Top of the South Marine Biosecurity Partnership

Partners' Newsletter

Keeping you informed

Spring 2022

Caulerpa exotic weeds found at Great Barrier and Great Mercury Islands

Exotic seaweeds *Caulerpa brachypus* and *Caulerpa parvifolia* have been found in waters at Great Barrier Island (Aotea) and Great Mercury Island (Ahuahu). These exotic seaweeds can spread rapidly and could affect native species.

These seaweeds can form vast, dense beds

Caulerpa brachypus and *Caulerpa parvifolia* are seaweeds exotic to New Zealand. Exotic means they have come from overseas. They are native to the Indo-Pacific region, ranging from Africa to Australia, the Pacific Islands, and southern Japan. *Caulerpa brachypus* is considered an invasive pest in Florida, the United States, and Martinique in the Caribbean.

The seaweeds are closely related and appear identical. They have fronds up to 10 centimetres long that rise from long runners or roots known as stolons. They can be found growing below the tide line at between 2m and 30m on both hard surfaces and in sandy areas. In favourable conditions, they can spread rapidly, forming vast, dense beds or meadows.

Caulerpa parvifolia at Great Mercury Island.

How exotic Caulerpa species can spread

The two seaweeds can be spread through breaking into little pieces. This can happen, for example, by wave action or when anchors and fishing gear are moved into or through weed beds. Fragments are also carried easily on coastal currents. Pieces can get tangled in or stuck on equipment (for example, nets, dive and fishing gear, and crayfish pots). It can survive out of water for up to a week or more if it's in a moist location (like in an anchor locker or a bunched-up fishing net).

A dense mat of *Caulerpa brachypus* in Blind Bay.

What you can do to help

- Anchor and anchor chain must be thoroughly cleaned of any seaweed before moving from northern locations. This means removing any visible seaweed and rinsing the anchor and chain.
- Any weed or plant matter found on gear must be placed back into the same waters. This equipment then be rinsed off with water before being reused in the ocean.
- Keep an eye out for exotic *Caulerpa* species: note the location; take a photo if possible; contact Biosecurity New Zealand on 0800 80 99 66; or complete the online reporting form at report.mpi.govt.nz

Information sheets

Caulerpa brachypus and the Controlled Area Notice at Great Barrier Island [PDF, 2.5 MB]

Leaflet on Caulerpa brachypus and the Controlled Area Notice at Great Barrier Island [PDF, 4.2 MB]

Caulerpa – Great Barrier Island biosecurity response [PDF, 943 KB]

Who to contact

If you have any questions about *Caulerpa*, email Caulerpa@mpi.govt.nz

Incident Response Exercise

Marine biosecurity incidents require timely responses

Around 50 people gathered In Nelson on 29 September 2022 to learn about the TOS Marine Biosecurity Incident Response procedures. Participants came from all over the country and from a wide range of sectors.

First they were introduced to the Incident Response Manual which can be found at https://www.marinebiosecurity.co.nz/manuals-plans. The manual establishes responsibility for different types of response. It also details the procedures to be used. These are based on the New Zealand Coordinated Incident Response Management System (CIMS) that is used for all major incidents such as fire and natural disasters. The Manual also maintains lists of key contacts and the resources that could be brought to bear in a major biosecurity response.

Those present then participated in simulated responses. Scenario 1 was ***Confusion at the border*. This is a purely invented situation and does not reflect anything that has happened here recently.** *The Nelson Harbourmaster noted that what appears to be a disused fishing boat is anchored at 12.01nm due north of the Nelson Harbour entrance. In the simulation the Harbourmaster intercepted the vessel and found it was visibly fouled and anchored. There was a dive flag up. He found it was from Auckland and had been refused entry to Marlborough by the Marlborough District Council where it was to go on the slip at Tory Channel Contracting. They had divers down cleaning the vessel enough to meet the Marlborough Council fouling standards to be allowed into the region to go on the slip. When the Harbourmaster asked them to stop cleaning the vessel they say that they are anchored outside the council jurisdiction as they are just outside the Territorial Sea. The Harbourmaster fixed the position and found that the vessel was inside the Territorial Sea but in TDC rather than NCC. Once it was established the vessel is in TDC jurisdiction, the TDC found it had no powers under the Biosecurity Act unless they detect fanworm on the vessel. They could, however, order the cleaning to stop under the RMA as it is an illegal discharge to the marine environment. Once fanworm was found TDC could issue a notice of direction to get it wrapped or onto a slip. The Council would be responsible for a delimitation survey of the seabed.*

After completing this and two other exercises participants proposed improvements to the procedures.

SEQUENCH Laboratory:

Understanding nature by decoding its building blocks

SEQUENCH is the first professional environmental DNA/RNA (eDNA/eRNA) laboratory established at the Top of the South Island, New Zealand, in December 2021. It offers high-end molecular analyses of complex environmental samples and science-underpinned solutions for eDNA/eRNA-based environmental monitoring and species detections. The company is run by an enthusiastic team of scientists and technicians with extensive practical experience in molecular research and eDNA/eRNA applications. Having engineering expertise on board, we can help unlock optimized solutions for any challenging project, from customized sample collection strategy and design to sequencing assay and follow-up analytical protocols.

The co-founder Dr. Anastasija Zaiko, was among the pioneer scientists advancing the field of environmental DNA, developing and optimizing sampling strategies and sample processing approaches. Inspired by the technology and the revolutionary opportunities it provides for unveiling biodiversity, Anastasija and her partner Artur Zaiko established SEQUENCH with the vision to facilitate the broader uptake of eDNA/eRNA tools in Aotearoa New Zealand and beyond, empowering understanding and protection of natural ecosystems.

SEQUENCH emphasizes the production of quality data, using stringent protocols which are compliant with the best practices in the field. Our team is committed to delivering fit-for-purpose results at the highest ethical and scientific standards. We are looking forward to work closely with the Top of the South marine biosecurity practitioners and enthusiasts to harness the cutting-edge molecular science and technology for better protection of our unique coastal ecosystems.

LEARN MORE

Want to learn more about eDNA technology and molecular tools in biosecurity surveillance?

Contact us any time! office@sequench.co.nz, www.sequench.co.nz

Top of the North Biosecurity Partnership

The Top of the North Marine Biosecurity Partnership: Auckland Council, Bay of Plenty, Northland and Waikato Regional Councils and the Ministry for Primary Industries are working together to stop the spread of invasive marine pests in northern New Zealand.

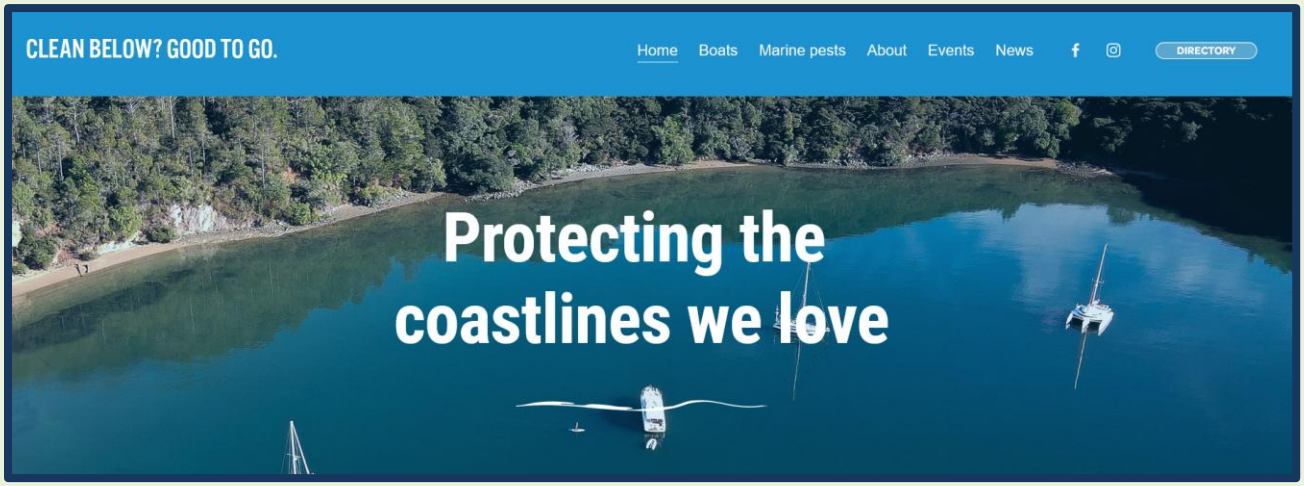
Their website at https://www.marinepests.nz/ is a great source of information for anyone involved boating or marine biosecurity.

The Partnership is actively developing an inter-regional Pathways Plan for marine biosecurity that would cover the four regions. A Pathways Plan allows better focus on vectors such as recreational vessels as opposed to Pest Management Plans that deal with particular harmful species. This would establish common rules and standards for the four regions. Technically this would be a National Pathways Plan with its own implementation agency. Biosecurity New Zealand will put the proposal to their Minister soon before public consultation commences.

The Top of the North also has innovative engagement programmes and a great newsletter. Their programmes include posting students at marinas over the summer as marine biosecurity ambassadors.

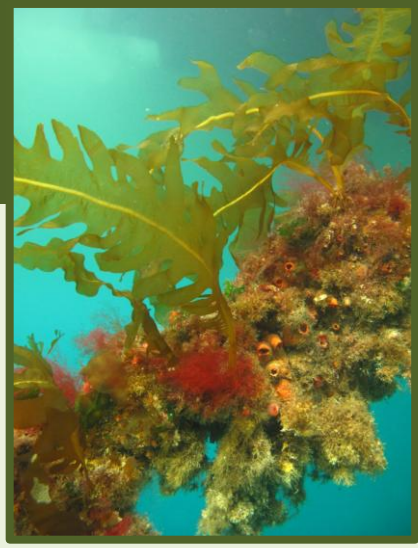
The northern councils have established a database that has records for every vessel they inspect. Through cooperation with participating service facilities this is updated every time a vessel is slipped. Participation in the database system is being trialled this summer in the Top of the South. We can see real advantages in having direct access to information on vessels of concern when they arrive here.

The two Partnerships in the North and the South are actively collaborating to the benefit of each. While we down here have been going longer, they have far more recreational vessels, more harmful organisms and a bigger funding base. This has meant that starting later, they can progress faster and now are generously sharing resources and learning.



CLEAN BELOW?
GOOD TO GO

Exciting *Undaria* tool trial in Breaksea Sound



Biosecurity New Zealand (the biosecurity business unit of MPI) is investing in research trials of a tool to potentially manage *Undaria pinnatifida* (*Undaria*) in Te Puaitaha/Breaksea Sound.

Pure Salt NZ Ltd was recently awarded a two-year contract to trial and assess the use of a suction removal technique. The research trial will be undertaken by commercial divers on surface supply breathing apparatus operating a suction dredge to test this as a potential viable tool/method to help with large-scale suppression of *Undaria* from natural substrate in Te Puaitaha /Breaksea Sound.

While Fiordland is largely free of marine pests, since 2010, Biosecurity New Zealand has been working with Environment Southland and the Department of Conservation to control *Undaria* in Te Puaitaha/Breaksea Sound.

While the initial response sought to eradicate what was thought to be a small incursion, in 2017 *Undaria* was found to be widespread throughout outer Te Puaitaha/Breaksea Sound. As a result, control efforts since have focussed on containing *Undaria* within Te Puaitaha/Breaksea Sound to preserve long term management options and protect other areas of Fiordland.

Current containment activities rely on manual removal of *Undaria* by divers from the edge of its current distribution in Te Puaitaha/Breaksea Sound to prevent it spreading further throughout Fiordland. However, manual removal is costly and difficult due to the isolated nature of Fiordland, limits on dive time, weather conditions, etc.

"We're really excited to start this work, as until now the lack of effective large-scale management tools has limited how we can effectively manage *Undaria*," says Jen Geange, MPI's project lead.

"By trialling a promising tool in a real-world situation and at a hectare scale, we are confident we can make solid improvements in the management of *Undaria* in Te Puaitaha/Breaksea Sound".

This research trial will complement the existing containment measures and Jobs for Nature biomass removal work occurring in Te Puaitaha/Breaksea Sound. And if successful, this tool may be able to be used beyond Fiordland for control of *Undaria* or other similar species where this method would be effective.

UPDATE

Surveillance for Mediterranean fanworm

During Spring, two dive teams contracted by Marlborough District Council have undertaken surveillance for Mediterranean fanworm throughout the Picton, Waikawa and Havelock marinas as well the Grove arm, Shakespeare Bay, Endeavour Inlet and Ship Cove areas.

During this work the dive teams have checked marina pontoons, moorings, jetties as well as a significant number of vessels. During this round of surveillance work there have been zero detections of Mediterranean fanworm indicating that the exclusion programme continues to prevent establishment. Inward pressure continues with at risk vessels arriving from affected areas. Relationships built with Marlborough Marinas as well as the marine biosecurity network throughout the country continue to be critical to identifying at risk vessels promptly to ensure these vessels are inspected and treated if necessary. Marlborough continues to have no known established populations of Mediterranean fanworm.

If you suspect you have found Mediterranean fanworm please contact the Marlborough District Council Biosecurity team on phone 03 520 7400 or via email biosecurity@marlborough.govt.nz

www.marinebiosecurity.co.nz

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