

Sea Spurge (*Euphorbia paralias*)
Annual Operational Report
2018/19



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Prepared for: Ministry of Primary Industries Contact for Services 16738 *Sea spurge (Euphorbia paralias) eradication response at Aotea, Waikato. September 2013*

1.1 Introduction

Sea spurge was discovered on the north side of Aotea harbour entrance about 3km down ocean beach in 2012. The infestation was on private land in a remote location and until May 2019 the only known site in New Zealand.

Sea spurge seeds are able to float on the ocean currents and the sea spurge site has probably come about by seed floating over from Australia.

In Australia Sea spurge was first found in Western Australia and is now found throughout south-east Australia coastline, including Tasmania and the island of Bass Strait. Also in recent years it has been colonising the beaches of New South Wales south coast. Sea spurge is an invasive coastal dune pest plant originally from Europe. It is believed to have come to Australia in ballast water from ships. Being a dune shrub that forms dense stands in the foredune and backdune, displacing native plants and changing patterns of sand movement. It poses a serious threat to the New Zealand dune system.

A working group has been set up to collaboratively manage and eradicate sea spurge. This group is led by Ministry of Primary Industries (MPI) and includes the Waikato Regional Council (WRC) and Department of Conservation (DOC). The plan is to maintain the infestation site at zero density to exhaust the seed bank and prevent further seed production. Being a very dynamic environment the risk of erosion and movement of materials from the site up down the coast is high. Therefore the coastline roughly 15km either side of the infestation site is monitored for more infestations.



Photo 1. The original infestation site in 2019.



Photo 2. The location of the sea spurge infestation site near Aotea Harbour.

2 Timing of Visits for 2018/19

The infestation site was visited three times in the past year and a delimiting survey was carried out. No seedlings were found at the infestation site or during the delimiting survey.

Table 1. Dates of Sea spurge infestation site visit and delimiting survey.

1	Friday 20 th September 2018	Inspection of original infestation area and Aotea Beach surveillance
2	Wednesday 17 January 2019 Tuesday 19 th March 2019 Tuesday 19 th March 2019	Inspection of original infestation area and Aotea Beach delimiting survey Both Ruapuke Beachs delimiting survey Aotea to Kawhia delimiting survey
3	Friday 3 rd May 2019	Inspection of original infestation area



Photo 3. Original infestation site.

2.1 Site Visit September 2018

On the 20th September 2018 the original infestation site was visited and the site was grid searched. No sea spurge was found.

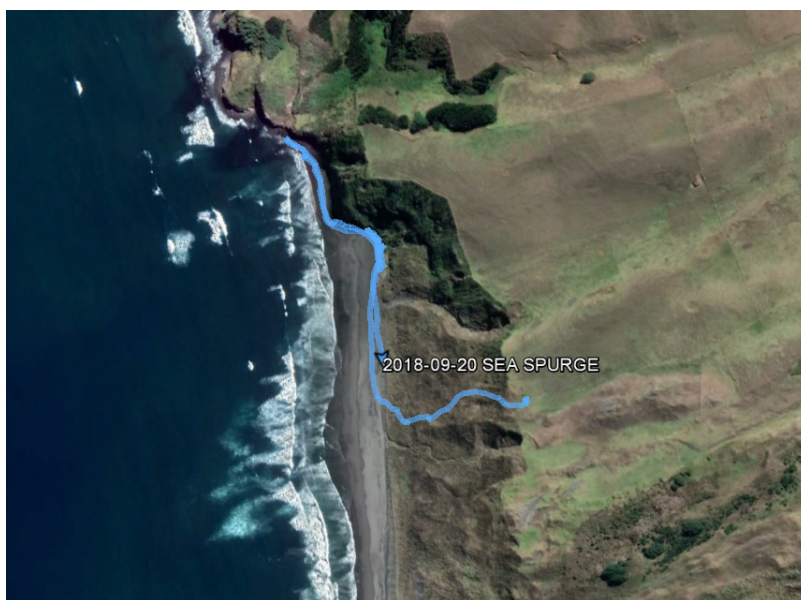


Photo 4. Track log from the September site survey.

2.2 Site Visit/Delimiting Survey January 2019

On January 17th 2019 the infestation site was surveyed for the second time. Then the delimiting survey from beach from the infestation site to the entrance to Aotea Harbour was carried out.

No sea spurge was found at the infestation site and along the beach between the infestation site and Aotea Harbour.



Photo 5. The infestation site during the site survey in January 2019.



Photo 6. Track log from the site survey and delimiting survey from the infestation site to Aotea harbour.

2.3 Ruapuke Beach delimiting Survey 20/03/19

The part of Ruapuke Beach off Peacocks Farm was surveyed. It was walked by two Waikato Regional Council Staff and no sea spurge was found. The public part of Ruapuke beach was surveyed by DOC staff and no sea spurge was found.

2.4 Aotea to Kawhia delimiting Survey 20/03/19

The beaches from Aotea to Kawhia were surveyed by Waikato Regional Council and Department of Conservation staff. One group started at one end and the other group started at the other, meeting at ocean beach. No sea spurge was found.



Photo 7. Track logs from the delimiting survey on the 19/03/19. Including Ruapuke beach and Aotea to Kawhia

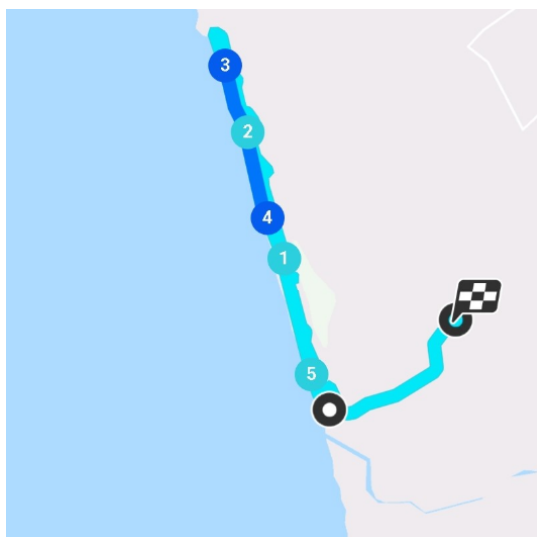


Photo 8. Track log on 19/03/19 from part of Ruapuke Beach that wasn't in photo 7.

2.5 Site Visit May 2019

On Friday the May 3rd the original infestation site was visited for the final time in the 2018/2019 financial year.



Photo 9. Track log from the final site survey on the 03/05/19

3 Risks, issues and recommendations

3.1 Sea Spurge Genetic Tracing

Waikato Regional Council were contacted by Ben Gooden from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) asking for samples of sea spurge from New Zealand. The hope is that genetic tests will help identify the part of Australia the New Zealand Sea spurge has come from.

Two samples of sea spurge from the original infestation site north of Aotea were sent in May. Hopefully the results help identify the origin in Australia of the Aotea infestation.

3.2 Mokau Sea Spurge

In early May an individual plant growing in Mokau was found. This is about 80km from the Aotea infestation site and the question is, is the plant from the infestation site or Australia?

The plant fortunately had not flowered and seeded. The sample has been sent to Allen Herbarium in Lincoln and the appropriate response is still being investigated.



Photo 10. Picture taken by Megan Graeme of sea spurge plant found at Mokau in May

3.3 Recommendations

Sea spurge was not found at the infestation site or while completing the delimiting survey in the 2018/2019 season, but one plant was found last year and three the previous year. Due to the last plant being fairly recent, the chance of more plants being at the site is fairly high. Creating a strong argument to continue surveys and delimiting survey.

The sea spurge being found at Mokau suggests that either sea spurge seed is spreading down the coastline or the more seed is coming from Australia in the sea currents. The origin of the Mokau sea spurge needs to be investigated further and thought to how to improve monitoring of the West Coast coastline.