Department for Environment and Heritage

Weeds of Concern in the Northern and Yorke Coastal Region

Background Report for the Conservation Assessment of the Northern and Yorke Coast

Northern and Yorke Natural Resource Management Board

Government of South Australia

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Environmental Weeds of Concern in the Northern and Yorke Natural Resource Management Coastal Region

Prepared by the Coastal Protection Branch and the Environment Information Analysis Branch Department for Environment and Heritage SA

For the Northern and Yorke Natural Resource Management Board

October 2006

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Government of South Australia
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Introduction

Weeds are a major threat to our coast. The coastal strip is particularly vulnerable and accessible to invasion and weed species continue to be an insufficiently appreciated ecological problem. The coast supports a range of plants that do not occur naturally in the region. They are expanding and pose a threat to the values of the coast and cause a major decline in native plant and animal communities.

The presence of weeds can provide a sign of coastal health. 500 weeds species were recorded in the South Australian coastal zone that equates to over 30% of the total coastal flora recorded. For the NY coastal region, in excess of 200 species have been recorded as introduced.

For the Northern and Yorke Natural Resource Management Coastal Study an analysis of the proportion of weeds against natives was used to assess the condition of vegetation and weeds of high risk were assigned rankings to assess threat values of all coastal vegetation blocks. A priority list of regional weeds was created based on:

- Weeds of National Significance (WONS),
- Alert List of Environmental Weeds,
- Agricultural Sleeper Weeds of Australia,
- Declared weeds of South Australia,
- A number of State vegetation survey data-bases,
- Anecdotal knowledge from a number of local weed and coastal specialists. and
- Weeds outside the region with potential vectors.

This background report is a pictorial and a written description of a number of these weeds that are common, invasive and capable of disrupting natural processes in bushland or have a degree of difficulty to prevent or control an infestation. It gives a distribution map showing its current surveyed location. These maps highlight their coastal location in red and have been prepared by the Environment Information Analysis Branch, Department for Environment and Heritage. The information sheets also highlight a number of their environmental impacts and other general information about each weed.

All photographs other than individually noted have been taken by Ron Sandercock, Coastal Protection Branch, Department for Environment and Heritage.

Acacia cyclops# Western Coastal Wattle

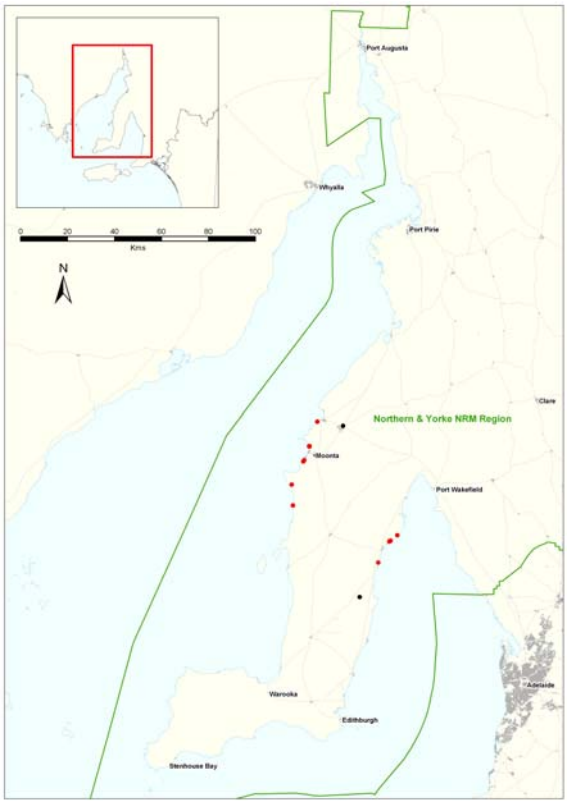
Dense bushy shrub to over head high. Bright green phyllodes with 3 to 5 visible veins, which hang in a downward vertical manner. Flower balls usually in threes. Seeds surrounded with red fold that is attractive to birds. A conspicuous feature is the old legume which persist on the bush after the seed is dropped. Extremely weedy species as there is thought to be a lack of seed destroyers.

Arid area species. In higher rainfall areas vigorous escapee from revegetation projects. Manual removal. Has a high light demand and will not tolerate deep shade.

The Western Coastal Wattle is not considered indigenous to Yorke Peninsula and has become widespread in southern areas of the region and is now considered a serious environmental weed of high impact. A possible combination of changes in environmental factors has caused considerable recent spread of this wattle. It out competes the native pioneer species. It needs to be controlled to the stage where it no longer impacts significantly on the natural function of the coastal environment.

Recorded on the coast below the line from Tickera through to Port Wakefield. Found widespread in the region in dunes and on clifftops. The first collection of *A. cyclops* on Yorke Peninsula was in 1969 and by the mid 1970's was well established as the then South Australian Woods and Forests Department promoted it as an efficient dune stabiliser.

More information on *A. cyclops* can be found in DWLBC 2002/03 report Weed Risk of Revegetation and Forestry Plants.



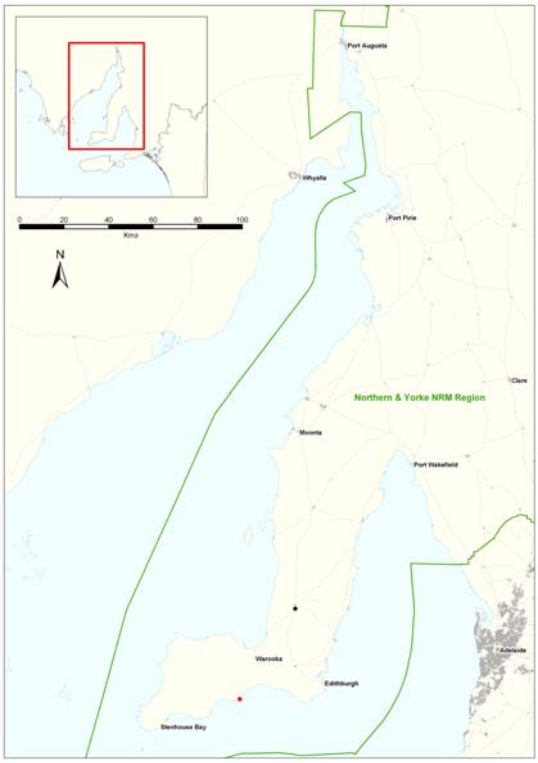
Site photo: Rogues Point

Acacia saligna Golden Wreath Wattle

Spreading shrub or small tree with willowy branches. Very long linear phyllodes that droop with a prominent mid vein and often held at right angles to the stem. Flowers are golden yellow in straight cylindrical pods. Originates from Western Australia and once a popular ornamental plant. Often confused with the native wattle *A. pycnantha*.

Fast growing, often suckers and widely planted as windbreaks and on roadsides, particularly on southern Yorke Peninsula but not thought to be spreading, but is potentially a 'sleeper'.

Recorded on the coast only in the Davenport Creek area. Also found around some east Yorke Peninsula townships. Widely propagated in the past, community education needed.



Port Giles

Aeonium arboreum Tree Aeonium

Shrubby evergreen succulent with erect stems branching from the base, with rosettes of bright green leaves. Masses of daisy like bright star-shaped yellow flowers in a spike like cluster. Spread vegetatively and in garden dumped waste.

Found around many holiday settlements, and could be locally eradicated if practical.

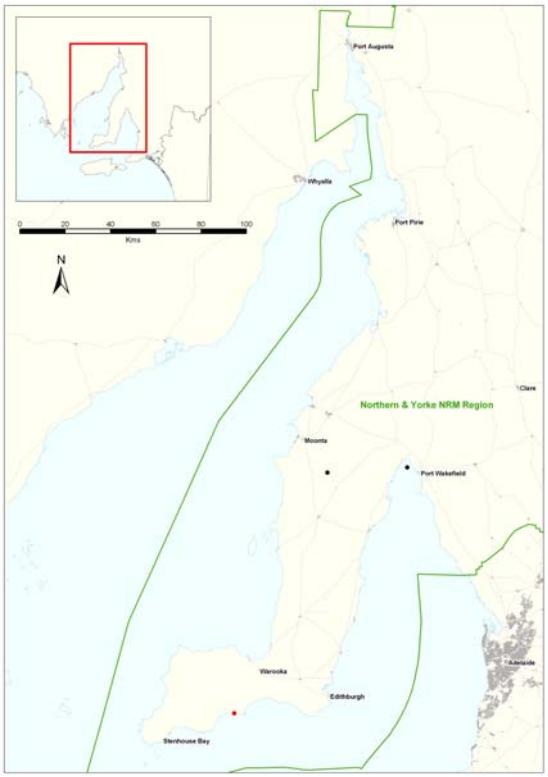
Weeroona Island

Agave americana Century Plant

Succulent with large (2 metre) leaf stems, and tall (7 metre) flowering spikes. Thick tapered serrated dull grey leaves with a spiny teeth and sharp spine tip often drooping near the end as it matures. Prominent taller round flower stems with sprays of yellow flower at end of side stems. Flowers evident Dec-Feb. Resistant to extreme drought. Spreads readily by vegetative means and suckers and arrives usually in garden dumped waste. Creates favourable conditions to exotic fauna, e.g. rabbits for shelter and increases the amount of nutrients in the local environment promoting further weed invasion.

An easily identified succulent. Eradication trials on the control of a clump in the Port Clinton Conservation Park are currently being undertaken.

Found around many holiday settlements and ruins and in the Port Clinton and Winninowie and Althorpe Island Conservation Parks.



Port Clinton Conservation Park

Aloe arborescens Aloe

A multi-headed shrub 2 -3m high with striking grey green leaves arranged in attractive rosettes. The leaf margins are armed with conspicuous pale teeth. The large colourful flower spikes are borne in profusion during the cold winter months. Deep orange is the most common colour, but there are also pure yellow forms, and an unusual bi-coloured form of deep orange (almost red) and yellow. The inflorescence is usually unbranched, with two to several arising from a single rosette. A prolific sucker and brancher- hybridises readily with other aloes.

Another succulent that is easily identified and could be locally eradicated if practical.

Found around some of the salt fields, old ruins and some holiday settlements.

Ambrosia psilostachya Perennial Ragweed

Erect aromatic annual herb to thigh high with slight fern-like grey-green leaves along an erect hairy stem. Scaley flowers small green and in slender spikes at the end of stems. Male flower spikes to 15 cm long. Male flowers cream to greenish-yellow, several per head. Female flowers 1 per head, inconspicuous. Flowers summer and early autumn. Distinguished by perennial creeping roots sending up shoots to form large colonies. A *declared plant of South Australia* spread by seed attached to animals or in mud, and by creeping roots. A weed occurring mostly in crops and pasture, and plants not eaten by stock. Major cause of skin allergies. *Epiblema strenuana*, a stem-galling moth introduced for control of Parthenium Weed, *Parthenium hysterophorus*, reduces Perennial Ragweed populations in warmer areas. (Reference)

Not found in the region but is fast growing and a potential environmental weed of moderate risk. Early detection and timely response required.

EARLY WARNING

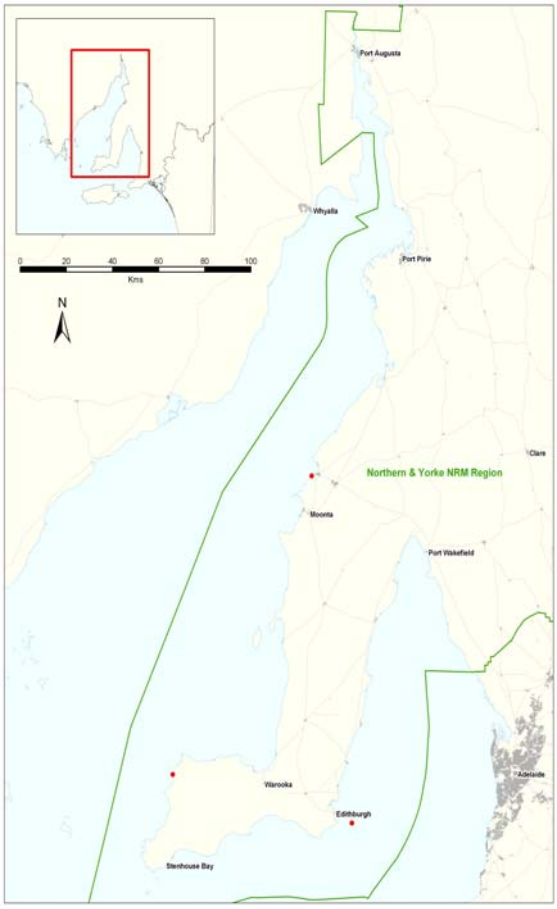
Ammophila arenaria Marram Grass

An introduced robust perennial, dense tussocky grass to waist high. Forming hummock grassland. Native to Western Europe. Creeping rhizomes with leaves that are stiff, linear and tightly in-rolled and yellow green in colour. Long straw coloured cylindrical chaffy spikes on taller stems from spring to summer. Fruit said to be sterile. Introduced for stabilisation of coastal dunes and overtakes the native coastal spinifex grass in some places. Native grass species preferred if available.

Marram grass has several native look-alikes. These are the robust tussock grasses beach fescue *Austrofestuca littoralis*, beach poa *Poa poiformis* and beach speargrass *Austrostipa stipioides*.

This plant can change the shape of the dune and may displace native dune grasses at the back of the beach. Only needs containment if it is impacting on the ecology of the area eg. shorebird nesting areas on the high tide line.

Recorded around Port Hughes, Hardwicke Bay, Point Annie and Althorpe Island. It was extensively planted as a sand binder and is found on beaches on the Yorke Peninsula after planting in the 1980's.

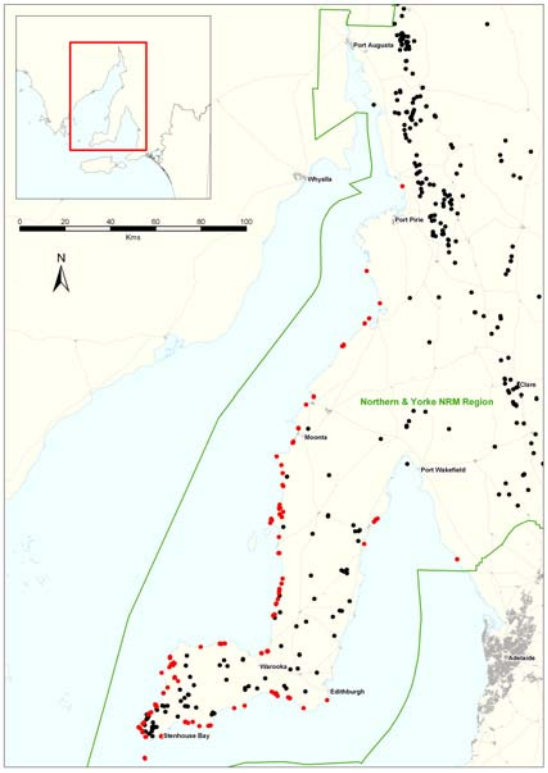


Anagallis arvensis Pimpernel

A small, variable, low spreading, soft annual herb to ankle high. Smooth light green leaves in pairs on weak stems. Petals bright red or orange (var. *arvenseis)* or blue (var. *coerulea)* that fold up in darkness or dull weather. It seldom is invasive but could inhibit the native herb layer an important and easily disturbed layer of dune biodiversity.

Recognised as the most common coastal weed recorded by Oppermann, 1999 p.61.

Many records within the region, widespread and abundant naturalised species that is spreading.

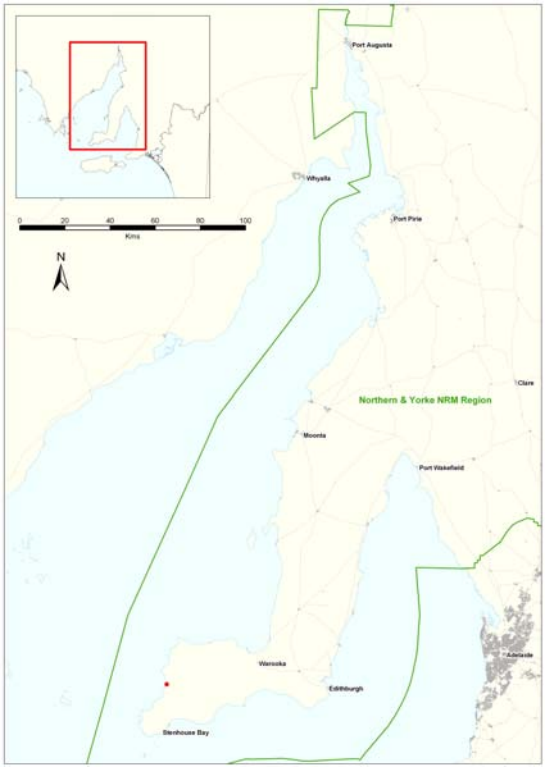


Arctotheca populifolia Beach Daisy

Low spreading thickset hairy perennial shrub to knee high. Fleshy, semi-succulent prostrate stems covered with hairs. Leaves also matted with hair are oval-shaped, pale grey-green in colour. Flowers a yellow daisy both button and ray floret from winter to early summer occurs on long stalks in the axils of leaves, extending beyond the leaf structure. Fruit is 5 mm long with a white woolly cover, remains closed when ripe. Able to withstand the windy and saline conditions of the beach environment. Covers large areas of accumulating sand. Highly invasive of foredunes and grasslands and seed spread by wind and tidal currents. Found on open ocean coasts often on western facing beaches and possibly spread on the Leeuwin current with seed sources out of Western Australia, where it is found from Perth to Esperance.

Highly invasive of foredunes spread by the wind. Difficult to hand pull, although best method of control because of positioning, and resistant to chemicals. Try to control new infestations before seed build-up in soil. It is short lived but persistent and an invasive environmental weed. Replace gradually with *Spinifex* which grow in similar situations.

Recorded on the coast only in one location near Baby Lizard, Formby Bay.

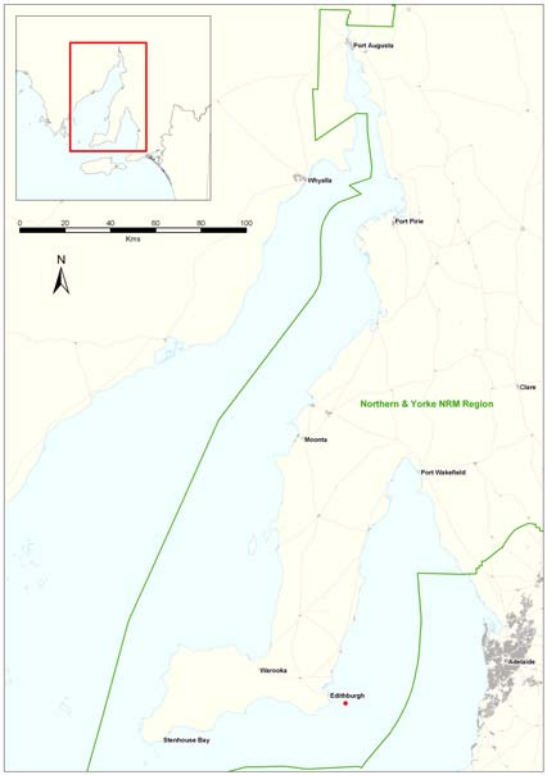


Baby Lizard – Formby Bay

Arctotis stoechadifolia White Arctotis

A perennial herb with long grey-toothed hairy leaves to shin high. Daisy flowers with white ray floret, purple underneath and black button. Flowers from spring to summer. Grown for stabilisation and connected to urban environments. Can become a monoculture. Revegetate gradually with local endemic species. Has potential to spread. Need to revegetate control site with woody species before removal.

Only recorded on Troubridge Island, but is a high weed risk 'sleeper', has been found around the holiday settlements of Black Point, Port Rickaby and Hardwicke Bay.



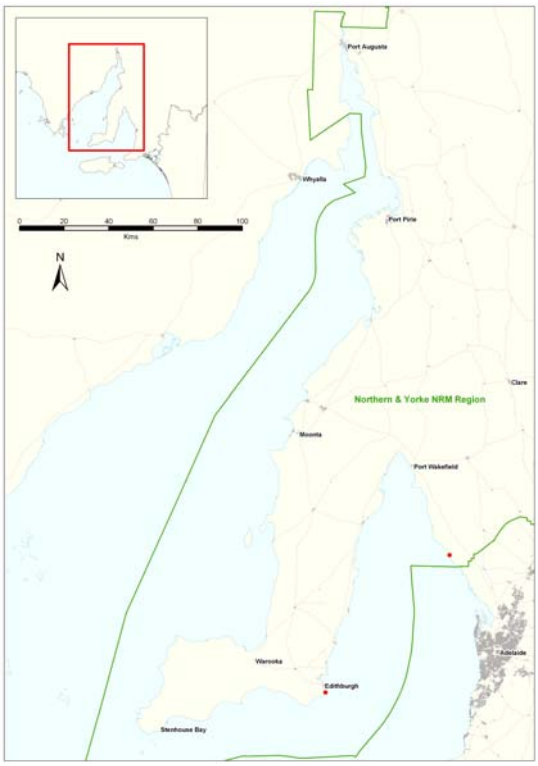
Black Point

Argyranthemum frutescens Marguerite Daisy

A shrubby daisy bush to thigh high with fleshy coarsely toothed leaves. White daisy ray floret with yellow button carried on long stems in spring.
Daisy family producing large amount of viable seed. Invades dune or cliff areas that are degraded or in the process of being degraded. Prolonged hand pulling program required.

A daisy that readily spreads and can become a monoculture and is a high weed risk 'sleeper'. Hand removal and long term follow up control required.

Found in dunes near holiday settlements at Port Rickaby, Hardwicke Bay, Troubridge Island and Sultana Point.



Sultana Point

Asparagus asparagoides Bridal Creeper

Introduced aggressive cool season climber, growing 1–2 metres into trees and shrubs. Wiry stems and glossy, bright-green broad alternating leaves with fine veins. Short tubular scented flowers are white on slender drooping stalks with 6 petals in leaf axil along the stem and flowers late winter and spring. Stamens prominently protruding from the flower. Fruits are fleshy red berries and black shiny seeds.
Growth ceases after flowering and plant dies off during summer but has long lived roots. Seed spread by birds. Do not confuse with *Billardiera*, *Clematis* and *Muehlenbeckia* sp.

A Weed of National Significance, is a serious environmental weed of high impact. Control by chemical spraying foliage and removing tubers. Biological control agents such as leaf rust and leafhoppers if combined with other treatments are viable management options.

Bridal creeper was originally introduced as a garden plant and now poses a significant threat to biodiversity throughout the temperate regions. It is a climber that smothers native vegetation and competes for space, light, water and nutrients. It is also able to survive hot summers due to underground tubers that retain moisture. Bridal Creeper is considered to be one of the most significant weed threats to biodiversity in South Australia. Although it is not an agricultural weed and does not persist in open paddocks, the species is a threat to biodiversity throughout its range.

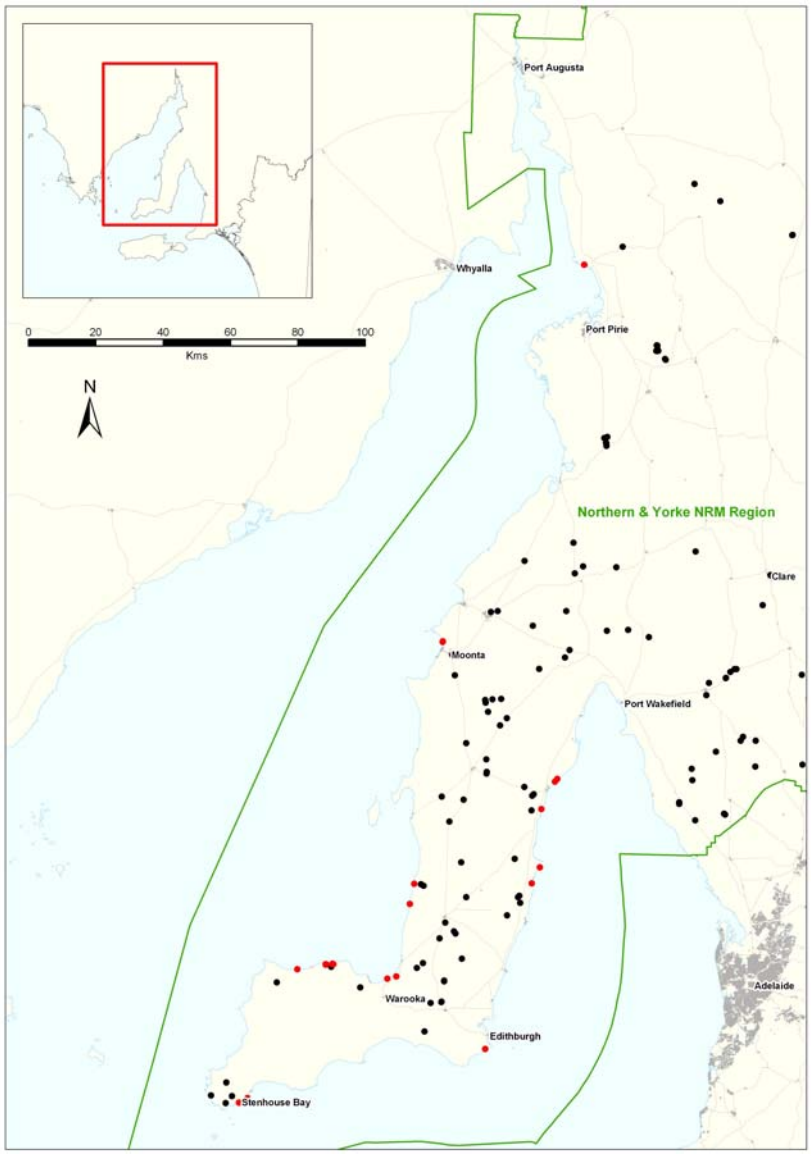
The seeds do not need disturbed soil to germinate and establish. This means that Bridal Creeper is able to invade bush that is in good condition and can be widely dispersed.

The *Weeds of National Significance Bridal Creeper Strategic Plan* was produced in 2001 (ARMCANZ & ANZECC, 2001b) with plans to contain and minimise its impact in Australia through coordinated management at national, State and regional levels, long term community commitment to fund and implement strategies, and promote best management practices for Bridal Creeper infestations where biocontrol agents are established. The Yorke Peninsula Animal and Plant Control Board has active programs for the release, distribution and management of a biological agent for Bridal Creeper (leaf rust and leaf hopper)

While a combination of bio-control agents are recommended spore water is the latest quick and effective method to redistributing rust (*Puccinia myrsiphylli)* to areas affected by bridal creeper. The establishment of nursery sites, buffers zones between infestations, areas of high conservation values, and mapping are important for strategic management of weed infestation and should be made a priority.

Recorded on the coast in the region below the line of Port Broughton. Found in coastal vegetation but also mallee particularly on the east coast cliff areas of Yorke Peninsula tolerating the shady conditions.

Further information on Bridal Creeper is available
http://www.weeds.org.org.au/WoNS/bridalcreeper/.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Stenhouse Bay

Corny Point

Asparagus declinatus Bridal Veil

Rhizomatous and tuberous, perennial, cool weather low growing herb and climber, to knee high. It has small white flowers with 6 petals. It has fleshy green-globular berries, appearing in Oct, and mature to orange/red. The root system is tuberous, extensive and represents approx. 90% of the plants total biomass. As a result, established plants are very tolerant to drought, fire and shade.

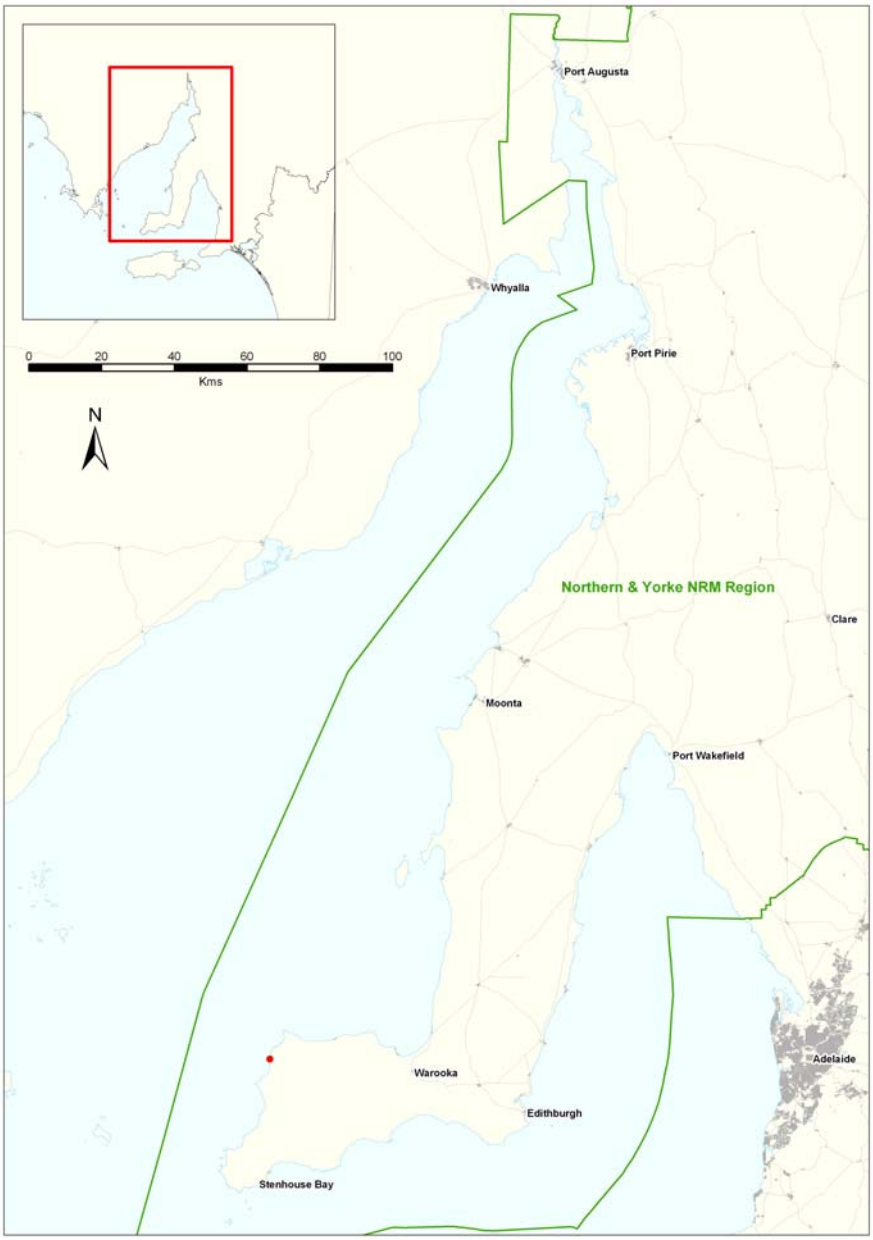
A highly invasive environmental weed that climbs, smothers, and kills native vegetation. It forms a dense canopy shading out any shrubs and groundcovers. An extensive network of underground tubers also prevents the recruitment and establishment of native plants. Whilst little research has been conducted on the ecology of Bridal Veil its impacts appear to be similar to those of Bridal Creeper. Given the negative impacts Bridal Creeper has had on Australia's environment, there is some urgency for research on Bridal Veil to further the understanding of its ecology and potential for spread. With the release of host specific biological controls for Bridal Creeper there is a risk that Bridal Veil may become a more serious weed as Bridal Creeper is controlled. Formerly known as *Asparagus crispus.*

The method of spread is by birds, spreading berries of Bridal Veil. The seeds are able to germinate and establish in undisturbed soil, and therefore Bridal Veil can easily invade intact bushland. It also spreads vegetatively.

Recorded in the Corny Bay area and now found in a heavy infestation in the dunes. Needs to be contained. Possibly spread by road works.

Control using herbicide requires repeated applications over several years. Momentarily physical removal by grubbing is the most effective technique, or though trials are underway to find ways of improving techniques of herbicide control.

Addressing Bridal Veil on Yorke Peninsula 2005 Report by D Agnew looks into local issues affecting weed infestation areas.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Edithburgh
Stenhouse Bay

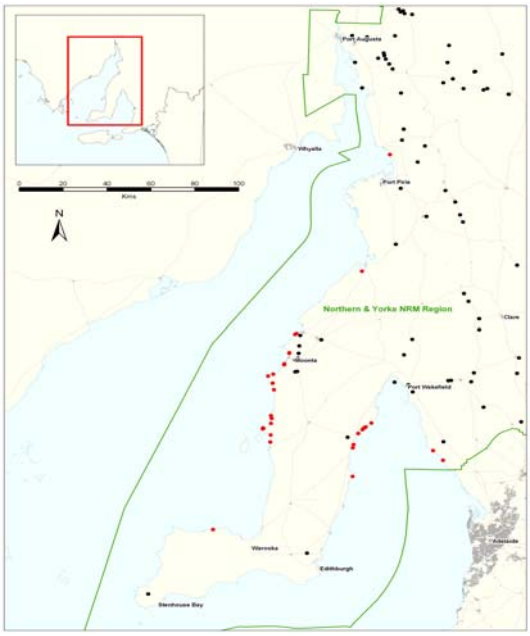
Corny Point

Asphodelus fistulosus Onion Weed

An introduced tufted erect annual herb to knee high with narrow hollow cylindrical fleshy grass-like leaves. Flowers a white to pale pink star shaped flowers with 6 petals (3 petals, 3 sepals) with a central brown stripe produced in winter and spring. Fruit a globular capsule containing 3 to 6 wrinkled, triangular seeds.

A *declared plant of South Australia.* It naturalises and is in relative abundance. It is a widespread and invasive weed of calcareous soils, particularly abundant along road verges, from where it is invading disturbed bushland.

Recorded on the coast throughout the region but more prevalent on Yorke Peninsula.



Port Hughes

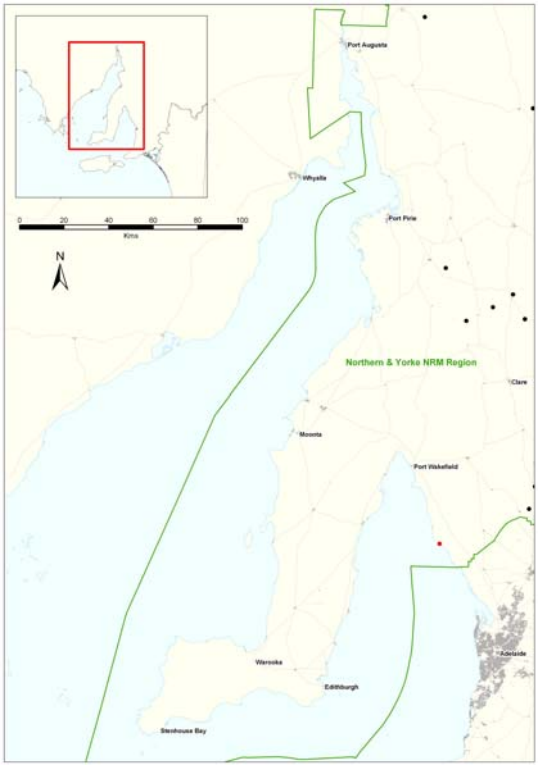
Tickera

Atriplex prostrata Creeping Saltbush

Prostrate, annual herb, to knee high, with broad leaves and clusters of small, pale green flowers in leaf axils. Branches cylindric, obliquely spreading. Leaves broadly triangular, sometimes lobed at the base, to 7 x 6 cm, mostly opposite, hairless. Tow marked lobes at the base, curved toward the top. Flowers in a narrow panicle, in leaf axils or at the ends of stems. Small, pale green fruits are flat, slightly spongy, ovate or triangular capsules, often with shallow, irregular teeth.

It is thought to be a native, and can be mistaken with other coastal chenopods. It's potential needs to be monitored.

Recorded on the coast near Thompson Beach and found in other locations.



Coobowie

Coobowie

Avena barbata Bearded Oat

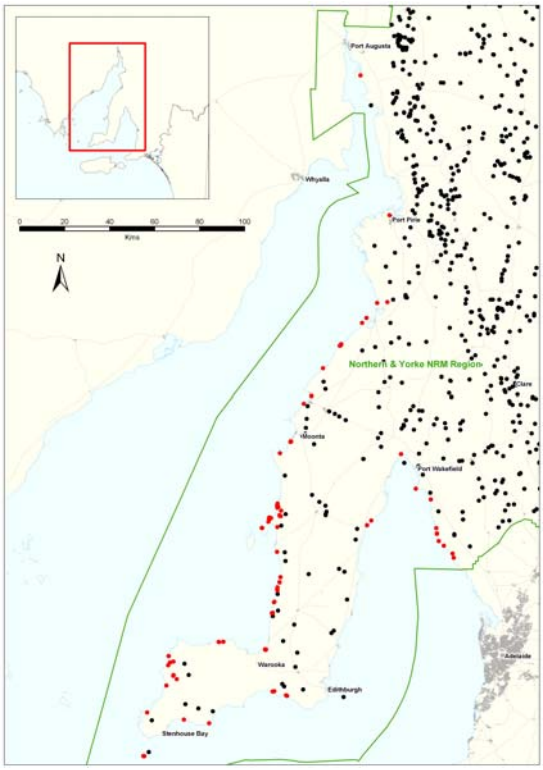
A robust, tufted annual grass, to waist high. Soft erect hollow stems linear, hairless, slightly rough leaves with an open, branched flower head, drooping chaffy silky hairs near base, divided at the tip into two, long, fine teeth. Two twisted, awn attached to lemma near the middle spirally in the lower part spring to summer. Outer husk one sided with many parallel veins.

Very difficult to eradicate, a naturalised species it has become abundant and is spreading throughout the region.

Wild oats have a highly competitive nature, staggered germination and their ability to produce large numbers of seed, are attributes that make wild oats an important weed of environmental areas. Wild oats can be found on a wide range of soils from light to heavy in texture and can tolerate both acid and alkaline conditions (from pH 4.5 to pH 9).

A comprehensive guide to managing wild oats written by Toni Nugent, Andrew Storrie and Dick Medd. (Reference)

Recorded on the coast throughout the region but more usually seen more where less coastal exposure.



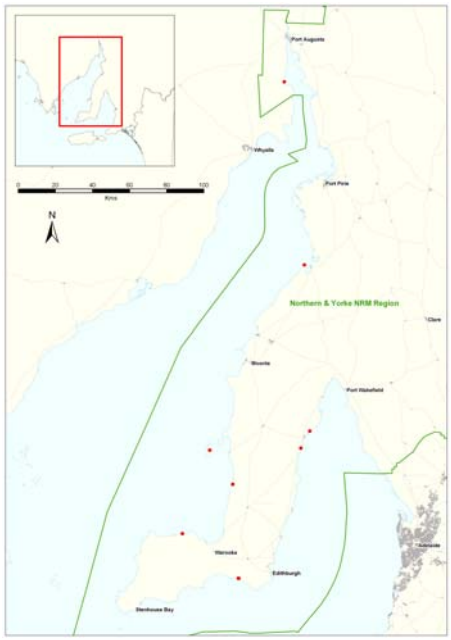
Brassica tournefortii Wild Turnip

An introduced annual slender herb to thigh high with a deep taproot and basal, bristly, deeply divided leaves and also clasping on stems. Pale yellow and cross-shaped flowers with 4 petals. Fruit a narrow erect cylindrical capsule tapered to a beak like tip.

Vigorous growing in dunes it is a naturalised species and is spreading. Control by chemical before flowering.

Recorded on the coast and found scattered throughout the region.

This is only one of a number of the Brassica family that cause concern on the coast.




Weeroona Island


Hardwicke Bay

Cakile maritima ssp. *maritima* Two-horned Sea Rocket

A sprawling, succulent annual herb to knee high. Leaves bright green, succulent, brittle and bluntly toothed, flowers ranging in colour from white to purple with 4 petals, and dark veins in clusters on long flower stems. Fruits develop green, but become corky and buoyant. They have horns with a rocket appearance.

First recorded in South Australia in 1918, as a ship ballast introduction. A widespread cosmopolitan plant that is found at the back of the beach and any extremely disturbed site. A niche plant coexisting contentedly, rarely invasive, a good soil and dune stabiliser and doesn't appear to be colonising any space at the expense of local indigenous species. To be left undisturbed, continuous monitoring recommended.

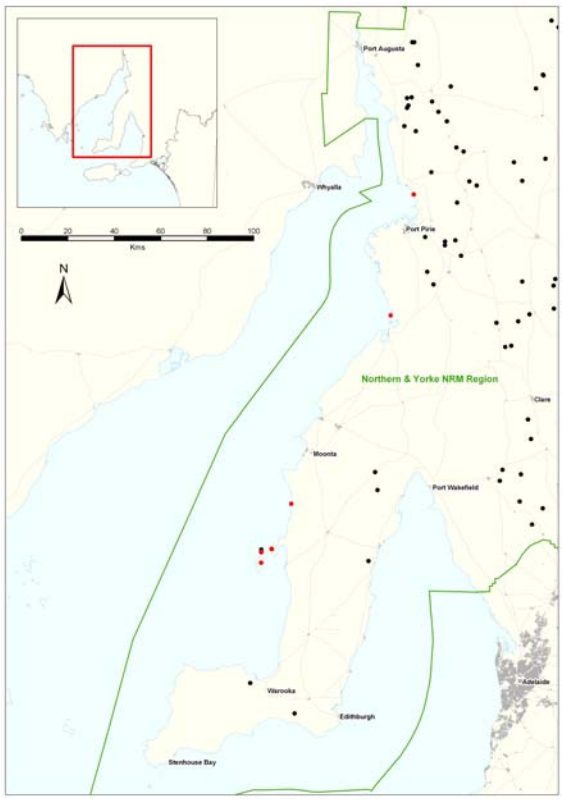
Found widespread on the coast usually on foredunes but also in bare areas of dunes.

Carduus tenuiflorus Slender Thistle

An annual, herb, to chest high, with broad, deeply lobed leaves spine-tipped teeth, dark green and sparsely hairy above, almost white and densely hairy below along winged and spiny stems, and purple, thistle-like flower heads in groups of 3-9, surrounded by spiny, green bracts.

A *declared plant of South Australia,* does well on sandy soils and is encouraged by disturbance, e.g. grazing. A naturalised species that is spreading.

Recorded at only scattered coastal locations on western Yorke Peninsula. Better management of the coast could show retreat in its spread.



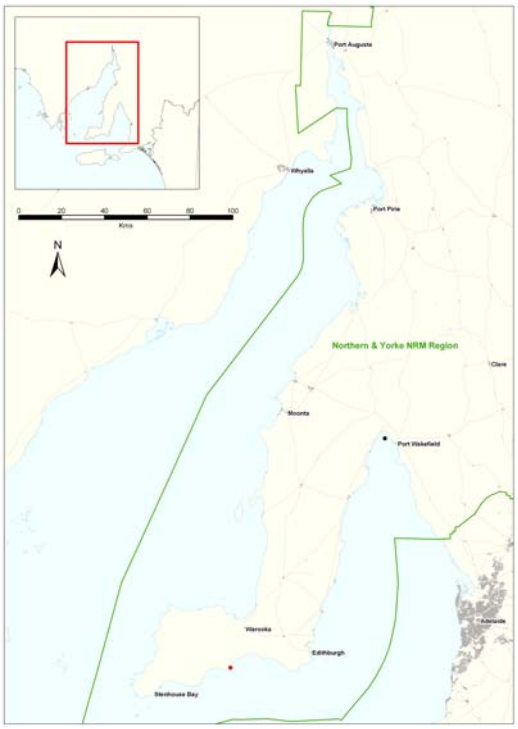
Photograph: Ron Taylor

Carpobrotus edulis Hottentot Fig

Fleshy, succulent, sprawling prostrate growth with leaves that are triangular in cross-section. Yellow flowers, which change to pink. Roots are put down the entire length of the running stem. Is hardy and tolerates herbivores.

Very difficult to positively identify when not in flower but has a serrated edge along the keel of the leaf that can be felt. The local nursery industry should be made aware of the risks with this plant. Concern is that it may be hybridising with the pioneering native *C. rossii.* Hand removal and disposal from site, leaving no remnants in sand, as it can re-establish similar to other succulent weeds.

Found extensively on the coast and may be more widespread than realised, needs to be better surveyed.

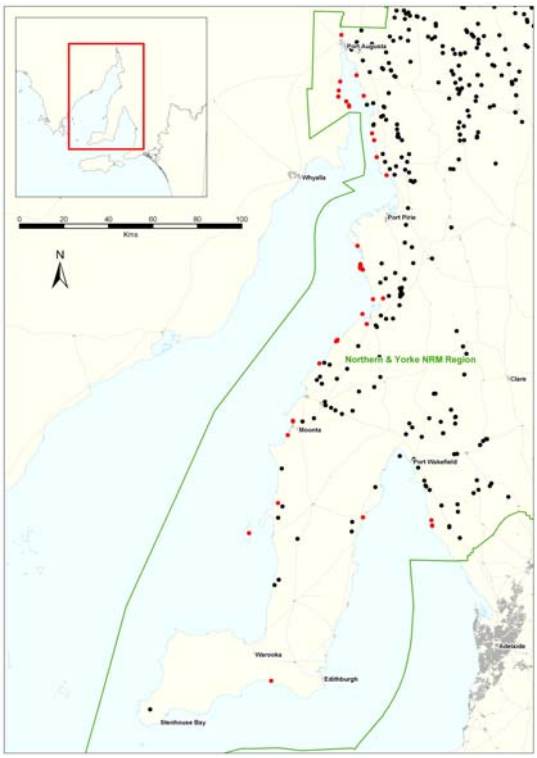


Carrichtera annua Ward's Weed

An introduced annual erect herb branching from the base to shin high. Branches covered with short bristly hairs. Bipinnate deeply dissected leaves smallest lobes linear, covered with short, stiff hairs. Narrow spike of small yellow flowers, with four, obovate petals with a distinctive purple vein. A hairy, globular capsule with a flat, terminal wing.

A naturalised species that is spreading, over-abundant understorey weed of chenopod plant communities. First recorded near Port Pirie in 1915. Its impact is of concern as it carpets large areas which could inhibit the native herb layer an important and easily disturbed stratum.

Recorded on the coast throughout the northern region extending down Spencer Gulf to Balgowan in both the dunes and low chenopod shrubland of semi-arid hard rises. Also recorded from Ardrossan to Stansbury on eastern Yorke Peninsula on clifftops with outliers on southern Yorke Peninsula.



Telowie Beach

Casuarina glauca Swamp Oak

Medium sized tree 8-10m tall, buttressed/flute-like stems. Fruits are cone-like, woody, hard, 10mm long.

Hybridises with other Casuarina species through open, wind pollination. Is more salt tolerant than the other Casuarinas, and is widely adaptable. Has a prolific production of root suckers.

Early detection and timely response needed. Now found in various locations.

Port Pirie

Port Pirie

Cenchrus ciliaris Buffel Grass

A perennial bunch grass with erect culms to waist high. It can form thick mats or tussocks with dense, usually stoloniferous root systems. The leaf blades are bluish-green in colour with soft hairs on the upper surface. The inflorescence is generally cylindrical in outline, 2-14 cm long, and can be purple, grey or yellowish. The spikelets are solitary or clustered, and are surrounded by numerous bristles. Seed spread by wind and are also transported by animals (e.g. fur).

This invader forms dense thickets that displace native species. It has the dramatic ability to carry fire in ecosystems where fire does not normally play a role. It is adaptable; it grows well in heavy, limestone, and sand soils, can tolerate low pH, and is drought tolerant. It can withstand heavy grazing and is extremely fire resistant. It has no serious pest problems except for a recently discovered fungal blight caused by the heterothallic ascomycete fungus *Magnaporthe grisea*

The dried shoots provide an excellent fuel for fire, from which the plant recovers rapidly by basal shoots. It is a fire-enhanced species as its cover increases with each succeeding fire. Its arrival needs to be carefully monitored and is a high weed risk "sleeper". The use of the fungal blight needs to be investigated.

Found along the Port Augusta Road and at Port Pirie and has been seen entering the Winninowie Conservation Park.

Winninowie Conservation Park

Winninowie Conservation Park

Chrysanthemoides monilifera ssp. *monilifera*
Boneseed

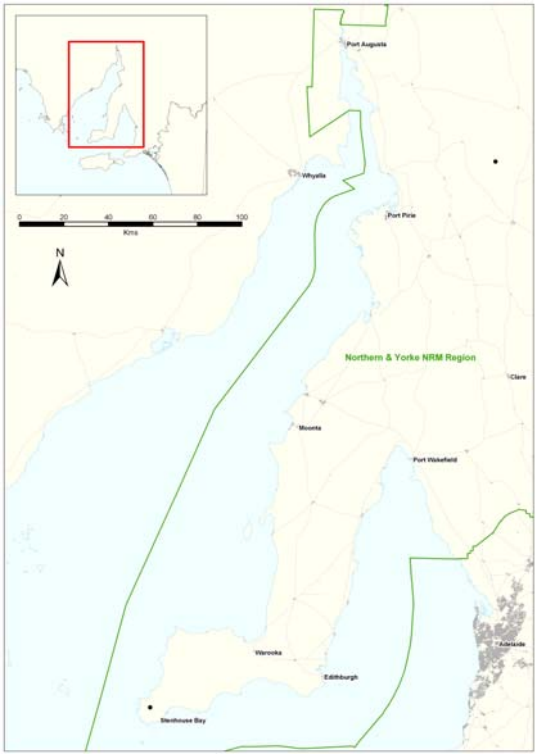
Evergreen erect woody shrub with alternate smooth, paddle shaped leaves. It can form a dense canopy head high. Woody stems are heavily branched and often purple towards the tip. Leaves irregularly serrated, smooth with downy tufts. Bright yellow daisy flowers in short stalked clusters on branch tips. Berries are firm and green, ripening to black and contain bone-coloured long-lived seed.

A W*eed of National Significance* and declared in South Australia, a heavy seeder and rapid spreader and is an invasive environmental weed of headlands and dunes. Don't confuse with the coastal boobialla *Myoporum insulare*.

Spread by birds, it is a prolific seeder and has a long-lived seed bank. Hand pull seedlings. Cut and swab shrubs from winter–spring, before flowering. Spray regrowth as follow up. Promotion of seed growth by fire, but plants of all ages and soil borne seed can be destroyed by fire. Seed stays viable for a long period and has considerable potential to expand its distribution.

Recorded on the coast at Innes National Park and Moonta Bay. Also found at Balgowan, Corny Point, Sultana Point and Cockle Beach.

On the east coast *Chrysanthemoides monilifera* ssp. *rotundata* (Bitou Bush) is also a Weed of National Significance. Deliberately introduced as a dune stabiliser it has become a serious threat. Bitou bush is more a sprawling shrub.

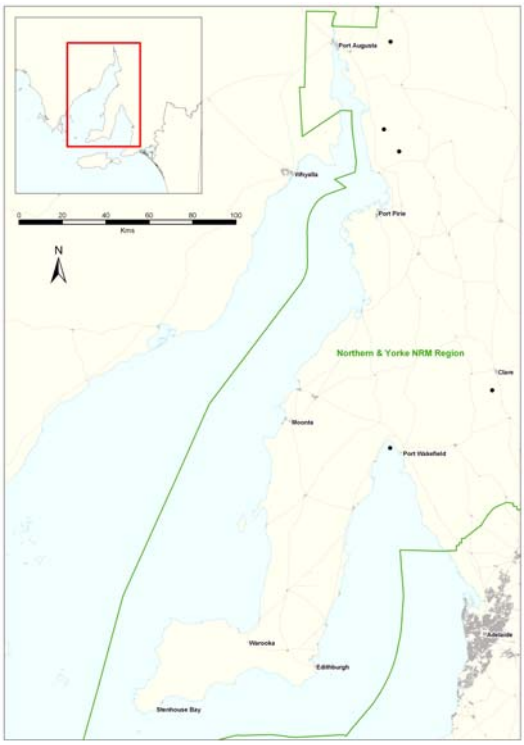


Conyza bonariensis Flax-leaf Fleabane

A tap-rooted annual or short-lived perennial plant with an upright stance is grey and hairy, usually no more than a metre tall. Germination: Autumn, Winter, Spring, with seeds requiring exposure to light to stimulate germination. Seedling leaves are bluish-green, 3mm long and hairy, forming a rosette. Leaves become long, narrow and softly hairy once elongation occurs. When mature, a compact seed head is produced bearing small fruits each with fine hairs, and light and fluffy seeds are readily dispersed by wind. Flowers small, white balls Jan-Dec.

Found on offshore islands and occasional coastal locations, it is a naturalised species and can become abundant.

Early detection and timely response along with cost-effective control by use of post-emergent herbicides is applied within 2-3 weeks of germination.



Coprosma repens New Zealand Mirror-bush

A dense variable shrub or small tree, with woody stems. Broad, glossy dark green leaves, opposite, rounded at the apex, thick textured, hairless. Males and females separate. Flower small pale yellow-green, tubular, apex of tube divided into 4-6 elliptic lobes. Female flowers in three flowered clusters. Male flowers in dense clusters with 4 fine, pendulous stamens from spring to summer. Orange fleshy fruit.
Highly tolerant of coastal exposure and invasive in high rainfall areas and dry coastal vegetation. Reproduces by seed and layering, and usually germinates under other shrubs and spread by birds, animals and dumped garden refuse. Control by cut and swab. Widely cultivated but is commonly invasive in coastal environments forming dense colonies in native bushland, displacing both native flora and fauna. Not easily confused with any native species.

Due to its adaptability it has the potential to become widely spread. Its spread needs to be closely monitored.

Recorded on the coast only at Port Vincent.

Cotyledon spp. Cotyledon

A robust sprawling succulent shrub. Large fleshy leaves from grey to green opposite or in whorls often with a red line around the margin. Red or orange tubular flowers with 5 petals and curled lobes, in clusters on slender drooping branches at the top of the plant. Flowers from spring to summer. Found in loam, sandy clay, and granitic slopes.

Cotyledon orbiculata has five varieties, based on differences in leaf and flower shape. The immediate environment also influences the variability of leaf size, shape and colour.

Another succulent that is easily identified and could be locally eradicated if practical.

Commonly found around holiday settlements. Readily recognised as survivors of garden waste dumping.

Rogues Point

Cynodon dactylon Couch

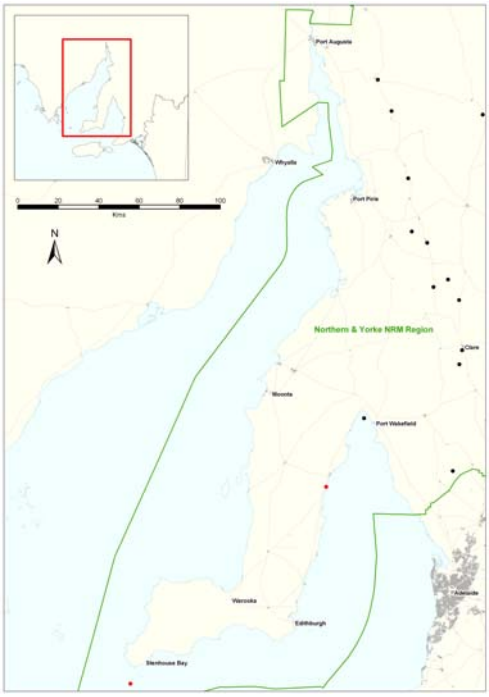
A coarse, creeping, dark-green, perennial grass to shin high with erect flower stem. Fine leaves scattered along creeping stems in alternating rows. Inflorescence, 4-6 linear spikes, spreading umbrella-like from apex of stem.

Very difficult to freshen to allow control by chemical. Aggressive and easily spread where fresh water is available.

Not a serious threat but can create a very dense cover. The coast would be better off without it in preference for the native sea couches *Distichlis* or *Sporobolus*, which inhabit the same situations.

Very common on the coast and found on the Althorpe Island airstrip

Paspalum vaginatum is a similar weedy grass recorded in the region, which should also be treated in the same manner as Couch.

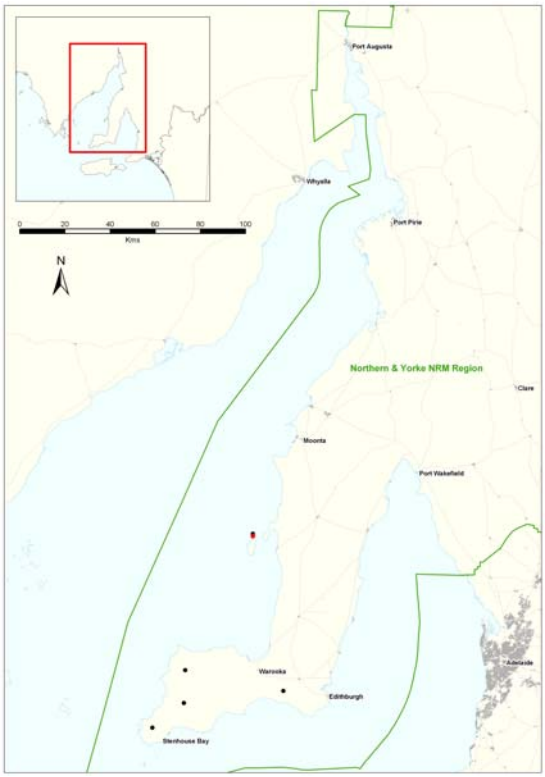


Diplotaxis tenuifolia Lincoln Weed

An erect perennial herb, to waist high with a stout tap root. Large leaves of two types, at the base lanceolate in outline, hairless, deeply divided into irregularly toothed lobes, with a large, terminal lobe. Oblong along stems, shallowly toothed, and much smaller and bluish green with an unpleasant odour when crushed. Flowers along erect stems in loose clusters and form four bright yellow cross-shaped petals. Fruit an upright cylindrical pod constricted between seeds and a short beak.

A *declared plant of South Australia*, control is required in part of the State. Prefers sandy soils and found more often where it receives less coastal exposure, a naturalised species that is spreading.

Recorded on the coast mainly on southern Yorke Peninsula and the Wallaroo district. Difficult to control.



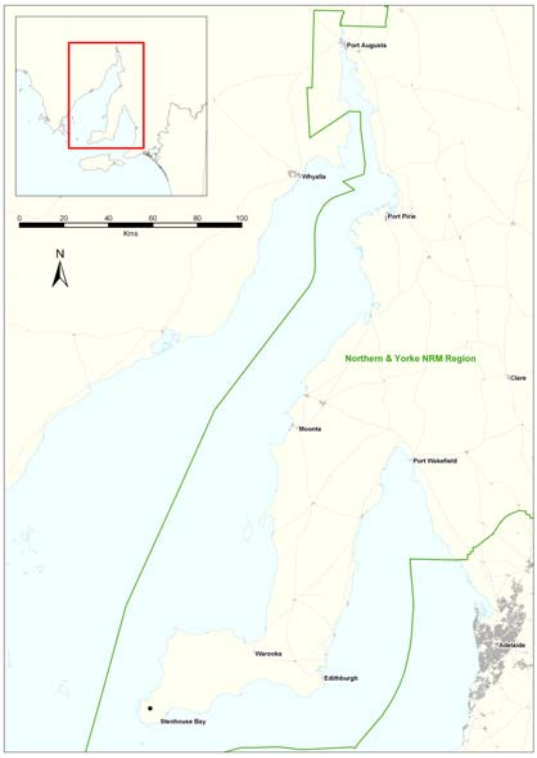
Dipogon lignosus Lavatory Creeper

A twining, vigorous perennial climber that becomes woody at the base. Moderately hairy stems with ovate bright green leaves alternate with 3 broad leaflets, and short sprays of abundant white or pink pea-flowers. Hairless pods narrow at the ends.

Spread by seed, it invades disturbed, sandy sites near/on coast, and fixes nitrogen that leads to increase in soil fertility, which support other weedy species. Seed has prolonged dormancy, and plant possesses rapid growth and forms dense canopies and is a high weed risk "sleeper".

Remove all traces of roots or rhizomes as it can regrow from fragments. Continual removal of vines will exhaust root system, and seedlings should be hand-pulled. Has the potential to become established and should be locally eradicated if practical.

Recorded in the Innes National Park.



Disa bracteata South African Weed Orchid

An erect fleshy deciduous perennial terrestrial orchid to knee high with underground tubers. Leaves numerous with parallel veins, decreasing in size progressively up the stem; lower leaves 5-15cm long, tapering from a broad base to an acuminate apex. Flowers very dense, arranged in an indistinct spiral, mostly reddish-brown and yellow with a leafy bract. Dormant for much of the year, it sprouts in early spring and takes a minimum of three years from seed to flowering stage. Seed is dust-like. Formerly *Monadenia bracteate.*

Not recorded in the region but has been observed. Competes with native orchids and has a symbiosis with other fungus. The seeds may be blown many kilometres and can remain viable for several years. Seed set and dispersal starts at the end of November. The seeds continue to mature in the capsule if the flower head is picked and the capsule shatters and disperses them when ripe. Difficult and time-consuming, hand removal required.

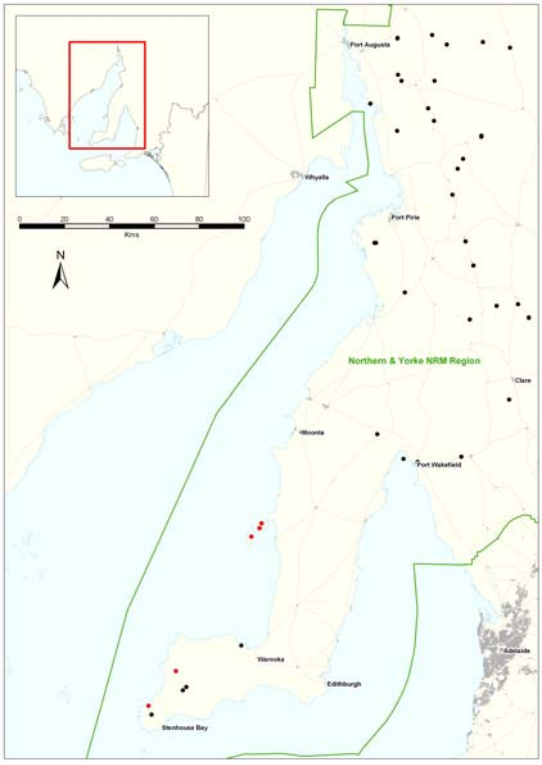
Limited distribution at present.

Photograph: Ron Taylor

Dittrichia graveolens Stinkweed

A robust, much-branched, annual herb to thigh high with narrow alternate leaves; all parts with aromatic, glandular hairs and is sticky to feel. Inflorescence a leafy, pyramid-shaped cluster, bearing numerous, small, yellow flower heads with a crown of minutely barbed, white or pale brown bristles. Fruit narrow-ovoid achenes, sparsely covered by short, thin hairs and small, glandular hairs. Seed is dust-like, daisy parachute of fine hairs to assist wind dispersal. Strong and unpleasant smell when crushed. Will grow after disturbance, e.g. roadside grading, it is a naturalised species and is spreading.

Recorded on the coast from Port Wakefield to the bottom of Yorke Peninsula and isolated along western Yorke Peninsula and into upper Spencer Gulf to Red Cliff Point.

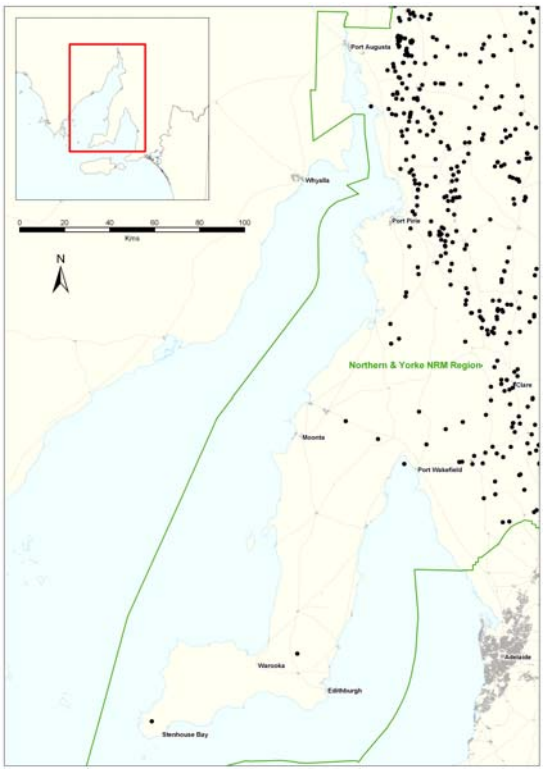


Photograph: Tony Robinson

Echium plantagineum Salvation Jane

An annual (rarely biennial) herb, to waist high. Large and ovate, hairy leaves in a basal rosette and lanceolate along erect, hairy stems bearing a dense, one-sided spike of large, purplish blue tubular flowers. Apex of tube divided into five, broad lobes. Fruit a black, wrinkled, 1-seeded capsule. May stay dormant in the soil for some time.
A vigorous weed of pastures and roadsides near the coast. A *declared plant of South Australia*. Habitat generalist. Control by chemical. The Yorke Peninsula Animal and Plant Control Board has active programs for the release, distribution and management of a biological agent for Salvation Jane (flea beetle).

It is recorded on the coast at Innes National Park and north but most prevalent in the upper region above the line of Port Pirie.

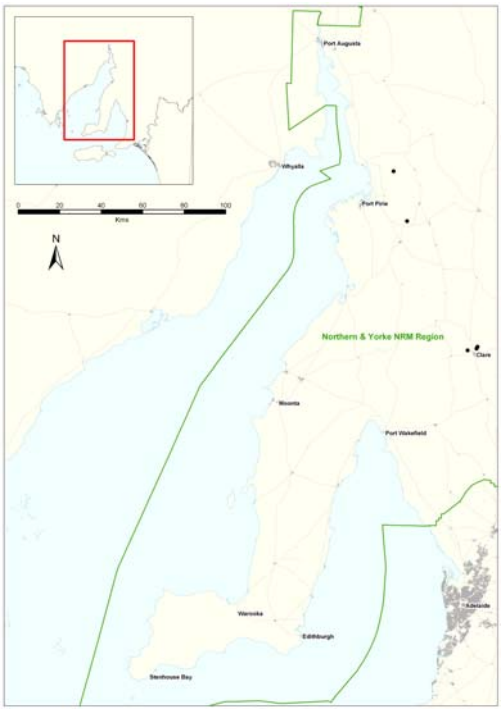


Tickera

Ehrharta calycina Perennial Veldt Grass

Variable tufted grass to thigh high. Leaves usually flat or rolled. Brown drooping spikelet. Reddish-purple flower, abundant in Spring. It is a persistent, invasive environmental weed can become a nearly continuous cover under shrubs. Reproduces by seed. It is not considered a resilient species under heavy grazing, but if left is invasive, drought tolerant and a fire hazard in dunal systems. It also suppresses the presence of native dune grasses. It is mostly seen in low salt exposure areas in swales, hind and mid dunes. Does not tolerate shading.

Recorded on the coast from Black Point to Stansbury. Introduced as a drought resistant pasture grass after WW2 and used in mine rehabilitation, now a widespread and invasive environmental weed.



Black Point

Ehrharta villosa var. *maxima* Pyp Grass

Introduced South African perennial grass with a creeping deep rhizome, tall, spindly and tough. Leaf blades are flat or rolled, 4 mm broad and 4–20 cm long. Spikelets often 1 sided and 15 mm long. They are slightly hairy and straw coloured.
Pyp grass has varied effects but can be a rampant coloniser of disturbed areas with thick suffocating thatches through which limited native seedlings can penetrate.
First collected in Australia in 1912 it was generally introduced as a dune stabiliser.

A serious environmental weed of high impact, can potentially limit seedling growth, and is a tough plant with a small leaf surface that can limit herbicide uptake.

It has an irregular stabilising affect on dunes that does not represent natural dune dynamics.

Only recorded on the coast at Myponie Point but also found at several locations on western Yorke Peninsula in dunes south down to Daly Head.

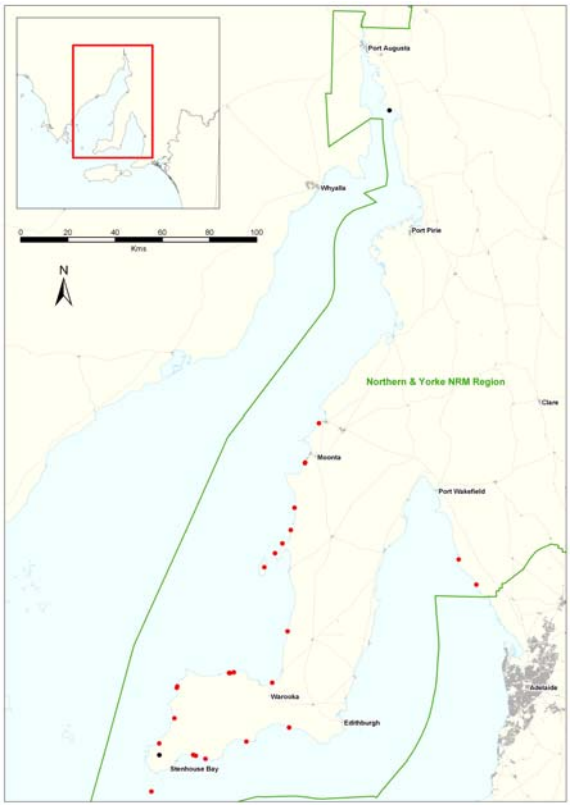
Hardwicke Bay

Euphorbia paralias Sea Spurge

An introduced perennial fleshy herb, growing upright to knee high with a deep taproot. Leaves blue-green in colour, gradually changing shape up the stem. The stems have a sticky white sap when broken. Central stalked female flower can also look yellow in spring and summer. Three small smooth whitish seeds in each wrinkled seed capsule. It seed is buoyant and viable in salt water for many years and is considered cosmopolitan.

Recognised weed of coastal sand dunes since 1934. Introduced from Mediterranean in ship ballast, it is a naturalised species that is spreading and is recognised as cosmopolitan. It invades frontal dunes above the strand line and unstable coastal dunes. It rapidly invades unaffected beaches its buoyant seed being spread by ocean currents.

Recorded on the coast predominantly on the west coast of Yorke Peninsula below the line of Wallaroo and above the line of Miranda.



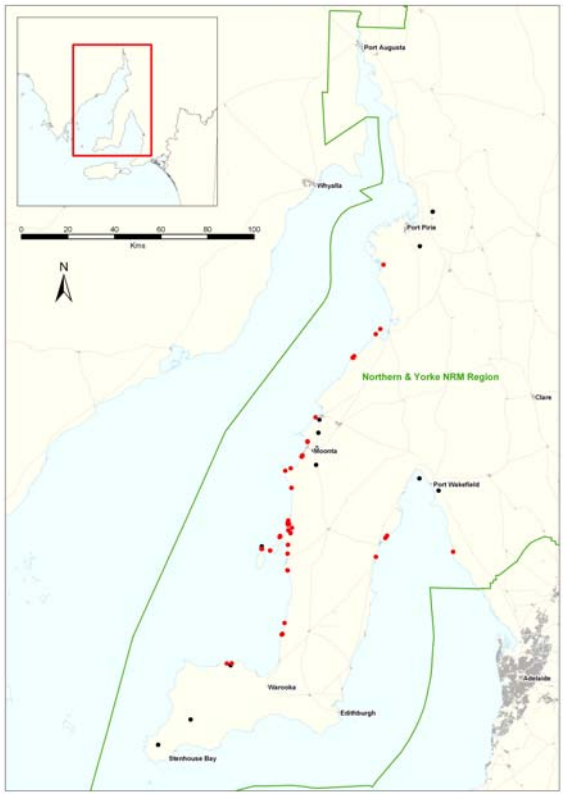
Light River Beach

Euphorbia terracina False Caper

Erect rigid shrub to 1 metre. Leaves are long and alternate up the stem. Five short, broad leaves circle the stem at the base of the flower stalk. A flower is often not produced. Recognised as a coastal weed in 1896. A prolific declared weed found in sheltered areas in the dunes including frontal dunes of sheltered coasts and the gulfs. Control by herbicide in situ as the herb binds the dunes. Replace with the native grass *Spinifex* which grows in similar situations. Provides little natural benefit in coastal systems.

False caper is a *declared plant of South Australia*. It has no known predators, readily naturalises and has become abundant in the region. A naturalised species that is spreading it invades sheltered areas in dune systems.

Recorded on the coast predominantly on Yorke Peninsula.



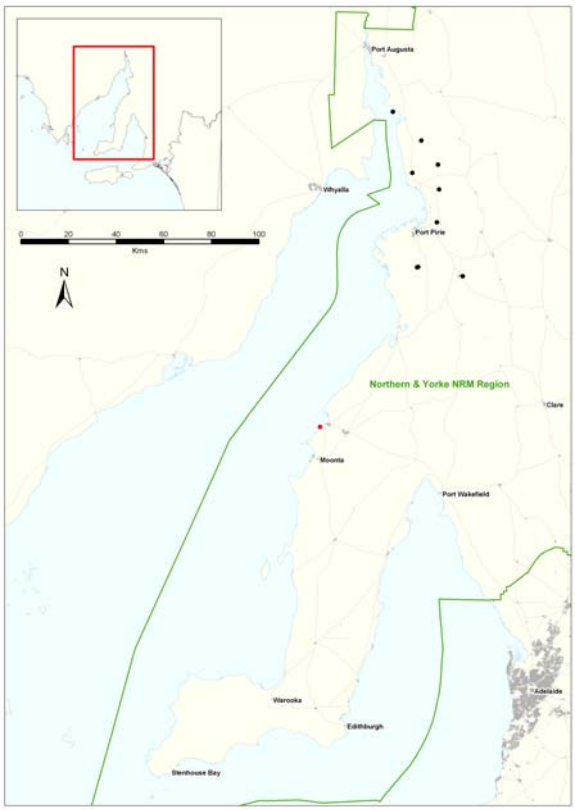
China mens Well

Galenia pubescens var. *pubescens* Coastal Galenia

Soft grey-green often mat-forming shrub. Fine hairs pressed along the stems that are quite woody at plant base. Leaves also hairy. Flower exists where the leaf and stem meet. Small white flower with 5 petals. Has a deep taproot.

Found on the disturbed edges and arrive along roadsides and unattended paddocks it is a naturalised species and is spreading. Can take over large areas as a monoculture. Chemical with a wetting agent or penetrant used on a number of occasions, some months apart have proved effective. Remove in stable areas or with a revegetation program.

Recorded on the coast above the line of Port Pirie and around the Wallaroo district but is found elsewhere



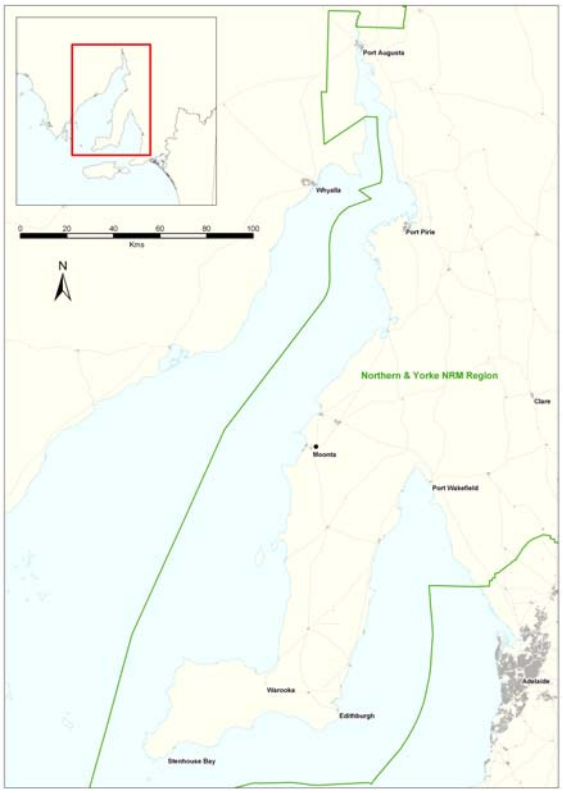
Gazania spp. Gazania

Gazania linearis: A much-branched creeping perennial herb to shin high. Leaves variable but generally lobed and fleshy have a leathery green surface with white hairs, and a vein on the underside. Flowers daisy-like with many petals on long stems. The disk floret is orange to yellow in colour, changing to a deep yellow or black marking near the base of each petal. It is distinctive, not easily mistaken with native species.

Gazania rigens: A clump forming perennial growing to shin high. Leaves are small, linear and dark green with a white under surface. Solitary daisy-like flowers are produced on long stems.

Both Gazania species flower most of the year; seeds spread rapidly by water, wind, and in dumped garden waste. High moisture demand. Many hybrids have been developed for cultivation, which makes identification difficult. Withstands salt-laden winds and grows well in sandy soils.

Become naturalised on coastal dunes and along roadsides, both species are invasive environmental weeds. Found commonly near built up areas and also Althorpe Island.

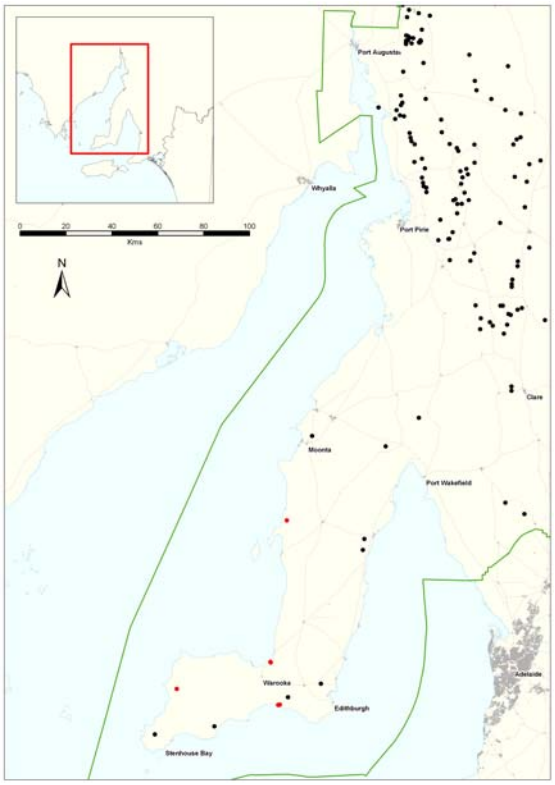


Port Rickaby

Hedypnois rhagadioloides Cretan Weed

Sprawling, slightly hairy, procumbent or erect, rosette annual, herb, shin to knee high. Spoon-shaped leaves, dandelion shaped flowers yellow in spring, flower heads sit on swollen, hollow stalks. As fruits mature, heads turn dark brown with club-shaped structures. Pastures & other disturbed habitats.

Recorded on the coast on Yorke Peninsula below the line of Port Wakefield and in the upper region above the line of Port Pirie. Opportunist annual, which with better management of the coast could show retreat in its spread.



Photograph: Ron Taylor

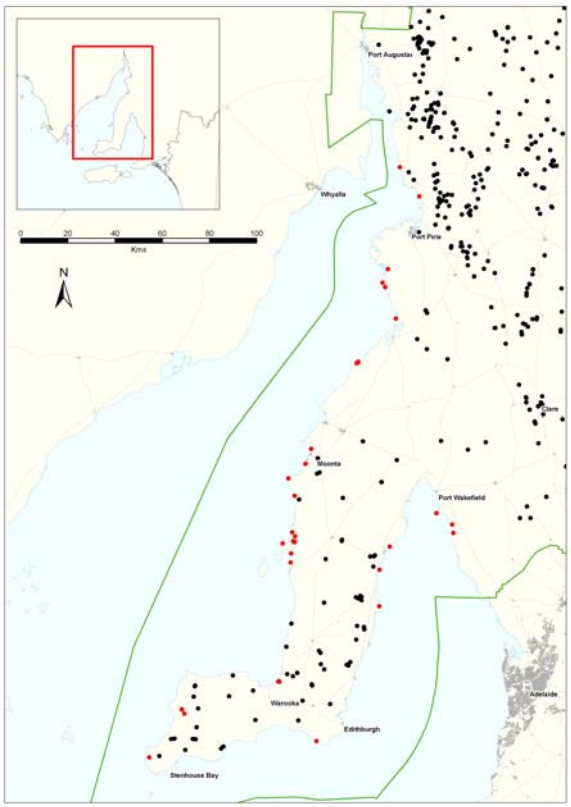
Hypochaeris spp. Cat's Ear

A perennial herb with a ground hugging, rosette of large, lobed leaves and a taproot. *Hypochaeris glabra* has leaves usually not hairy or only a few hairs mainly on the margins and lobed. An erect, usually branched flower stem to knee high. Inflorescence a series of large, yellow, 'dandelion' flower heads at the ends of each branch. Bracts surrounding the head in several overlapping rows, linear, green with paler margins, purplish and crested near tip. All fruits arranged in a fluffy, globular.

Hypochaeris radicata has leaves variably covered with short, stiff hairs on both surfaces. An erect, usually branched flower stem to knee high. Inflorescence a series of large, yellow, 'dandelion' flower heads at the ends of each branch. Bracts surrounding the head in several overlapping rows, linear, green with paler margins, purplish and crested near tip. Ligules usually longer than *H. glabra.*

Adaptable, prolific spreading herb with a short life cycle, occasionally suppressive. Spot spray.

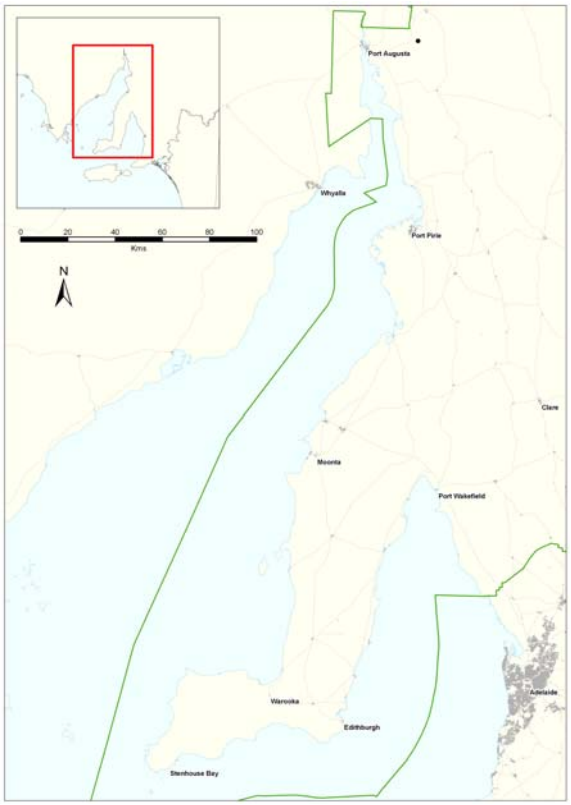
Widely found it is a naturalised species and is spreading. Encouraged by disturbance.



Juncus acutus Sharp Rush

A robust, tufted rush, to chest high. Erect, cylindrical dark green leaves are smooth, rigid and sharply pointed. Green floret is in branched dense clusters turning red-brown, chaffy flowers. Fruit is an ovoid, 3-angled capsule, pointed, red-brown and glossy. It is salt tolerant and grows in coastal saltmarsh situations and is an invasive environmental weed. Its rhizomes spread underground forming new tufts and ultimately extensive clonal patches. It is easily mistaken for native *Juncus spp*., but can be distinguished by the extremely pointed tips, and is more robust (bigger tussocks, wider individual stems).

Only recorded on the coast at Port Augusta but is also found at Buckland Park just outside the NY region and is an invasive environmental weed.




Port Augusta

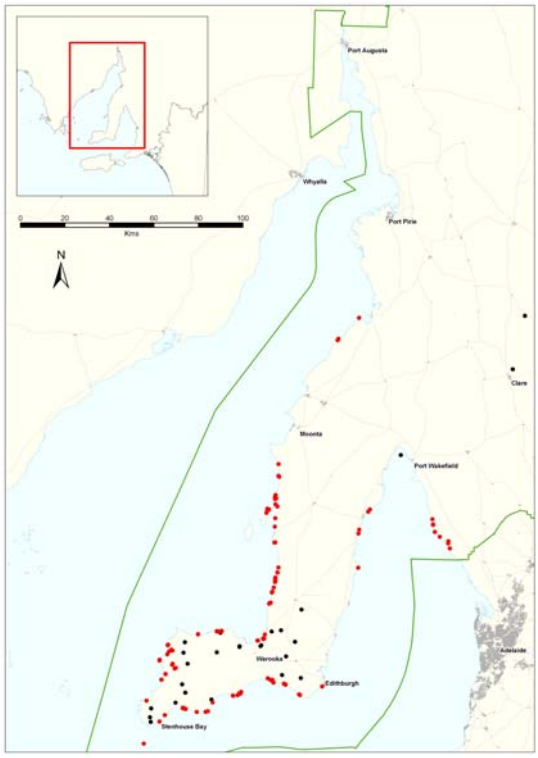

Port Augusta

Lagurus ovatus Hare's Tail Grass

An erect, annual wiry open grass. Leaves flat and hairy. Dense silky grey to white and fluffy flower head and ages to straw colour. It is only an annual, but dehisced flower persist for so long it appears to be perennial.

A naturalised species that is spreading and one of the many weedy grasses eg Lolium, Bromus, Briza etc that are a very invasive that could inhibit the native herb layer an important and easily disturbed stratum of coastal biodiversity.

Recorded on the coast in the region below the line of Port Wakefield.



Leptospermum laevigatum Coast Tea-tree

Large and broad woody shrub to overhead high, with fibrous bark (on older trunks). Broad flat blue-green hairless leaves arranged alternately and in clusters. White flowers cup shaped at the base with 5 rounded petals. Fruit an olive green woody capsule, more or less hemispherical, containing small, brown seeds. Seeds are released each season and are not long lived in soil and the capsules do not persist for long on adult plant. Cutting this plant back to the stump and leaving the root base is the best for dune situations. Some follow up of seedlings is required

An invasive environmental weed on the coast it is aided by allelopathy combined with direct competition which aids its dominance. Also changed fire regimes have allowed spread. Will not sprout from base after cutting. If manual removal dispose of fruits. The Flora of Victoria suggests that natural populations do not extend west of Anglesea.

Do not confuse with *Leucopogon parviflorus.*

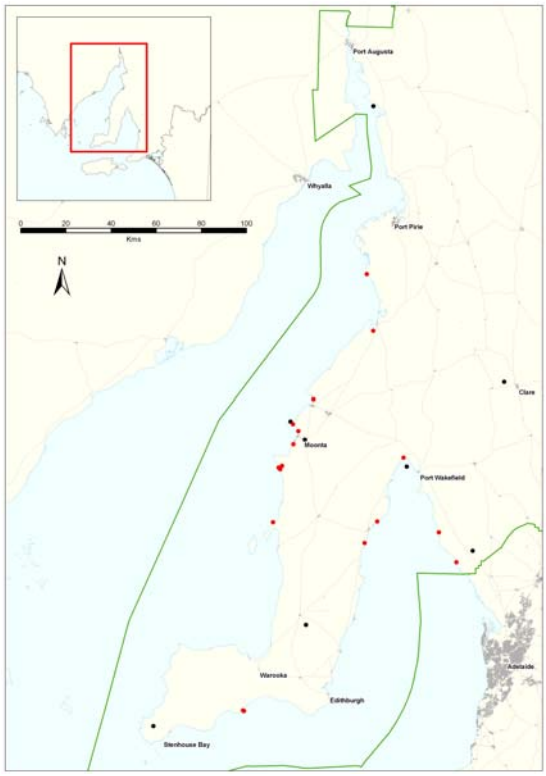
Not recorded on the coast but found at North Beach, Wallaroo and in landscape planting at Point Souttar.

Point Souttar

Limonium spp. Sea-lavender

A perennial herb, to shin high, with narrow leaves in a basal rosette of spoon-shaped leaves. Erect stems and inflorescence with tiny purple paper-like flowers in loose spreading spikelets, bearing branched, one-sided groups of small funnel shaped papery purple flowers. Flowers early summer. Invading the perimeter of saltmarsh areas is a hungry feeder and difficult to control. Copes well in saline soils.

Recorded in several coastal landforms across the region. It is a naturalised species and is spreading.



Coobowie – Salt Creek Estuary

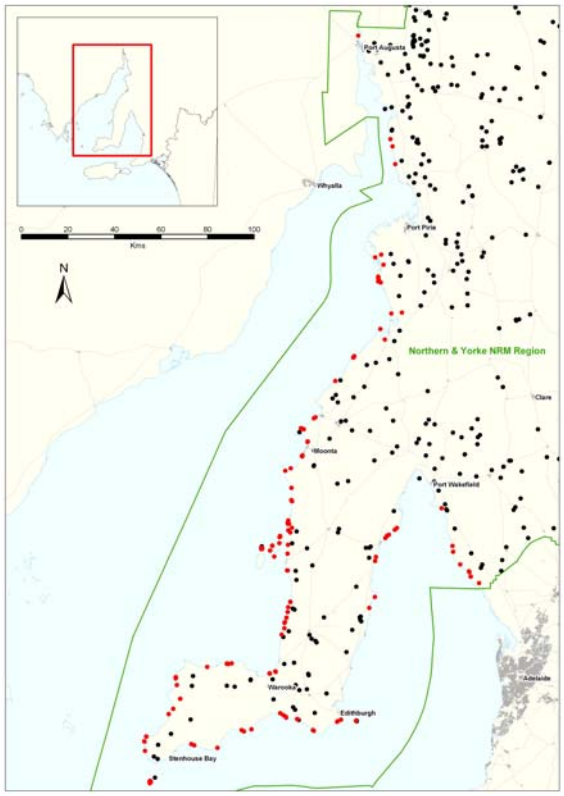
Lycium ferocissimum African Boxthorn

Stout much branched thorny introduced woody shrub to over head high. Leaves cluster along stem and at the base of spines. Leaves bright green, oval shaped blunt tipped and smooth and sometimes slightly fleshy. Can be deciduous. Flowers a pale-lilac to white in colour with 5 petals, sometimes with dark spots in the centre. Fruit a bright orange berry. Can be confused with the native boxthorn *Lycium australe* (photograph shown below), *Nitraria billardiera, Scaevola spinescens* and *Bursaria spinosa.*

A serious environmental weed of high impact it is a *declared plant of South Australia*. Control by cut and swab in situ. Remove dead shrub if possible. It can be habitat to pest and indigenous animals e.g. it is used as shelter by penguins. Therefore thoroughly check before removing and make alternative provisions if necessary. It has been known to interfere with sea-lion breeding.

Boxthorn has been targeted in many locations in the region. Keith Gowling deserves a special mention for his work in the Ardrossan area.

Recorded on the coast in all areas of the region but in less densities in the northern area of the region. Found in heavy infestations on southern and western Yorke Peninsula.



Native boxthorn: *Lycium australe*

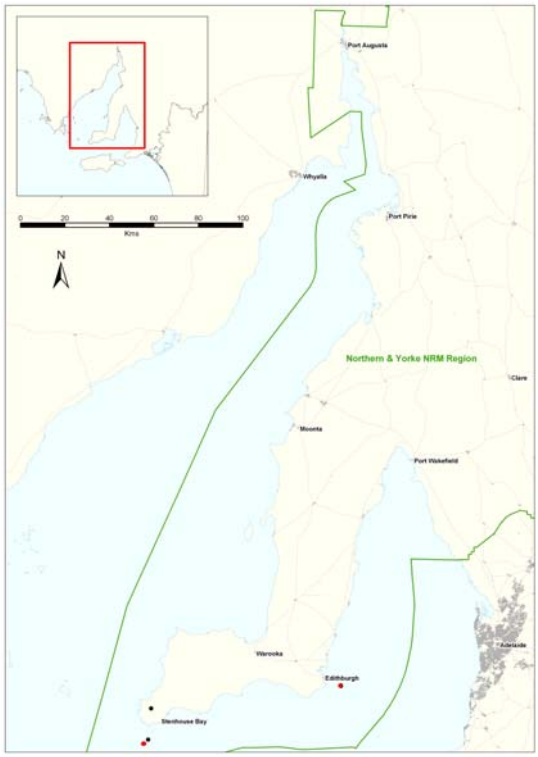
Balgowan

Malva dendromorpha Tree Mallow

A robust, perennial herb, to over head high. Have large, soft circular deeply lobed leaves. Both surfaces variably hairy. Large deep pink flowers with 5 petals and dark purple veins arising from leaf axils. Fruit is a thick disk, with about 7 wedge-shaped seeds. Formerly known as *Lavatera arborea.*

Usually found where there is manure. There are some native mallows that need to be clearly separated from the weed species. An information sheet distinguishing features for Coastcare practitioners might be useful.

Only recorded on Troubridge and Althorpe Islands but also found in drainage channels in several areas.



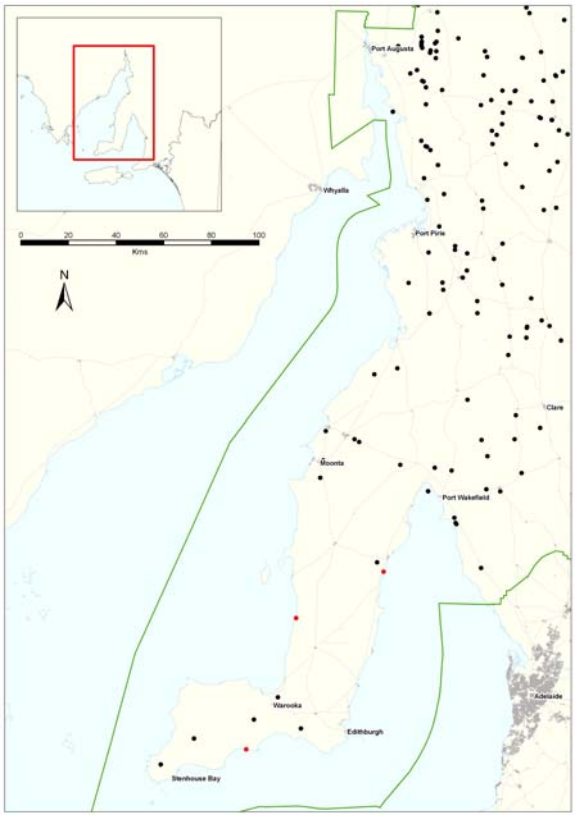
Marrubium vulgare Horehound

A whitish-brown bushy herb to knee high with wrinkled, grey-green leaves in opposite pairs along erect stems which are square in cross section. Leaf margins bluntly toothed with veins depressed in the top surface. Sharply aromatic when crushed. Small, white tubular flowers clustered in leaf axils with 5 petals (upper lip 2-lobed and lower lip 3-lobed. Fruit is a brown burr with small hooked spines. Invades coastal areas.

It has a large distribution in South Australia and is *a declared plant* of the state and is required to be removed in many areas. It invades dry coastal vegetation in heavier soils and rock outcrops, overgrazed or grazed by sheep through pastures, roadsides and unattended disturbed areas. Very opportunistic and spread by animals. It is a naturalised species and is spreading aided by a large seed set which may survive in the soil for long periods.

The Yorke Peninsula Animal and Plant Control Board has active programs for the release, distribution and management of a biological agent for Horehound (plume moth) *Wheeleria spilodactylus* horehound plume moth (a leaf feeder) was released in 1994 in South Australia to reduce seed number and biomass.

Recorded on the coast throughout the region but less vigorous in coastal areas.

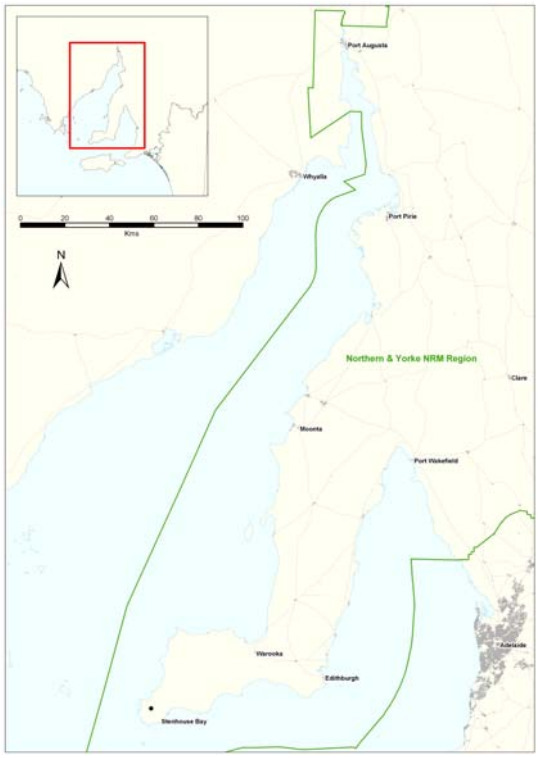


Tickera

Matthiola incana Common Stock

A perennial herb, to waist high, with narrow leaves at the base of and along the erect, branched stems. Bears large purple, pink or white flowers with 4 rounded petals. Whole plant covered with stellate hairs. Fruit a long, narrow, cylindrical capsule, with two short horns at the top, more or less erect on slender stalks.

Not recorded in the coastal region but found around holiday settlements and at Innes National Park.

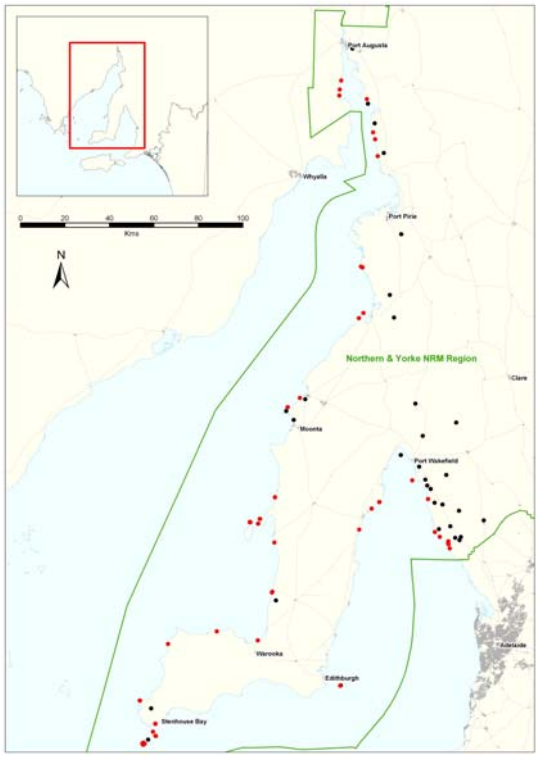


Port Rickaby

Mesembryanthemum crystallinum Common Iceplant

Succulent mat annual herb. Stems and leaves glisten with shiny tiny water cells. Leaves green or pink, fleshy, hairless. Single white daisy like flower on short stalk. Fruit a hemispherical capsules, initially fleshy but becoming dry and papery, releasing hard, dry seeds. Manual removal

Recorded on the coast throughout the region but more prevalent on Yorke Peninsula. Found on Wardang and Althorpe Islands.

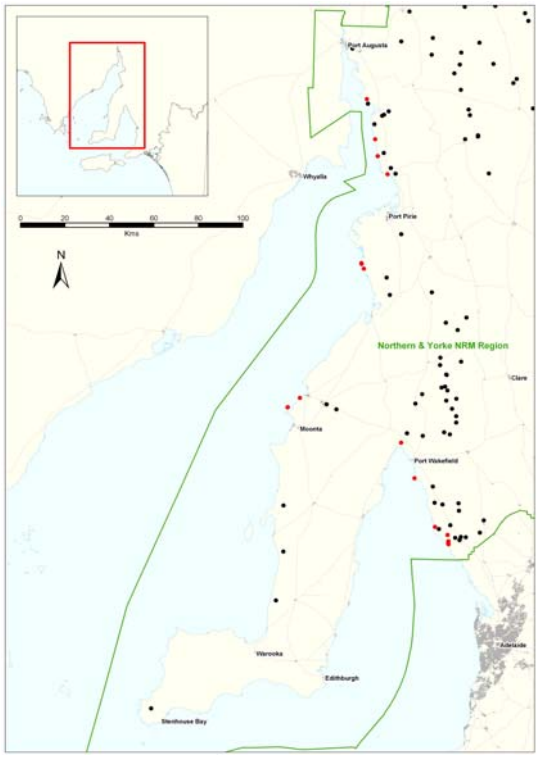


Light River Beach

Mesembryanthemum nodiflorum Slender Iceplant

A prostrate, succulent, annual mat herb with narrow fleshy leaves green, hairless, surfaces covered with tiny, glistening spheres. A white daisy like flower on short stalks. Fruit is an ovoid capsule, initially fleshy but becoming dry and papery, releasing hard, dry seeds. More coastal than *M crystallinum.*

Recorded on the coast throughout the region but more prevalent in the northern areas.



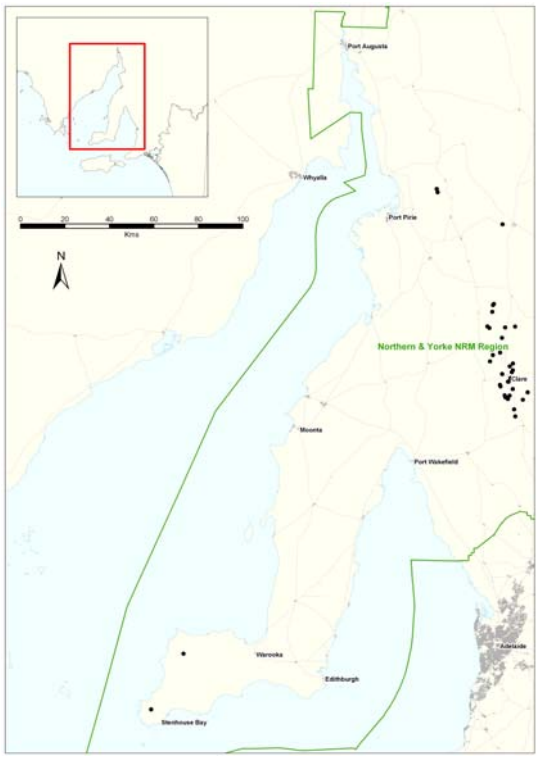
Moraea spp. Cape Tulip

Moraea flaccida A perennial erect herb, to thigh high, with a single sometimes long, narrow, ribbed, grass-like leaf at the base of an erect stem, bearing large, salmon-pink flowers with a greenish yellow base. United into a tube with a yellow centre, star-shaped. Fruit is a cylindrical capsule. Produces bulbs, which support new growth.

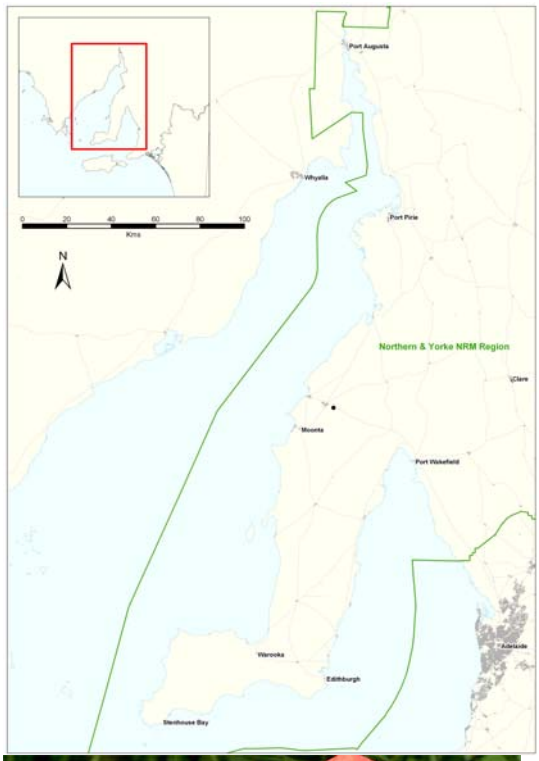
Moraea miniata is very similar the main difference they have two or occasionally more, narrow, ribbed, grass-like leaves with a pink flowers with a greenish yellow base. Similar fruit and bulb.

Both are *declared plants of South Australia.* Formerly of the Homeria genus.

Map 1: *Moraea flaccida*



Map 2: *Moraea miniata*



Photograph: Ron Taylor

Oenothera drummondii Beach Evening Primrose

Restricted to coastal areas it is an open herb verging on woody with densely hairy stems, large yellow flower with four petals and a fruiting capsule.

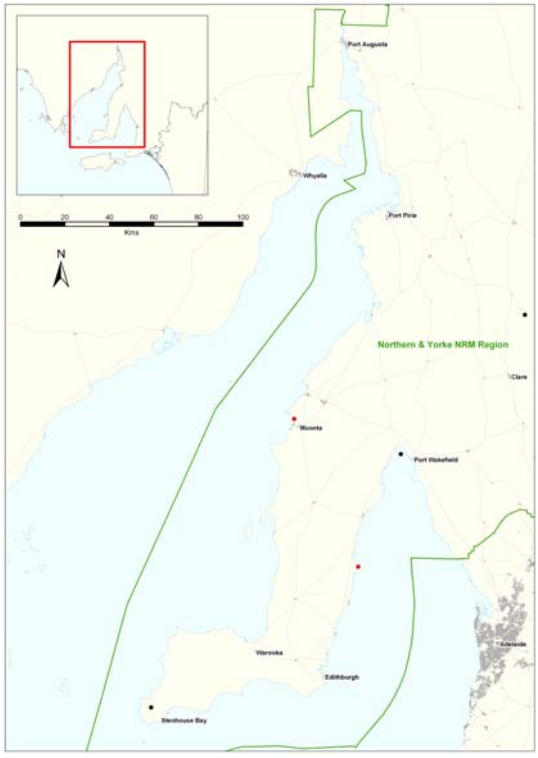
Only a new introduction and little is known about its presence or threat but appears to have many weedy characteristics. Potential introduction and early detection and rapid response required.

Not recorded in the region and only isolated specimens found on the eastern shore of Gulf St Vincent.

Oenothera stricta ssp. *stricta* Common Evening Primrose

An annual or biennial herb. Has crowded, narrow leaves with shallow teeth in a basal rosette and erect densely hairy stems to knee high bear large, sweet scented showy yellow flowers with four petals each indented at the apex in upper leaf axils. Opens in the evening, fades to red and crumples.

Recorded on the coast and found widespread across the region and is encouraged by disturbance. It has the capacity to out compete native species.

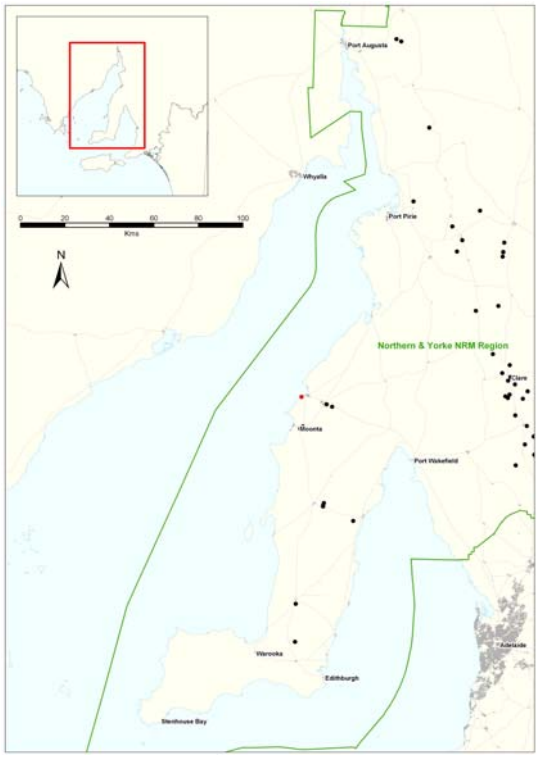


Olea europaea ssp. *europaea* Olive

A tree or dense bushy shrub, to 15 m tall. Smooth stems and branches with bark becoming rough, pale grey. Dark green, narrow leaves in opposite pairs, glossy dark grey-green above and silvery scaly below. Branched clusters of small, pale green flowers and dark purple, fleshy fruit.

Seed spread by birds and foxes, machinery, human trade and cultivated plantings. Dense canopy creates shade, which prevents native growth. A *declared plant of South Australia*. Cut and swab.

Recorded on the coast in the Stansbury to Edithburgh area and near Wallaroo.



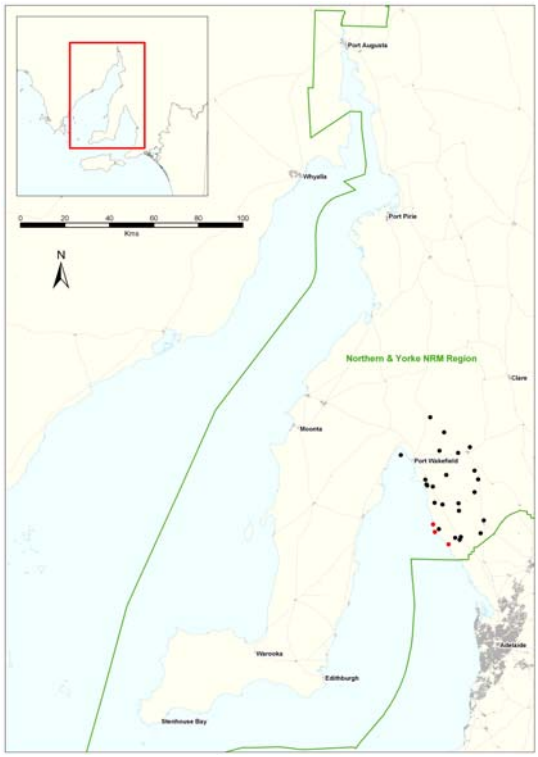
Oncosiphon suffruticosum Calomba Daisy

An erect, strongly chamomile scented annual herb to knee high. Leaves are grey-green in colour, and divided into thin lobes, giving a feather-like appearance. Flowers minute and mustard-yellow in colour, arranged in broad flat groups of ball-shaped heads at the top of the stems. (*Animal and Plant Control Board 2000).*

Needs bare sandy soil to thrive. This daisy has the potential to be a coastal weed and is being viewed with concern particularly on the edges of saltmarshes. Its containment is a concern. Provides little natural benefit in coastal systems.

A *declared plant in South Australia*.

Recorded in the Mallala coast to Port Wakefield region and is found penetrating into coastal dunes and saltmarshes in this area. Also recorded in the Mambray Creek area.



Thompson Beach

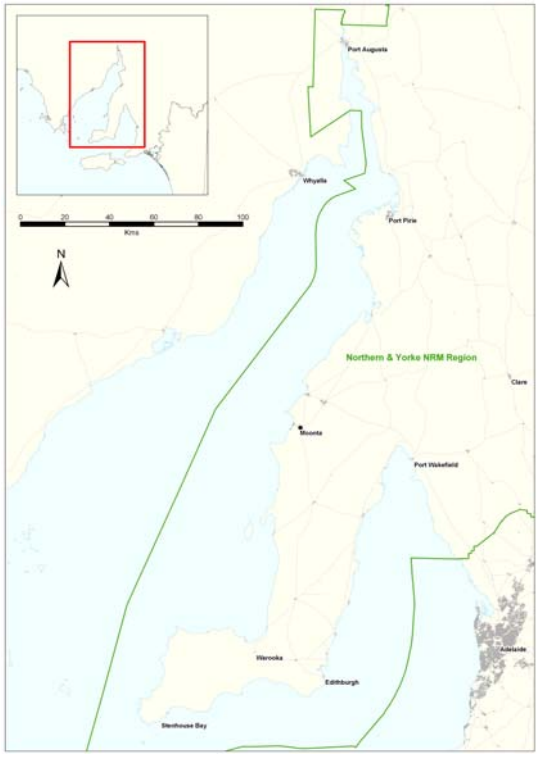
Thompson Beach

Opuntia spp. Prickly Pear

A robust, succulent shrub varying to over head high, with large, flattened, leaf-like joints covered in single or double spines. Yellow flowers and smooth fleshy, purple fruits.

Very hardy succulent plants usually a dumped garden plant, difficult to eradicate. Control by manual removal. Caution with spines and toxic sap. A proclaimed plant of South Australia. A renewed reinfestation of this plant is a possibility with coastal areas being a prime dumping area for this plant.

Found in few places it can achieve large dimensions and needs to be locally eradicated if practical.



Port Pirie

Orbea variegata Carrion-flower

Succulent to ankle high, hairless stems to ankle high. Flowers 1-5 at base of stem, transversely ridged, pale greenish-yellow with dark purple-brown spots mostly in 6-7 rows or sometimes irregularly scattered, annulus lobes of corona yellow, dusted or spotted purple.

This species is very variable and many have been given varietal names or recognized as distinct species.

Found in few places this plant readily spreads and needs to be locally eradicated if practical.

Port Augusta

Osteospermum fruticosum Seascape Daisy

Perennial scrambling groundcover/shrub to shin high. Bright green toothed leaves and fleshy stems. Single daisy like flower with dark blue-black centre.

Plant spreads rapidly by means of long, trailing, stems that can root where they touch the ground. . Profuse flowering during spring.

Found at Black Point and on Althorpe Island where the Friends group has commenced control.

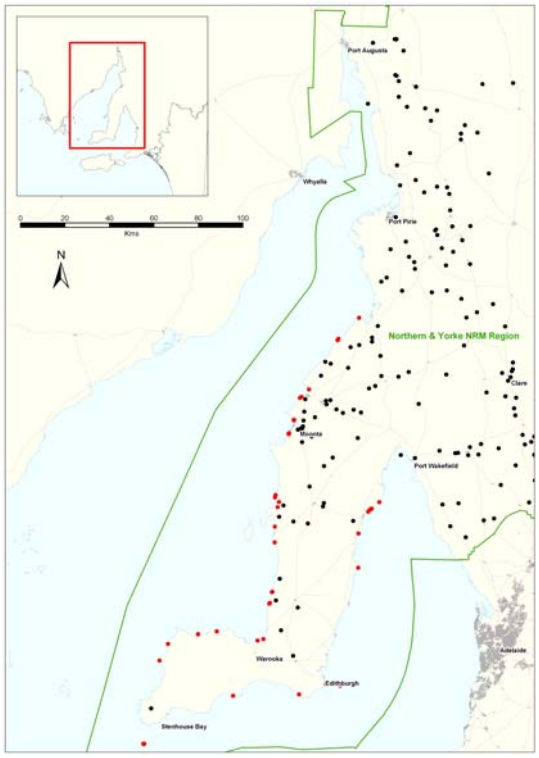
Port Moorowie

Oxalis pes-caprae Soursob

Prostrate to semi-erect annual herb to shin high with aerial parts that die back in summer. Leaves bright green often purple flecked above and divided into three, heart shaped leaflets in a basal rosette. Groups of flowers grow from one place on slender flower stalk. Yellow flowers with 5 petals. Underground bulbs egg shaped.

Invades dry coastal vegetation and is a naturalised species and is spreading. The dieback in summer leaves patches of bare soil prone to erosion. A *declared plant of South Australia* and spreads by bulbs in soil. It has proved to be easy to control with well-programmed chemical intervention. Spot spraying before flowering and bulb production.

Recorded on the coast throughout the region and is widespread but more prevalent where it receives less coastal exposure.

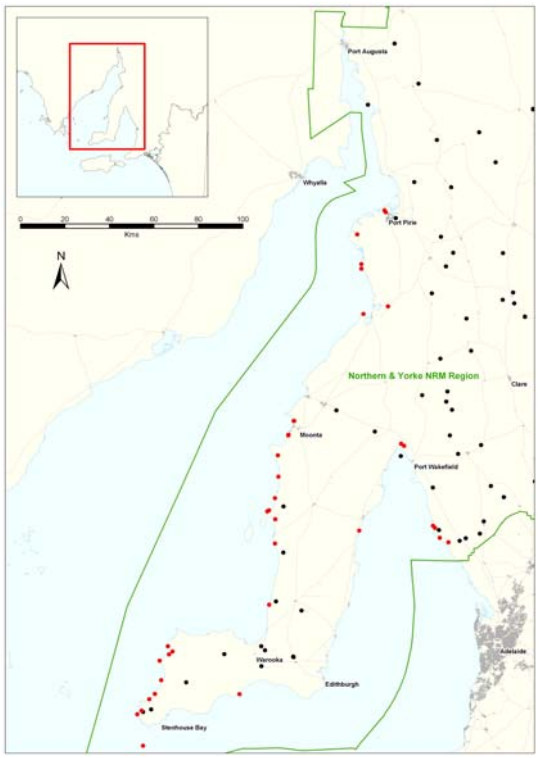


Tickera

Parapholis incurva Curly Rye-grass

A tufted, annual grass, shin high, with a very narrow flower head with chaffy florets recessed into the curved stem to give the appearance of a stem without flowers.

Found in disturbed areas. Not a serious threat if better management of the coast.

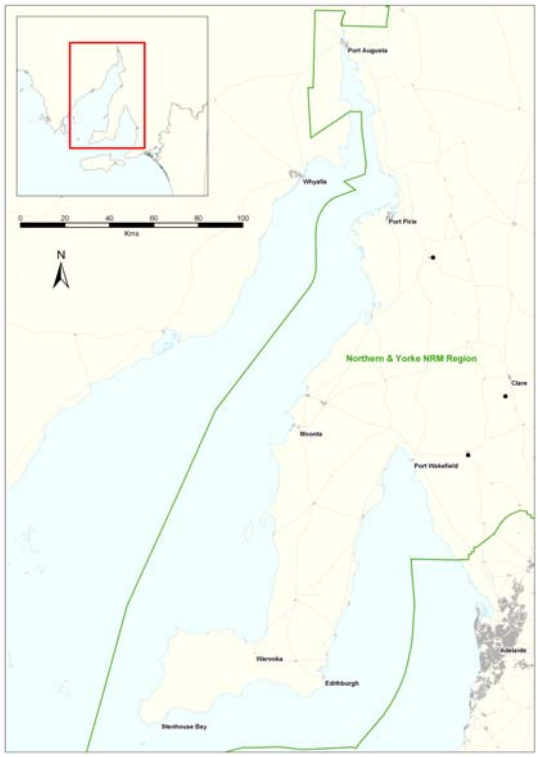


Tiddy Widdy Beach

Pennisetum setaceum Fountain Grass

A coarse, tufted, perennial grass, to waist high. Linear leaves are hairless but rough to touch. A dense, cylindrical, bristly flower head has a pink-purple tinge on a drooping flower stem. Spread by wind, water on clothing and in dumped garden waste. Very commonly used in landscaping. *Pennisetum villosum* feather top is similar but smaller in size with a pale cream flower.

Recorded on the coast at Wallaroo, Port Pirie and Port Augusta and is particularly prevalent in the railway corridor on the foreshore at Wallaroo.



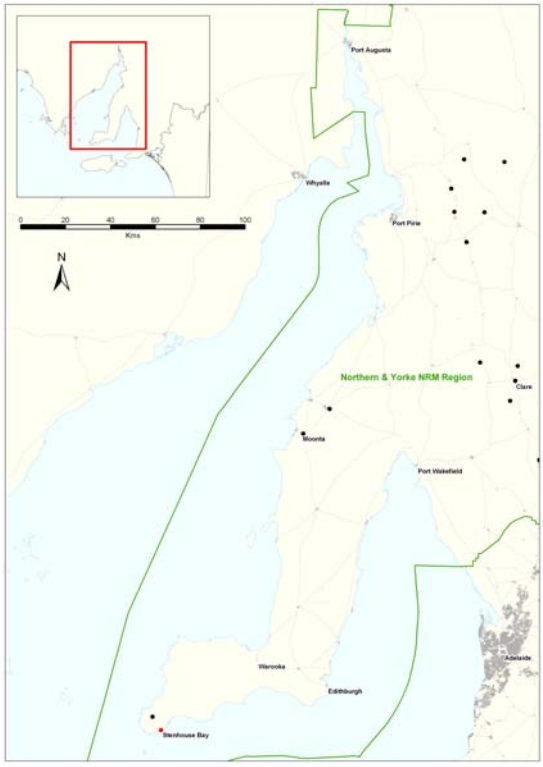
Wallaroo

Pinus halepensis Aleppo Pine

A non-flowering large tree, to 15 m tall, with dense, narrow-leafed foliage and clusters of large, woody cones. Bark hard and deeply fissured.

A *declared plant of South Australia* but not on Yorke Peninsula. Very rarely establishes naturally or becomes dominant in coastal location. Not regarded as truly naturalised and should be locally eradicated.

Found on some roadsides and camping areas on the coast where planted.



Tippara Rocks

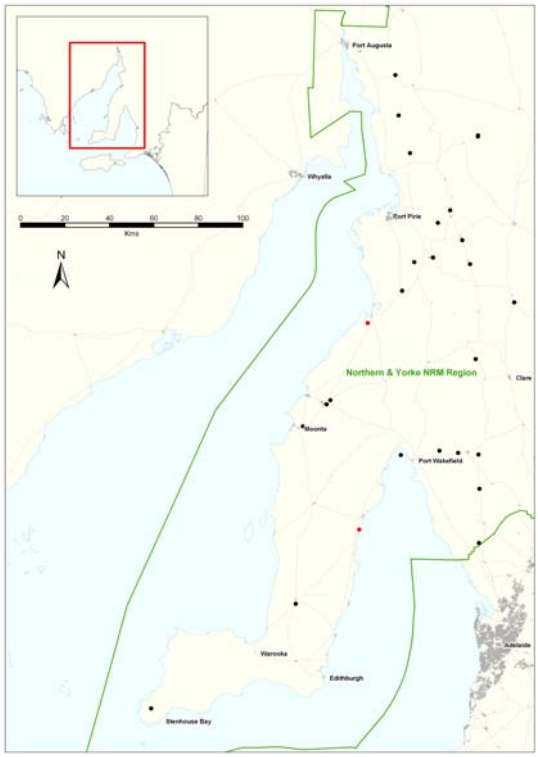
Tippara Rocks

Piptatherum miliaceum Rice Millet

A robust, tufted, perennial grass, to chest high, with a broad, branched, pyramid-shaped flower head bearing small, chaffy flowers.

Become a common weed of degraded coastal areas but is not highly salt tolerant. Resistant to chemicals.

Recorded on the coast at Innes National Park and the Wallaroo area. Commonly found on roadsides and on saltfield embankments



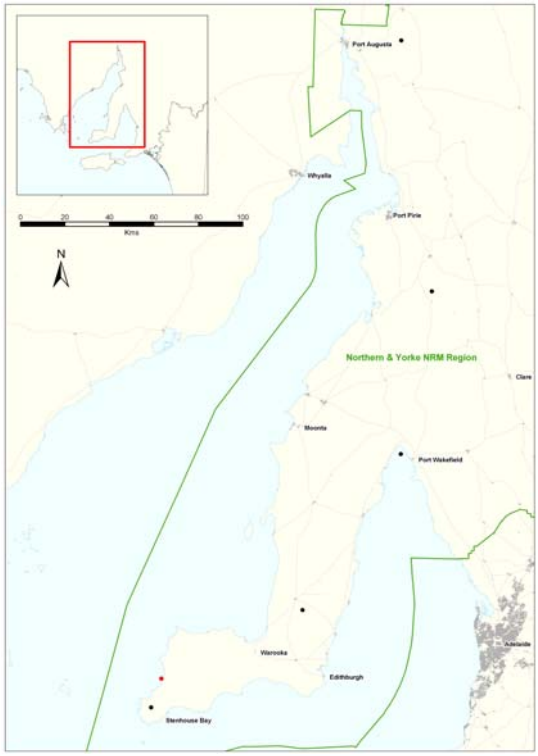
Port Pirie

Plantago spp. Plantain

A perennial or annual herb, to 35 cm tall, with narrow, lobed leaves in a basal rosette, and a slender, erect stalk bearing a dense, cylindrical spike, to 5 cm long, of small, green flowers.

A naturalised species it inhabits a wide range of disturbed sites but also dispersing into the perimeter of saltmarsh areas where it tolerates the saline conditions. Needs positive identification, as many native Plantains are very similar.

Recorded in several coastal location on southern Yorke Peninsula but is also found near saltmarsh perimeter

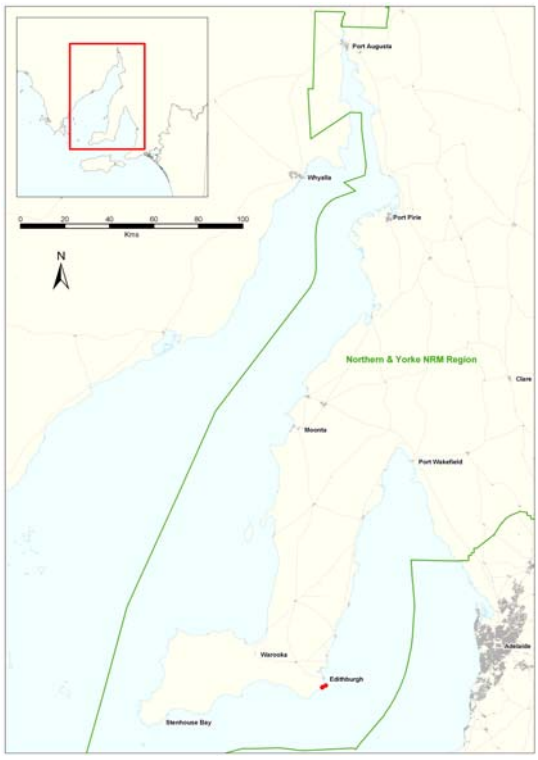


Polygala myrtifolia Myrtle-leaf Milkwort

Densely leaved, evergreen woody shrub to head high. Crowded large, dark green elliptical shaped leaves alternate along the stem. Flowers are showy, pea-like, and white with purple and green veined side wings in spring. Forward pointing tuft of bristles occur on end of one petal. Fruit a circular capsule.

An invasive environmental weed on the coast and its status in a national context needs to be reviewed. It does not need disturbance to colonise and can germinate in heavy shade. Leaves of mature plants are hydrophobic, repelling all moisture. Readily regenerates by seed and spread into coastal dunes and cliff tops by birds, water and ants. Seed remains viable for some time. Easily controlled; it can be cut at ground level or hand pulled when young. Does not readily regrow. In large areas of early germination, a herbicide may be useful. Killed by fire. Need to persist with control program. .Do not confuse with *Leucopogon parviflorus.*

Has been recorded only at Sultana Point but can be found in Innes National Park and near Port Rickaby.

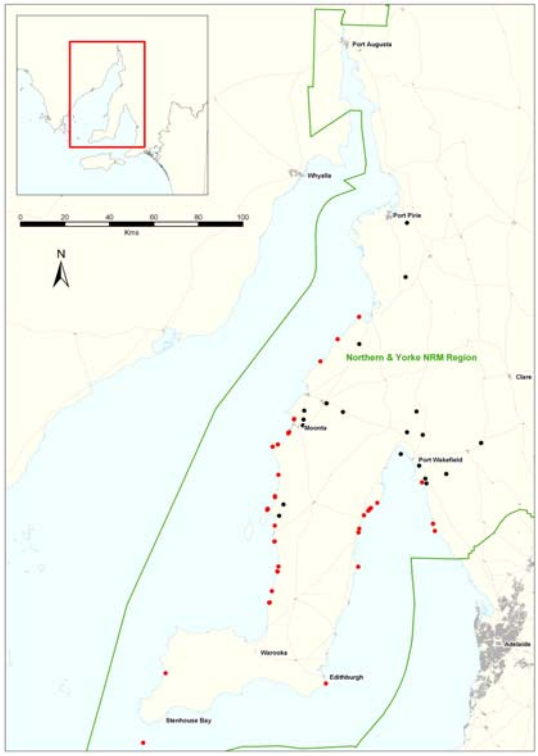


Sultana Point

Reichardia tingitana False Sowthistle

An annual or perennial herb to knee high. Large, lobed blue green hairless leaves at the base. Upper leaves smaller, stem-clasping and often with smooth margins. Tall erect flower stems, bear yellow 'dandelion flowers' with a red brown centre. Flowers frequently.

Recorded at a number of coastal locations but generally in settled areas of the region. A naturalised species it is spreading encouraged by disturbance.



Retama raetam White Weeping Broom

A large woody weeping shrub to over-head high. On the *Alert List of Environmental Weeds.* Plants are grey green with slender, drooping branches. The leaves small and narrow and are quickly dropped and the plant remains leafless for most of the year. Flowers are white and pea like appearing close to the stem in clusters. Flowers from late winter to mid spring, shedding seed pods late spring/early summer. Thrives in alkaline soils.

Recorded on the coast at Wallaroo but now found north of Port Victoria, Rogues Point holiday settlement, Port Vincent, Wallaroo and Sultana Point

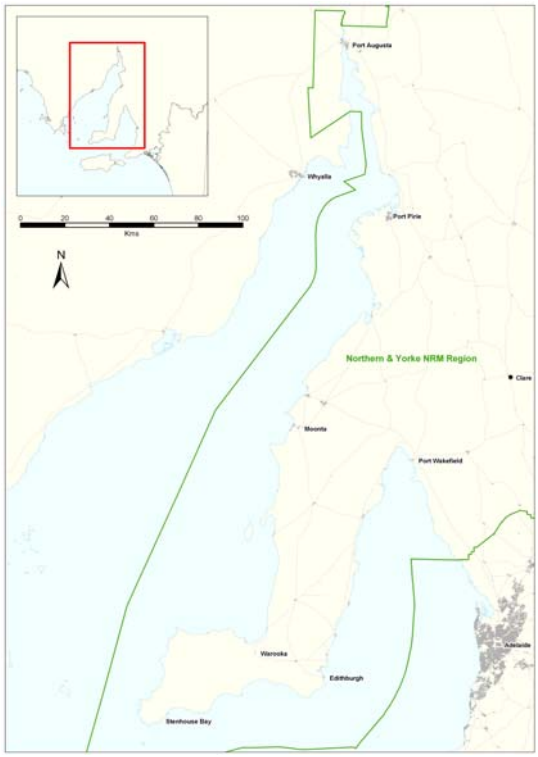
Port Victoria

Rhamnus alaternus Blowfly Bush

Large robust woody shrub to over-head high. Stems angular, hairy and usually purple when young. Leaves alternative, shiny dark green, tough and have a glossy leathery surface. Often shallowly toothed and a pointed tip. Yellow–green flowers have 5 petals and are on short spikes along the stems. Fruits are fleshy, black and prolific.

Introduced shrub or tree from the Mediterranean it is an invasive environmental weed. Long lived plants, prefers disturbed soils but can germinate in established vegetation. Prefers a climate with dry summers and will become more widespread with time. Birds spread seed and can be widely dispersed. Not killed by fires or cutting of trunk. Mature plants resilient to commonly used herbicides. Invades dry coastal vegetation but also lower light conditions in closed shrub and woodlands. Strongholds emerging and is considered a serious risk to coastal areas and will invade undisturbed areas. Control by cut and swab. Do not confuse with *Alyxia buxifolia* or *Adriana klotzschii.*

Recorded on the coast only near Port Victoria but also found near Sultana Point.

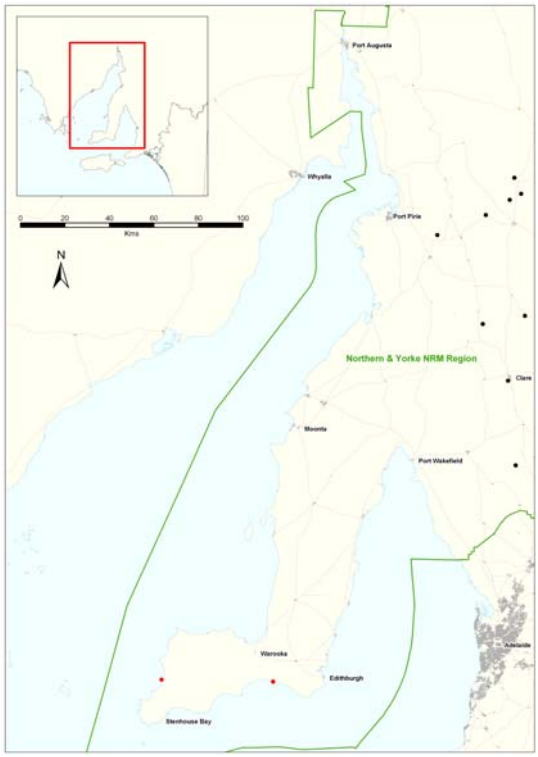


Romulea rosea var. *australis* Common Onion Grass

Very small perennial plant; leaves cylindrical, petals of flowers up to 1.8cm long, pink in colour, opening first at the ground. Flowers spring, 1-4 flowers per plant. As they mature, flower stem elongates and bends over, pushing the seed capsule back under surrounding vegetation, eventually capsules dry and split and seeds disperse.

Listed as a plant that has impacted on rare or threatened native plant species, and has naturalised all over Australia. Animals rarely graze the plant. Regenerates from corms and spreads by seed, making it very difficult to control.

Disturbance of soil assists in seed germination. Herbicide with penetrant is the best form of control, when plant is in flower.

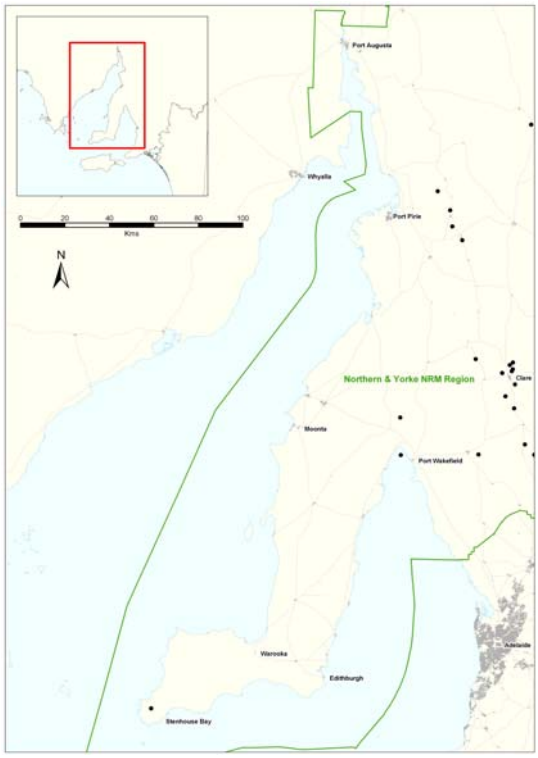


Photograph: Tony Robinson

Scabiosa atropurpurea Pincushion

A perennial herb, to knee high. Finely divided leaves in a basal floret and along the flower stem. Almost hemispherical clusters of small, pale purple flowers at the ends of slender stalks.
A vigorous weed of roadsides near the coast that readily naturalises.

Recorded on the coast at Port Augusta and Innes National Park but found on roadsides into coastal settlements



Spartina X townsendii Townsend Cord-grass

A specialised stout, erect aquatic grass, growing to knee high. Leaves are coarse smooth, hairless, folded, sharply pointed and very stiff. Leaves taper to a long slender point. Spikelets with one flower on a stiffly erect flowering stem.

A perennial from tidal salt marshes in North America and Europe and used to stabilise and reclaim mudflats and protect shoreline structures. It forms dense swards ad highly modifies mudflat environments by trapping silt. New grasslands threaten mangrove and saltmarsh growth, bird populations and coastal processes. Invades by rhizome, or fragments of rhizome breaking loose and drifting with currents. Fertile form of *Spartina x anglica* also spreads by seed. Early detection can be important. Any outbreaks should be reported to your local Animal and Plant Control Board. A declared weed of Victoria and Tasmania.

The only occurrence of this weed has been at Port Gawler where it was deliberately introduced. Has recently been removed by mechanical means.

Port Gawler

Port Gawler Photograph: Doug Fotheringham

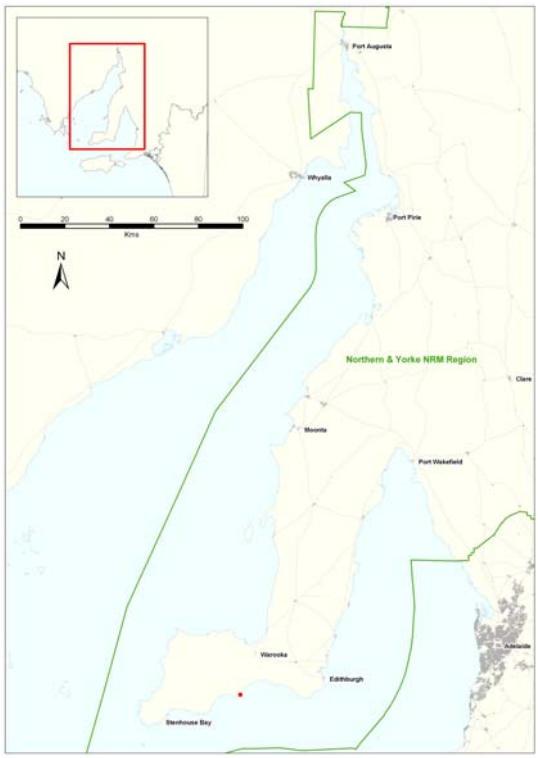
EARLY WARNING

Stenotaphrum secundatum Buffalo Grass

A rhizomatous and stoloniferous, often mat-forming, perennial grass, to shin high. Leaf blade flat or broadly channelled greyish-green to green. Narrow, chaffy flower head in a tight flat spike, in which the flowers appear embedded in stem. Reproduces vegetatively spread by dumped garden waste. Common lawn grass available commercially. Often confused with *Pennisetum clandestinum* or kikuyu grass. Not as deep rooted as couch.

Recorded on sites at Sultana Point and Point Davenport on southern Yorke Peninsula. Found at fresh end of most creeks leading into the coast.

Pennisetum clandestinum (Kikuyu) is one of a number similar weedy grass recorded in the region which should also be treated in the same manner as Buffalo Grass.



Suaeda aegyptiaca Seablite

Sprawling low shrub to knee high, branching out along the ground. Leaves cylindrical with a slight curve at tip, also fleshy, succulent, hairless, with purple-red tones. Formerly *Chenopodium aegyptiaca.*

A recently recognised introduction of saline areas in the Spencer Gulf. While only short lived it regenerates rapidly and is potentially an invasive environmental weed.

Port Pirie

Port Pirie

Suaeda baccifera Berry Seablite

Erect or spreading, annual or short-lived perennial shrub to knee high of saline soils. Leaves succulent hairless, cylindrical, blue-green with a translucent margin. Flowers bisexual and female tiny, globular and green with 5 petals. Fruiting small, slightly fleshy globe, containing a hard, smooth seed. Fruiting perianth inflated; seed `comma-shaped', surface smooth (under light microscope). Formerly *Chenopodium baccifera.* Native of U.S.S.R.

A recently recognised introduction of saline areas in Gulf St. Vincent. While only short lived it regenerates rapidly and is a potential invasive environmental weed.

EARLY WARNING

Tamarix aphylla Athel Pine

A tall tree, with tiny, scale-like leaves along drooping branchlets, and narrow, drooping spikes of tiny, pale pink flowers.

A *weed of national significance* and a *declared plant of South Australia* but does not require control. Difficult to eradicate. Needs damp conditions to germinate and unlikely to naturalise in coastal conditions or become dominant in coastal location. Not regarded as truly naturalised.

Found in a number of locations associated with car parks and foreshore windbreaks.

North Beach - Wallaroo

Tetragonia decumbens Sea Spinach

This is a densely spreading shrub with underground tubers. Dark green or purple, broad glistening leaves. Small, shiny, water-storage cells that cover the surface of the leaf cause the sheen. The small, 4-petalled, yellow flowers are situated in groups of 3-5 in the upper leaf axils. They flower from August to November. The fruits are dry brown and spongy with 4 thin wings. Has woody centres which make the seed buoyant and is distributed by the sea.

Not recognised as a coastal weed until recently. Much more vigorous than the native *T. implexicoma* and has the ability to smother other plants in the foredunes and provides a lower level of protection.

Not recorded in the region but has now been found from the Fluerieu Peninsula extending to the end of the metropolitan area. Early detection and timely response would be required.

EARLY WARNING

Thinopyrum junceiforme Sea Wheat-grass

A perennial, to knee high, with long, creeping rigid rhizomes. Leaf blades are bluish–green; some with margins rolled in. Surface smooth and hairless, but slightly rough and hairy along veins. Spikelets have 3–9 flowers, and are narrow, 5–20 cm long, and pale wheat in colour when mature.

Spreads by seed and vegetatively. Grows at the back of the beach as grassland. Not invasive where it has foredune plant competition. Introduced in 1933 from Mediterranean. Uses ocean currents and shoreline drift to move seed and disturbed rhizomes.

A weed that is developing into a cosmopolitan. It has a number of positive attributes although it could be altering habitat for shoreline birds (Reference). If a decision is made to remove, control little at a time and replace with the native dune grass *Spinifex.* To control manually or by herbicide may be have serious environmental impacts.

Found on many foredunes throughout the region having widely spread

Sultana Point

Trachyandra divaricata Dune Onion-grass

Tufted herb to knee high. Flat sticky leaves. Flowers white with a central brown stripe on petals. Flowers late winter–spring. Seed red–brown to black. Recently discovered in dunes in the metropolitan Adelaide area. The flower stems detach and tumble with the wind and disperses numerous seed. Early detection is important. Hand pull in soft sand. If the plant has flowered try to remove all seed.

It is possibly the coast's most serious weed threat. While a probable introduction from ship ballast and only limited to eastern Gulf St Vincent. Early warning status.

EARLY WARNING