Partners' Newsletter

Keeping you informed

Summer 2022

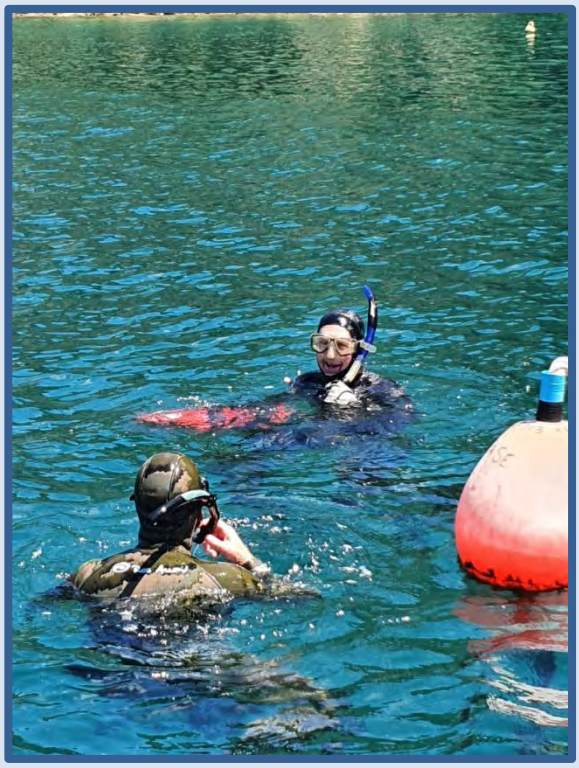
Summer survey - fanworm found

Fanworm were found on two vessels but no structures or seabed during the summer survey this year.

"We are still processing the data which will be online at https://marinebiosecurity.gitlab.io/report in March" said Barrie Forrest who leads the survey. "We had a great response from the boating community with good cooperation from most vessel owners.

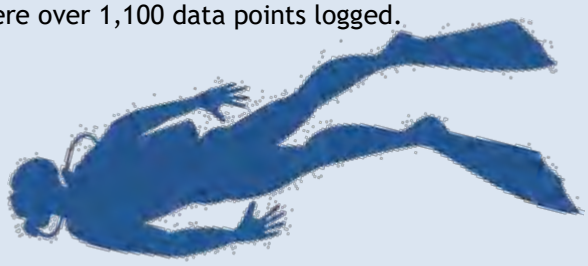
My overall impression is that vessels were cleaner this year and it will be interesting to see if the data complements my observation. Early in the season we saw mostly local vessels and visitors from Wellington and Porirua. Later in January vessels started arriving from upper north where Mediterranean fan worm is more prevalent.

We found fanworm on two vessels that had spent time in Auckland. In both cases the vessel owners reported efforts to ensure their boats were clean before they came down to our region. That we still found fanworm highlighted issues with the lack of national standards for inspection and cleaning. One reported engaging commercial divers to check and clean the hull. However, when we inspected the hull five months later worms that would have been too small for divers to detect had grown to a size where we could find them. The other had hauled the vessel and high pressure water blasted before rounding Cape Reinga. Unfortunately the bottom of the keel was not treated and fanworm were found amongst hard fouling there. In both cases visible worms were removed during the inspection and the relevant council directed the owner on next steps" he said.



Styela clava the clubbed tunicate was found mostly on vessels from Nelson. This harmful organism is spreading in the region and is now being found on the seabed in locations outside the ports and marinas. "We found one vessel in the Abel Tasman where the new owners were in the water scraping their hull and dropping the waste on the seabed. This included *Styela clava*. At least this skipper was making an honest mistake. We see other vessels where the owners should know better but keep up scraping in otherwise pristine locations" said Forrest.

No invasive species new to the region were found in the survey although there were over 1,100 data points logged.



Caulerpa brachypus has arrived in New Zealand

The non-native seaweed *Caulerpa brachypus* has been found in Blind Bay, Tryphena Harbour and Whangaparapara Harbour on Great Barrier Island (Aotea).

This seaweed can spread rapidly and could affect native species. *Caulerpa brachypus* is a seaweed native to the Indo-Pacific region, ranging from Africa to Australia, the Pacific Islands, and southern Japan. It is considered an invasive pest in Florida, United States, and Martinique in the Caribbean.

Caulerpa brachypus has fronds up to 10 cm long that rise from long runners or roots known as stolons. In Australia, it grows below the tideline at between 6 and 10 metres on both hard surfaces and in sandy areas. In favourable conditions, it can spread rapidly, forming vast, dense beds or meadows.

Caulerpa brachypus 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 cray 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).

It is not known how long this pest has been here or how it arrived. It may have been carried by a visiting international vessel or on a domestic vessel from another, as yet unidentified, infested area in New Zealand. We do not know how long it has been in Aotea or the scale of the affected area.

Biosecurity New Zealand is working closely with Aotea mana whenua and the local community, along with Auckland Council and the Department of Conservation to collectively decide the most appropriate course of action. A thorough dive survey of Blind Bay was carried out in August 2021. The seaweed was found to be widespread in the bay. It was also found in Tryphena Harbour. NIWA carried out surveillance checks for *Caulerpa brachypus* in other areas of the island and found it in a third location – Whangaparapara Harbour.

To minimise the spread of *Caulerpa brachypus,* Biosecurity New Zealand placed Controlled Area Notices (CAN) on Blind Bay, Whangaparapara Harbour and Tryphena Harbour. Aotea mana whenua imposed a rāhui on the areas which took effect at the same time.

Note

Annual Partnership Meeting 2022

Due to Covid restrictions the annual TOS Partnership Meeting that was scheduled for Wednesday 30 March will be moved to an online format. We are currently developing online resources and more information will be made available soon.

Big investment into research for managing invasive marine species

The Ministry for Primary Industries (MPI) is investing in research to advance treatment options for invasive marine pests.

Under this funding the Cawthron Institute reviewed the global state of knowledge on treatments that can be used on marine pests. This work identified considerable gaps, with very few treatments effective at the scale of a port or marina.

Now a research programme has been approved to address some of these gaps. $650,000 is available over the next four years to deliver treatment options to improve marine pest management. This will be developing treatments for control and eradication efforts when a new invasive marine weed or pest is detected. Managing incursions of non-indigenous species in marine environments has most commonly been done using hand removal by divers. Diving has safety limitations, including depth and dive duration, and search efficacy is highly dependent on water and weather conditions.

“We're really excited to be initiating this work, as the lack of effective, efficient and practical marine pest treatments has always limited how we deal with marine pests” said Tim Riding, MPI's project lead. “By testing promising treatments in real-world situations, at the hectare scale for incursion responses, and at the tonne scale for managing pests of aquaculture, we are confident we can make solid improvements in the management of marine pests. This research will complement traditional diver-based approaches, and we are expecting the treatments developed will help us immensely when faced with new incursions of marine pests.”

The second focus of the research will be finding treatments to help shellfish farms deal with hitchhiker pests while maintaining the good health of their stock. This has traditionally been challenging, as the effective treatment of any pests attached to the shellfish needs to not damage the shellfish themselves.

Aquaculture New Zealand will be closely involved with this research. “We recognise how important biosecurity is to support the aquaculture industry to grow and enhance the sustainable production of New Zealand seafood, so we're highly supportive of this project,” says Aquaculture New Zealand’s Technical Director, Dave Taylor. “We will be working with MPI, the researchers and shellfish farmers to ensure the outputs of the research are effective against pests, and most importantly, practical and implementable at the farm scale.”

The literature review outlining the current knowledge of marine biosecurity treatment options is also available from the MPI website https://www.mpi.govt.nz/dmsdocument/48580.

TOS Committee member profile

Guinny Coleman - TDC Team Leader Biosecurity and Biodiversity

Guinny moved last year to Tasman and into the Team Leader role for the Biosecurity and Biodiversity team at Tasman District Council, and the chair of the Top of the South Marine Biosecurity Partnership.

Guinny has a background in threatened species management, with a master’s in wildlife management and has spent the previous 9 years on the West Coast working for DOC. Most recently she was the senior ranger in South Westland, a job that ranged from managing rowi kiwi, kea and marine reserves, to seal pup monitoring, whale strandings, and large-scale pest control. Her proudest marine protection moment was spotting illegal trawling in a marine reserve while surveying bats which led to a successful prosecution.

Despite missing the mountains, after a decade dodging rain showers Guinny is enjoying getting out on the kayak with her trusty hound and exploring new coastline and riding her horse along the beaches (and over the occasional fence).

Passionate about all critters large and tiny, whether they’re on a mountain top or the bottom of the sea, Guinny is enjoying the challenge of understanding all of the biodiversity challenges in the Tasman. She is impressed with the dedicated team behind the Top of the South Marine Biosecurity Partnership and their commitment to working together to protect our marine environment and is looking forward to being a part of the programme’s success into the future.

Marine Biosecurity Toolbox

The Marine Biosecurity Toolbox is a five-year (2019-24) research programme aimed at protecting New Zealand's marine environments from the impacts of non-indigenous species.

Oli Floerl, the programme's co-leader and a research scientist at Cawthron Institute says "The Toolbox is jointly funded by the New Zealand government (MBIE) and a unique group of science, Māori, regulatory and industry organisations. Our objective is to develop transformative 'tools' that empower regulators, industry, mana whenua, and the community to effectively manage risk pathways, prevent pest establishment, and detect and respond to new incursions. Mātauranga Māori will be interwoven through all research components of the programme, enabling a holistic perspective to be applied to managing marine biosecurity challenges. This is also reflected in the logo designed by artist Marino Duke and the whakatauki (adage) gifted by our research partners Patuharakeke as a motto for the programme."

Te Rerekohu Tuterangiwhiu is a Kaiārahi Rangahau Kaimōana at Cawthron Institute and explains "Both are inspired by the mangōpare or hammerhead shark. Being strong, fierce, determined, knowledgeable and smart, the mangōpare is seen as a guardian or kaitiaki by many iwi/hapū (tribes/clans) and a tohu or a symbol species. The mangōpare has a number of features, which resonate with the vision and the spirit of the Marine Biosecurity Toolbox programme. The mangōpare has the ability to observe in all directions (360 degrees), around the four corners of the world through the flowing of the tides (covering all parts of the moana, the ocean). When the mangōpare looks forward it connects to the idea of this programme being about looking forward for new technologies and tools for detection and monitoring. At the same time, the mangōpare looks alongside, connecting to the ideas of tiakitanga (protection) and the health of the surrounding taiao (environment). Simultaneously it can look backwards – connecting to the ideas of holding on to tikanga (Māori culture) and māturanga (wisdom) and taonga tuku iho (treasures) passed down to us by our tupuna (ancestors)."

Programme co-lead Anastasija Zaiko (Cawthron) is proud of the progress the international programme team have made: "Despite the spanners the COVID pandemic has thrown in the works we have managed to progress the development of a wide range of tools to innovate prevention, surveillance and pathway management."

Future TOS Newsletters will feature details of the products under development in the Toolbox programme.

MARINE BIOSECURITY TOOLBOX

Kia tirotiro mangōpare, arā ko ngā tai e whā
Look through the eyes of the mangōpare, observing in all directions

www.marinebiosecurity.co.nz

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