



Partners' Newsletter

Keeping you informed

Winter 2022



How Nelson Marina keeps marine pests at bay

Each boat movement both in and out of a marina presents a marine biosecurity risk. But with positive support from boat owners, and an end-to-end marine biosecurity program, that risk is now significantly reduced at Nelson Marina in New Zealand's South Island.

More than 3,500 recreational boats arrive in the region each year, and a large proportion of those arrive at Nelson Marina. It is also home to 600 boats. Therefore the marina's marine biosecurity program is designed to both protect the marina from new incoming marine pest infestations, and also to ensure its customers don't accidentally transport marine pests when they leave.

Nelson Marina is unfortunately home to some marine pests: It is known to have established populations of clubbed Tunicate (*Styela clava*), wakame (*Undaria pinnatifida*) and *Clavelina lepadiformis*. It keeps a close watch out for any signs of Mediterranean fanworm (*Sabella spallanzanii*) and is concerned about the possible arrival of Australian droplet tunicate (*Eudistoma elongatum*) and *Pyura*, which are species established in the North Island.

The marina itself has 600 berths, totalling a whopping 9,900 lineal metres of hulls and floating structures, plus 180 piles - all of which are appealing habitat to marine pests.

The program includes regular surveillance of these structures and hulls. The marina commissions dive teams and has also invested in an underwater drone with floodlights, a 4k resolution, and a claw for taking samples, is able to supplement the dive work for surveillance.

The team uses the global ship tracking service Marine Traffic to see where the boat has been, and to determine its risk profile. Each arrival (including returning customers who have been away cruising) also completes a Risk Screening Application online. This tool was developed by local biosecurity specialist company Salt Ecology and uses a risk matrix to determine if the boat needs an underwater inspection or a haulout, where the boat is checked and cleaned, with all bio-fouling disposed of safely.

"It's a constant battle but it's extremely important," says marina manager Nigel Skeggs. "We value the partnerships we have. We can't do it alone."



Parchment worm in the top of the South

Over the last six months we have received enquiries from concerned members of the public about a population explosion of “parchment worm” in the Marlborough Sounds.

The parchment worm is a type of marine bristle worm that lives in a U-shape papery tube, and can grow on artificial structures like wharf piles, in rocky areas, and in soft-sediments habitats, to a depth of at least 69m. The first New Zealand records of parchment worm are from about 1966 in the Hauraki Gulf, with surveys in the early 2000's revealing prolific infestations with up to 20,000 individuals per square metre of seabed.

There appears to be more than one species in New Zealand, with the Marlborough Sounds population identified as *Chaetopterus chaetopterus-B*, and a species referred to as *Chaetopterus* sp. recorded from Nelson. It is unknown whether parchment worms are native to New Zealand, or have been introduced from overseas at some stage. The worms have certainly been around the Marlborough Sounds for quite a few years. The biology and impacts of parchment worms are not well understood, but their ability to reach very high densities suggests they have the potential for a range of ecological and economic effects. The Seafriends website (<http://www.seafriends.org.nz>) refers to observations since 1995 of abundant parchment worm tubes being beach-cast by storms in the Hauraki Gulf.

For many introduced species, it's common to see 'boom and bust' cycles, or time lags of decades between first arrival and the first population outbreak. What can be done about it? Unfortunately, nothing - or at least, very little. Even for small and discrete populations of marine pests, effective control can be difficult if not impossible. The “horse has bolted” - the parchment worm is abundant and distributed widely, and can live so deep that any form of effective management is impossible. That said, any practical steps that are put in place to reduce the human-assisted spread of marine pests in general, may also help to reduce the further spread of parchment worms. Examples include keeping a clean vessel hull, making sure anchor wells and topside gear are free of visible fouling and sediment, and ensuring re-used structures (e.g. mooring anchors, marine farming gear) are cleaned before being move among locations.

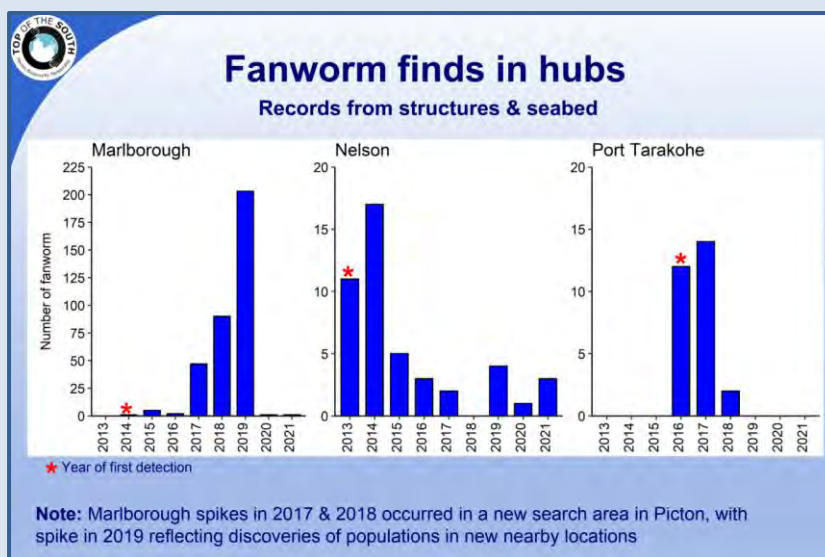
Images of parchment worm from iNaturalist website.



Are we winning in ports and marinas?

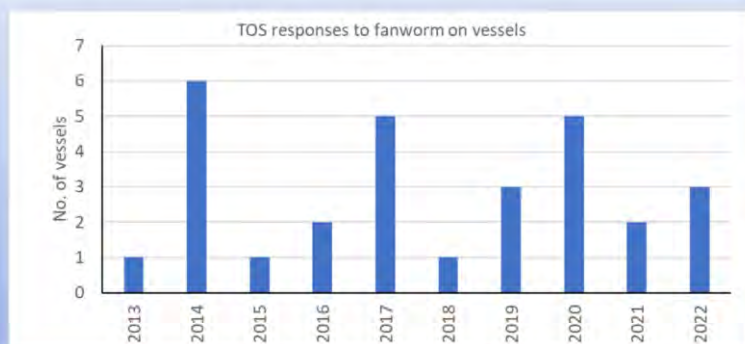
Data analysis suggests fanworm suppression in ports and marinas in the Top of the South is succeeding in suppressing or eliminating the pest at the key entry points to the region.

Dr Barrie Forrest, the Partnership marine biosecurity scientist said “The data shows that removal of fanworm by divers twice a year in marinas and ports is driving populations to low numbers and may have achieved eradication in some places. If this pressure is kept up we can prevent these hubs acting as sources for infection further afield in the region. The number of new incidents involving fanworm from outside the region is not increasing as far as we can see. This is despite high numbers of fanworm and increasing locations where it is present around the country. Of course, it is always possible that there are populations established at remote locations around the region that we have not detected. Until we get new tools, like effective environmental DNA methods for surveillance, declaring areas to be free of pests is unwise. In the meantime, it is well worthwhile to continue removal of any fanworm we find here, and to invest in strengthening prevention and surveillance.”



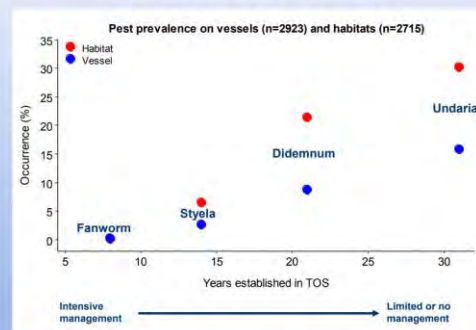
Fanworm vessel incidents

Combining regional surveys and control work in hubs
(data from TOS incident register)



Pest records from regional surveys

Prevalence in marine habitats (structures or seabed) and vessels outside main hubs



- Fanworm on vessels from high risk regions + two regional incursions (seabed, mussel farm) eradicated
- Widespread regional establishment prevented by fanworm control in hubs?

WATCH NOW!

Barrie's recorded webinar can be found here
<https://www.marinebiosecurity.co.nz/news/videos>.

TOS Committee member profile: Stew Robertson

Ko Stew Robertson taku ingoa. I am the marine reserve ranger for Te Tai o Aorere (Tasman Bay) at Te Papa Atawhai. My main areas of responsibility are Tonga Island and Horoirangi Marine Reserves, with some input into the Westhaven and Long Island Marine Reserves. My days are spent patrolling the reserves and maintaining markers and signage. I engage with stakeholders, educating the public on the importance of marine reserves, to prevent incidents and also nurture a network of marine reserve advocates that are our essential eyes and ears on the water. I also co-ordinate and deliver the monitoring of the reserves. We monitor species such as reef fish, crayfish, pāua and horse mussels on SCUBA, conduct litter audits, habitat mapping and Baited Underwater Video. I work closely with Iwi to develop a cultural health monitoring framework, enabling kaitiaki to participate in marine compliance and monitoring. It is amazing to see the difference that reservation makes to the ecosystems, these small areas of coastline are teeming with life compared to outside.

I have spent the last 20 or so years working on boats in Tasman Bay, often focussing on the ecology, which gives me a good grasp on the environmental situation. I am in a good position to detect any changes to the ecosystem, and we are constantly on the look-out for new and potentially invasive species and pathogens. My field experience and the resources that DOC brings will make me a useful member of the TOS Marine Biosecurity Committee, we have a dive team ready to go, should a new species be detected and we need to respond.

I am also a founding Trustee of [Tasman Bay Guardians](#), our vision is to achieve positive outcomes through Conservation, Education and Collaboration. We run the Experiencing Marine Reserves programme, and have worked with hundreds of people in our community, introducing them to the magical marine world. It is our highest priority to help ensure that the sea thrives for all the future of all beings. We are interested in marine restoration and protection. We host the [Marine Matters Newsletter](#) which gives voice to all of Tasman Bay's marine stakeholders and is a treasure trove of information. We also host a [literature database](#) with almost 200 relevant scientific articles and papers pertaining to the health of the Bays, as well as working in the freshwater space.

Outside of work, you will normally find me with my family doing Dad stuff, restoring our little block of land, kite surfing, mountain biking and DJing.



Photo: Mel McColgan

Marine Biosecurity Incident Response Exercise - 29 September 2022

Saxton Oval, Main Road, Stoke, Nelson

1pm to 4pm (or come at 12 noon and have lunch with the Management Committee)

Invitation

The TOS Marine Biosecurity Partnership invites associates from within and outside the region to join with us on 29 September 2022 in Nelson to review and improve our procedures.

This exercise is for anyone with an interest in the marine environment in the TOS and for those involved in marine biosecurity generally.

The exercise will have three parts:

1. Understanding how marine biosecurity works in the TOS.
2. Participation in incident scenarios.
3. Ways we can improve the system.

To view the Incident Response Manual go to <https://www.marinebiosecurity.co.nz/manuals-plans>

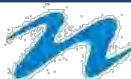
Register or find out more by emailing tosmarinebio@gmail.com by 19 September 2022. If you are coming for lunch it is important you let us know so we can cater for you. Please also include any dietary requirements.



www.marinebiosecurity.co.nz



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te kaunihera o whakatū



tasman
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