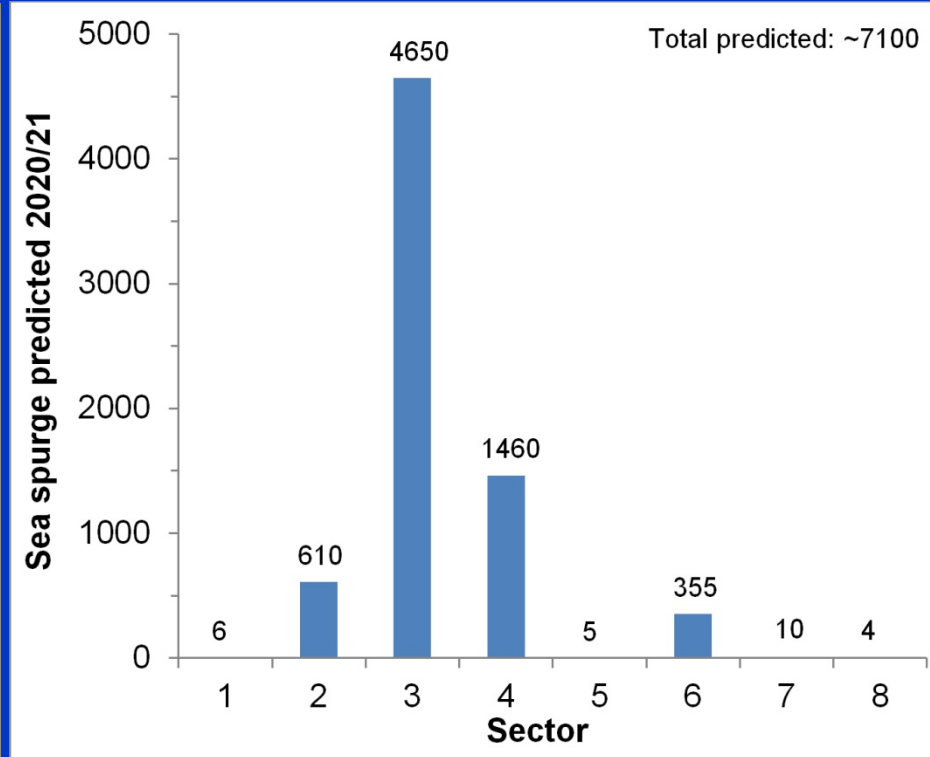
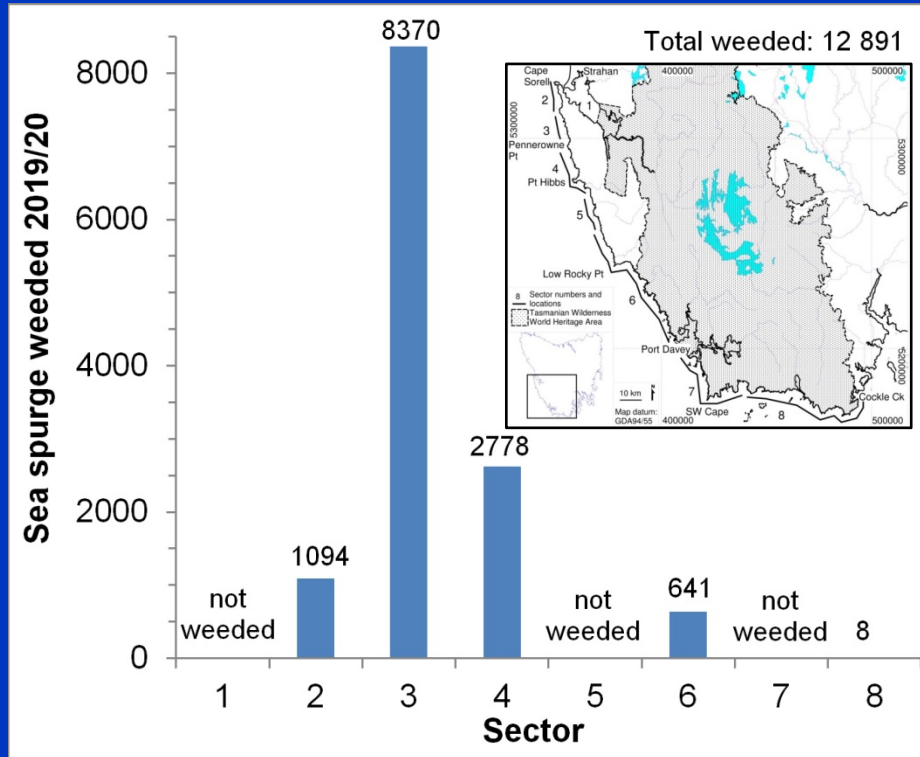
2013/14

- 1 seedling
- 1 weeding hour
- no plants since then



Sea spurge weeding

- number of plants weeded in 2019/20
- predicted number of plants in 2020/21



Marram grass weeding: 2018/19 and 2019/20

- intensive weeding in sectors 2 and 3
- treated all known clumps
 - observed kill rates ~50 to 95% per spray event
 - clumps are thinning out and getting harder to find
 - require another 4 to 6 seasons to control



Nov 2018



Nov 2019

- Dunes beach

Where to from here: next 4 to 6 years

- sea spurge
 - annual deployments
 - control impacts in short to medium term
 - ensure ecological values are not lost
 - long term solution: biocontrol
- marram grass
 - continue spraying, mostly in sectors 2 and 3



Jan 2015



Jan 2020

- Neilson River site

Where to from here: sea spurge biocontrol



Funded: 2008 to 2012

- Surveys of natural enemies of sea spurge in Australia and Mediterranean Europe
- Ecological assessment of sea spurge in Australia
- Preliminary testing in France of two potential biocontrol agents
- Project lead: Dr Scott CSIRO

Funded: 2017-2019

- Comprehensive host-specificity testing of the most promising biocontrol agent
- Project lead: Dr Hunter
Dr Morin CSIRO

- fungal species, *Venturia paralias*, isolated in France prioritised as the most promising biocontrol agent

Where to from here: sea spurge biocontrol

- fungus *Venturia paralias*
 - highly specific to sea spurge and weakly to 1 other weedy introduced spurge
 - no impact on native species
 - there are no close sea spurge relatives in Australia
- kills sea spurge within ~6 weeks



Where to from here: sea spurge biocontrol

- CSIRO have completed host-specificity testing
- submitted application to release biocontrol to the Department of Agriculture, Water and the Environment
- DAWE have completed draft risk analysis and have received feedback from all States and Territories
- DAWE draft risk analysis report available for public comment for 30 days from August 2020
- following public consultation, DAWE will make a final decision and specify biocontrol release conditions
- if successful, the biocontrol has the potential to reduce large infestations of sea spurge
 - reduce invasion into the TWWHA
 - make many areas suitable for hand weeding

Where to from here: sea spurge biocontrol

- CSIRO plan to
 - devise the most suitable method to mass culture the biocontrol agent
 - develop, trial and optimise inoculation and release protocols
 - undertake initial release and monitor development of the agent to inform subsequent large-scale release
- possible application for funding assistance

