



# Partners' Newsletter

## Keeping you informed

Summer 2021



## Summer biosecurity survey in TOS

Our summer biosecurity survey found just one vessel with fanworm indicating efforts to exclude this very risky organism from the region are working.

We spent 12+ days on the water checking for marine pests, assessing fouling levels on hulls, and talking to boaters across the top-of-the-South.

Overall, we surveyed 502 boats (mainly recreational), 343 structures (mainly swing moorings) and 103 seabed sites.

A quarter of the boats were visiting from outside the region (many from Wellington), so we spent a good deal of our time educating people about the importance of leaving port with a clean hull.

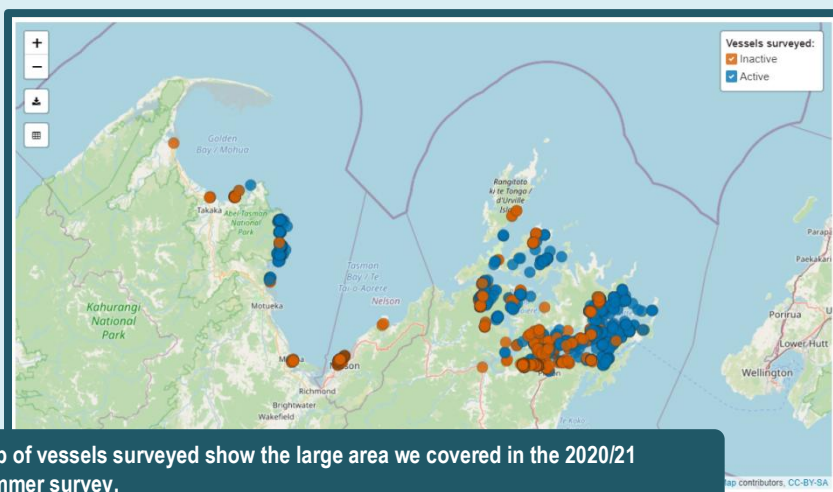
The big focus of the work was surveillance for Mediterranean fanworm, which the TOS Partnership councils and aquaculture industry are wanting to prevent spreading from the known populations in Picton marina, Nelson marina and Port Tarakohe.

Fortunately, we found fanworms on only one boat, and these were juveniles that wouldn't have reproduced. The boat was a trimaran from Auckland that was anchored along the Abel Tasman coastline. As the hull was too wide for regional haul-out facilities the worms were removed on the spot by divers. Previously, we've found fanworms on boats outside the main marinas on only four occasions, so as yet there doesn't appear to have been any incursions into the wider region.

Unlike fanworm, other long-established pests (Asian kelp *Undaria pinnatifida*, sea squirt *Didemnum vexillum*) are widespread regionally on vessels and structures. The more recently-established sea squirt *Styela clava* is also becoming increasingly common on structures and/or vessels in a few locations (Tarakohe, Nelson, parts of Pelorus Sound), although didn't seem as prevalent this summer compared to last.

For the established species, the disjointed distribution is consistent with human-mediated spread rather than natural dispersal, highlighting the importance of managing spread by hull fouling. As a minimum, it's important to try and get a lift and clean before you leave for your holidays, especially if you know your boat is getting fouled. A lot of people we talk to are scrubbing the hull while moored up in nice anchorages. As well as the risk of dislodging pests that can then re-attach to the seabed, this practice is likely to wreck ablative antifouling coatings, leading to rapid fouling regrowth.

You can find a summary of the latest survey, along with maps and data summaries for all six surveys, on our web report: <https://marinebiosecurity.gitlab.io/report/index.html>. Finally, a big thanks to the Harbour Masters from Tasman, Nelson and Marlborough, and the Department of Conservation in Picton. We couldn't do this work without their support and the great team of skippers they have.



Map of vessels surveyed show the large area we covered in the 2020/21 summer survey.



Juvenile Mediterranean fanworms hidden at the top of the keel of a trimaran from Auckland.

# TOS Committee member profile: Amber McNamara

Amber has been the Office Manager at the Marine Farming Association (MFA) in Blenheim since September 2019.

The MFA have around 130 ordinary members, these members have marine farming interests in the top of the south and another 40 associate members who may have marine farming interests in other areas of NZ or are ancillary to the industry.

The MFA currently have 5 major work streams - Policy & Planning, Research & Development, Environmental, Community engagement & Social license, Labour & Skills. As well as managing the office Amber's role involves a wide array of community and industry engagement throughout these various work streams.

Originally from North Otago, Amber has a background in Finance, Operations & Project Management but loved the Aquaculture story so jumped at the chance to enter the industry.

Amber joined the TOS Marine Biosecurity Committee in February 2020 as an industry representative on the committee.

In her spare time, Amber likes to keep active, she plays netball and has a couple of dogs who love to go walking and swimming. Amber is also a member of the Blenheim Volunteer Fire Brigade as an administrator, a member of the Fire and Emergency NZ Local Advisory Committee for Marlborough and heavily involved on the Havelock Mussel Festival Committee. This month she will also take on a role for the Graeme Dingle Foundation as a Career Navigator Mentor.



## The Biosecurity Toolbox research programme is going strong!



The *Toolbox* is now in its second funding year. Despite the onset of the COVID19 pandemic and the associated restrictions on laboratory access, field work and travel in 2020, our team have made significant progress towards all major objectives across the programme. First of all, we have grown: over the past months, we have appointed three post-docs, four PhD and two Honours students based at New Zealand, Australian and UK universities. With our Māori research partners (Patuharakeke Te Iwi Trust), our key end-user partners (Northland District Council, Auckland Council, Marlborough District Council, Ministry for Primary Industries) and invaluable support from other end-user and industry agencies (e.g., Department of Conservation, Aquaculture New Zealand, Bellingham Marine, several regional councils) our science team have made important advances in several research streams. These include:

- The development of the Manaia framework - using the perspective of Patuharakeke, this will enable the incorporation of Ahikātanga and Kaitiakitanga into the Toolbox as a model of Mātauranga Māori and science collaboration;
- Further substrate development and technology assessment towards the creation of integrated systems for keeping port and marina infrastructure (e.g. pontoons) free of biofouling and marine pests;
- 3D scanning, modeling and printing in association with laboratory and (soon) field trials to progress the development of eco-engineered substrates and structures for enhancing native species on urban, port/marina or aquaculture infrastructure. Enhancing key native populations can increase resistance to pest establishment while providing a range of ecological, social and cultural values;
- Development of new or improved assays, analytical procedures and devices for detecting and tracking new and existing marine pest populations. This includes the use of hydrodynamic models combined with environmental DNA/RNA decay functions to trace the location of pest individuals detected via water column monitoring, and engaging schools in development of citizen-science enabled biosecurity monitoring;
- Building New Zealand's first integrated maritime network model enabling simulation, examination and management of commercial shipping, recreational boating and aquaculture pathways. Our evolving model is presently being constructed using 4 years of international and domestic shipping data including voyages to New Zealand's offshore islands, with other pathways about to commence;
- Development of cost-benefit and bio-economic frameworks and models to inform meaningful design, prioritization, resourcing and implementation of risk mitigation tools and strategies developed across the Toolbox programme.

[FIND OUT MORE](#)

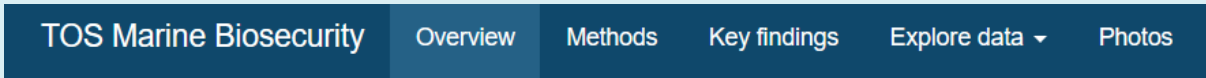
We have ambitious plans for 2021-24 and are always keen to interact and collaborate. You can check out the programme and its key research themes at <https://www.biosecurity-toolbox.org.nz/> and also register to receive quarterly news digests. For any queries contact Oli Floerl ([oliver.floerl@cwathron.org.nz](mailto:oliver.floerl@cwathron.org.nz)) or Anastasija Zaiko ([anastasija.zaiko@cwathron.org.nz](mailto:anastasija.zaiko@cwathron.org.nz)).

# Live data!



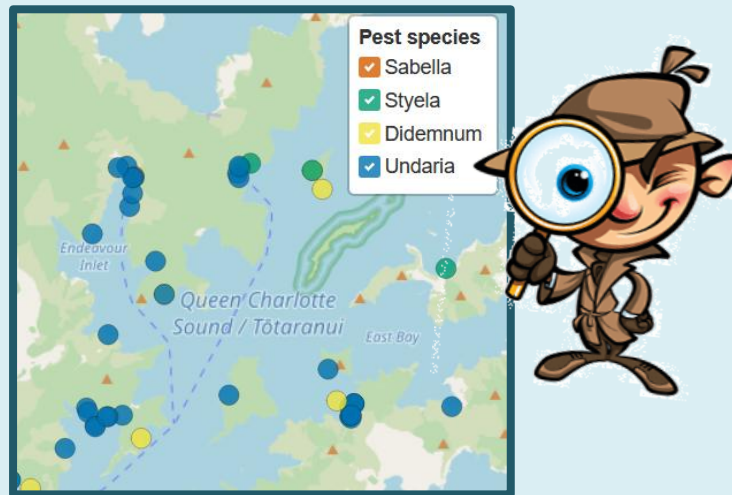
Our survey data is now available interactively online: <https://marinebiosecurity.gitlab.io/report/>.

Use these tabs to explore through maps and updated reports for six years of data:

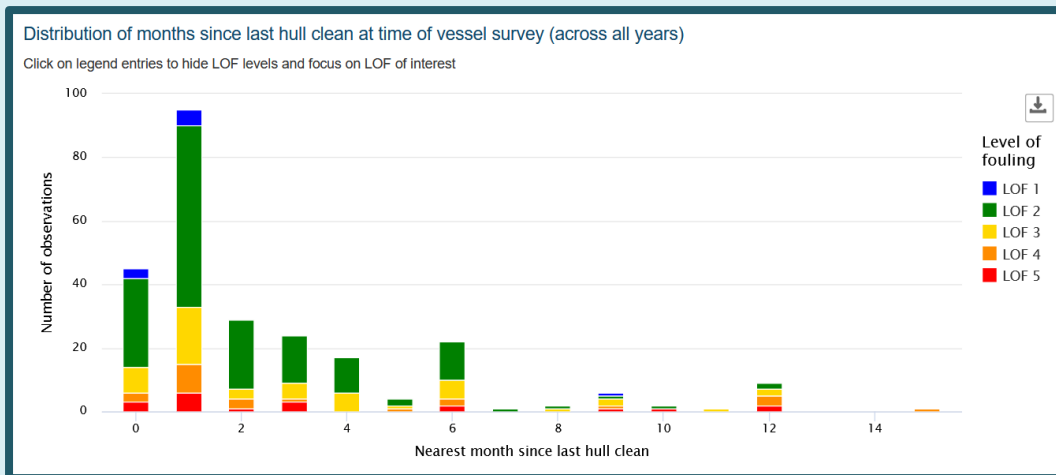


## Explore pest distribution and boat fouling

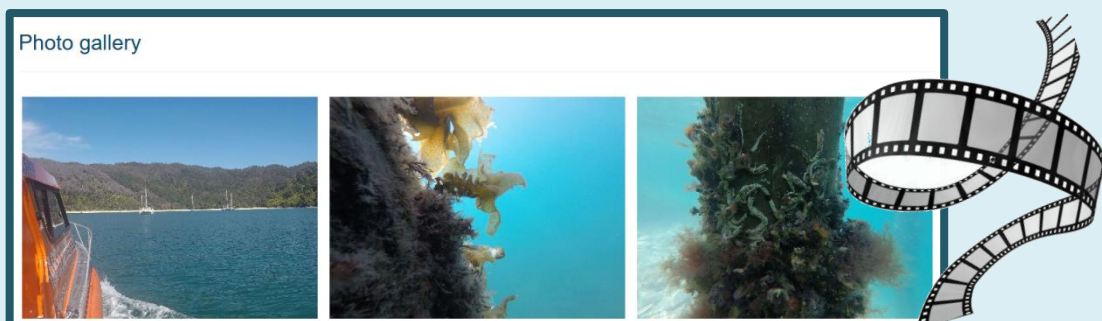
You can zoom into any area, look at particular pests, sort active from inactive vessels, and look at overall survey effort:



## Explore the data on boater maintenance habits

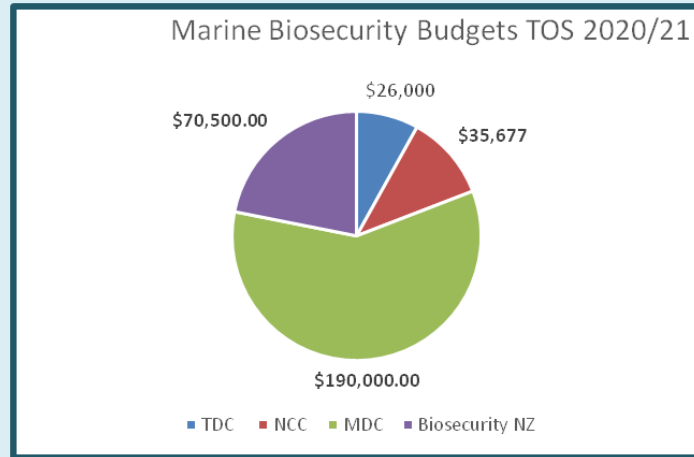


Feel welcome to use our stock photos to promote good biosecurity management:



# Joint TOS fanworm programme

The total budget of direct investment (excluding in house costs) for all related activities for 2020/21 totals just over \$322,000 made up as in the graph below. Marlborough is exposed to more risk, with currently most of the marine farming combined with commercial port and marina facilities. The effort is paying off with only one fanworm detected in Grove Arm. Nelson has the busiest port making it the most at risk node. Tasman is poised to rival Marlborough for area of mussel farming and has also achieved zero detections in the last dive survey at Tarakohe, the only place in Tasman fanworm has established. The joint operational plan can be found on our [website](#).



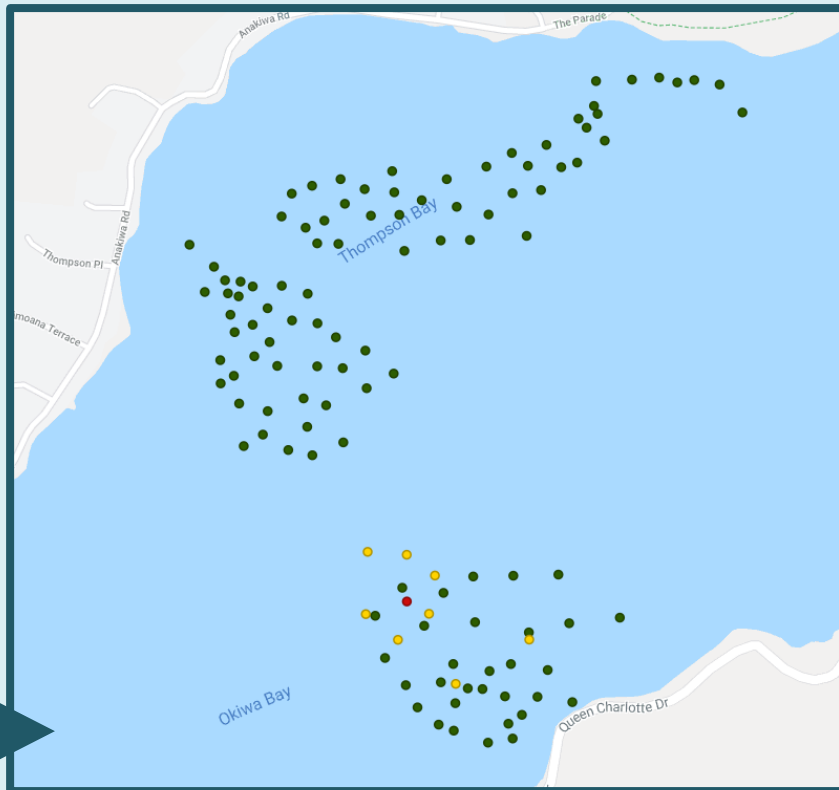
## 2020/21 Summer dive surveillance - MDC

Dive surveillance throughout Picton/Waikawa and Havelock marinas has been under taken. This diving has covered vessels, pontoons, and seafloor transects. No *Sabella* was found.

Dive surveillance off all moorings and vessels in Shakespeare Bay, Picton Port, Waikawa Bay was undertaken. No *Sabella* was found.

One single *Sabella* has been found on the seafloor in the Grove arm. This find is linked to a previous incursion. It is likely that this *Sabella* was not located during the last round of diving. This find is within five metres of the previous recorded *Sabella* finds. Significant delimitation on the seafloor around this area has been undertaken. All moorings and vessels in the area have also been checked with nothing further being found.

Four vessels identified by Marlborough Marinas as high risk due to them arriving from the upper North Island have been snorkelled with no *Sabella* found.



*Sabella* find marked in as red dot, green indicates dives on moorings and vessels, yellow dots indicate seafloor transect locations.

[www.marinebiosecurity.co.nz](http://www.marinebiosecurity.co.nz)

**MARLBOROUGH DISTRICT COUNCIL**  
**NIWA** Taihoro Nukurangi  
**Department of Conservation** Te Papa Atawhai  
**Te Tau Ihu o te Waka a Maui**  
**Nelson City Council** te kaunihera o whakatū  
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**PORT NELSON**  
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**Biosecurity New Zealand** Ministry for Primary Industries Manatū Ahu Matua  
**mfa** MARINE FARMING ASSOCIATION  
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