

Southport Dunes Weed Control



Acknowledgements:

Traditional Owners - Kurna

City of Onkaparinga

AMLRNRM

Southport Coast Care

Southport SLSC

Trees For Life Volunteers

- The Southport Dune system is one of the largest sand dune complexes along the southern Adelaide metropolitan coastline and is located at the mouth of the Onkaparinga estuary at Port Noarlunga.
- The dune system has significant areas of native vegetation with high biodiversity and aesthetic value, however several significant weed threats are present including;
- Pyp Grass (*Ehrharta villosa*)
- Dune Onion Weed (*Trachyandra divaricata*)
- Western Coastal Wattle (*Acacia cyclops*)
- Various other woody weeds, succulents and herbaceous weed species
- Current primary weed control is targeting Pyp Grass

Pyp Grass background

- Originally from South Africa and introduced to help stabilise coastal sand dunes.
- Highly invasive perennial grass which develops from long creeping rhizomes and creates a dense mat that displaces native vegetation.
- Thin cane like stems with sparse rough and frequently in-rolled leaves.
- Primarily spreads through underground vegetative production rather than seed.

Pyp Grass trials

In 2014 EBSR were commissioned to undertake weed control activities within the Southport dune with a primary focus on controlling Pyp Grass.

After consultation EBSR undertook a spray trial using grass selective herbicide Verdict[®]. The aim of the trial was to gauge the most effective approach in controlling Pyp Grass across a large area, minimising the chemical use and any possible off target damage that may occur to native species.

Six (10x10 metre) trial plots were set up in 2014-15. Three plots were brushcut and left to reshoot and three were left uncut.

The two types of plots (one uncut and one brushcut) were sprayed with 3 different strengths of the grass selective herbicide with the recommended penetrant (Uptake).

Strength of herbicide used over the 6 plots were the recommended rate, 1.5x and 2x.

Pyp Grass trials

Pyp Grass trial results			
Application rate	Uncut Pyp Grass	Brushcut Pyp Grass	Observation
Herbicide rate	Low to Moderate control	Moderate control	Significant regrowth. No damage to native species*
1.5x	Good control	Good to excellent control	Limited regrowth. No damage to native species*
2x	excellent control	excellent control	No regrowth observed. Slight damage to native vegetation with burning off on Olearia and Rhagodia sp.

*excluding native grass species

Pyp Grass trials - Results

- ▶ Uncut Pyp Grass with woody foliage did not respond well to standard rate of herbicide.
- ▶ Cut Pyp Grass with fresh foliage responds faster to the herbicide due to better absorption.
- ▶ Optimum time to spray is when Pyp Grass reshoots and there are several fresh leaves present.
- ▶ Brushcutting Pyp Grass and allowing it to reshoot greatly reduced the amount of chemical required to treat a selected area.
- ▶ Thatch left from brushcutting creates a stabilising layer.
- ▶ Some of the native vegetation sprayed at the higher rate had slight burning of foliage but all regenerated with no obvious death within the plots. Note - with the trial we specifically sprayed the foliage however good bushcare techniques during ongoing application would not see this occurring.

Pyp Grass trials - Results

- ▶ As Pyp Grass is seasonally dependent regular monitoring of growth is paramount - “treat when it is vegetative and heathy”.
- ▶ Brushcutting in early Spring and then spraying regrowth in late spring early Summer, prior to leaves browning off has been the most effective approach.
- ▶ Follow up of treated areas is essential - nothing is ever 100% effective.
- ▶ Southport Dunes are a unique area with very little Coastal Spinifex (*Spinifex sericeus*) and native grasses. This allows for larger scale control of Pyp Grass through brushcutting and spraying. This would not be the case in areas with abundant native grass species.
- ▶ Areas highly susceptible to erosion have currently been left - namely fore dunes and steep banks along river edge, in these areas Pyp Grass will need to be strategically removed combined with revegetation.
- ▶ Complementing the removal of Pyp Grass with revegetation is an effective tool in maintaining dune stability.

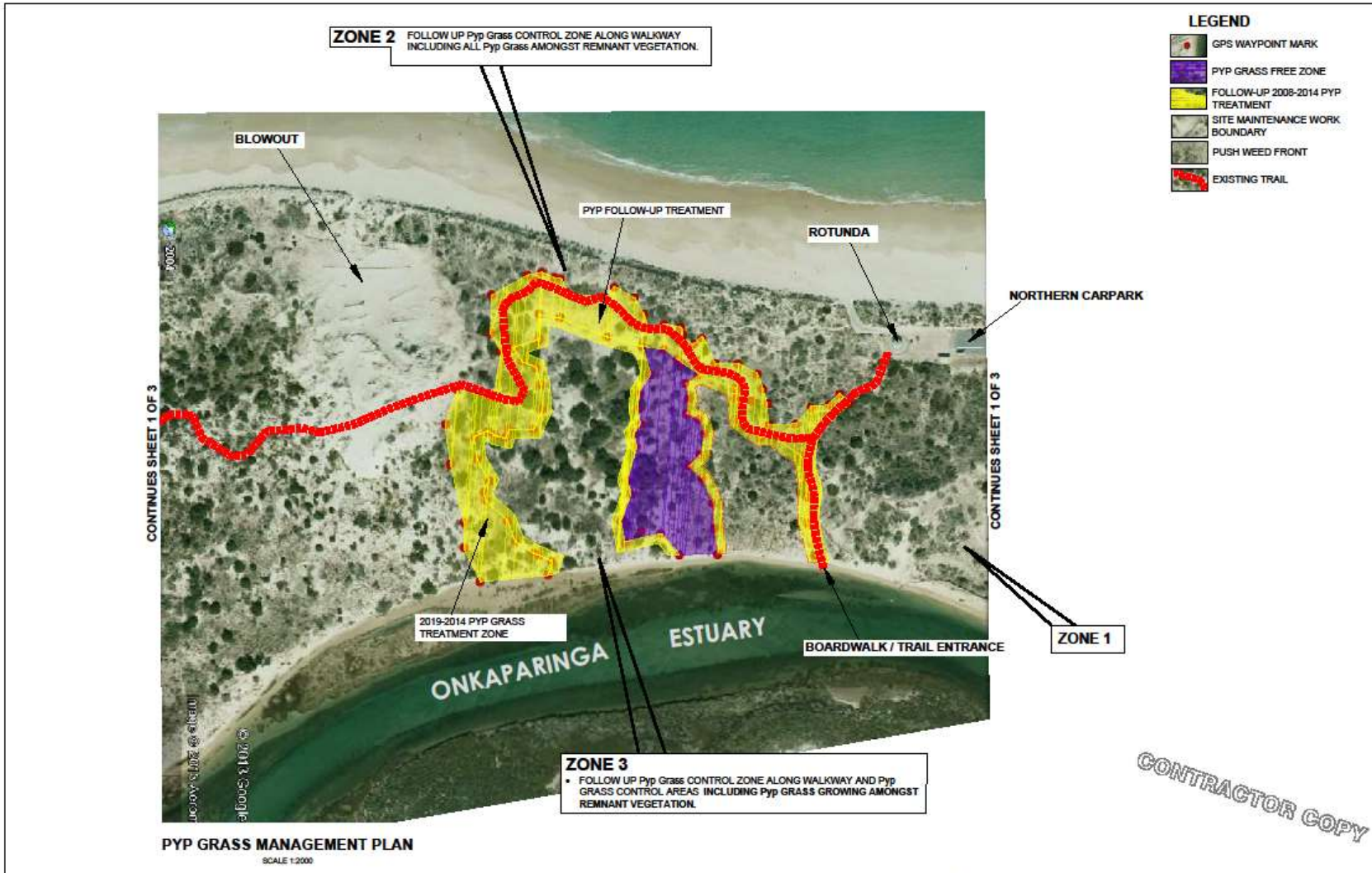
Pyp Grass trials - brushcut then 1.5x standard rate



Pyp Grass control



Pyp Grass control area pre 2014



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ISSUE	DESCRIPTION	DRAWN	Checked	APPROVED	DATE
A	ISSUED	J.C	J.COOLIN	J.COOLIN	30.06.2014

DESIGN BY: J.COOLIN	DRAWN BY: J.COOLIN	CITY OF ONKAPARINGA p (08) 8384 0888 www.onkaparinga.city.sa.gov.au	PLAN: NOT TO SCALE	SOUTH PORT NOARLUNGA CONSERVATION RESERVE PORT NOARLUNGA VEGETATION MANAGEMENT 2014-2015 IMPLEMENTATION	City of Onkaparinga SURVEY # S13-300K BU # X00000K DRAWING # 2014-145 SHEET 03 of 03 A
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Pyp Grass control 2014-15 after trials



Pyp Grass control 2015-16



Pyp Grass control 2016-17



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Pyp grass treatment zones

- 2014 Treatment zone
- 2015 / 2016 Treatment zone
- 2016 / 2017 Treatment zone

Pyp grass infestation area

- Pip grass infestation area
- Pyp grass free area

Marram grass / Veldt grass treatment zone

- Marram grass / Veldt grass treatment zone

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Pyp Grass control 2017-18



Conclusion

- ▶ Timing of control is important to ensure plant is in vegetative state.
- ▶ Follow up control is essential to ensure Pyp Grass doesn't become re-established.
- ▶ Currently targeting Marram and Veldt Grass with the same approach, results so far are positive but are still under review.
- ▶ Reintroduction of native species including Coastal Spinifex in Pyp Grass controlled areas has been successful.
- ▶ Natural regeneration within controlled areas has been encouraging, large recruitment of Senecio sp. within first year of Pyp Grass removal.