



Partners' Newsletter

Keeping you informed

Winter 2021



New ways to keep marine pests at bay

Easy-cradle

Sneppel Innovations

Marlborough inventor Art Leppens has patented and is marketing his "easycradle" as an alternative environmentally friendly way of keeping hulls free of fouling organisms.

Art describes his invention as "A floating bed of soft rubber strips that form a cradle which attaches at the head to the mooring. As the vessel approaches the mooring, it rides over the floating bed, conforming to the shape of the hull to the water line. The vessel is then attached to the mooring in the usual manner. With simple attachments to the hull at the various float points, the hull is 'cradled' in a bed of rubber strips that are constantly agitated along the hull surface by the natural elements - tidal currents, winds and wave action. Recognising the growing awareness for simpler, more cost efficient ways to meet the demand for cleaner, bio-friendly methods of hull maintenance, we turned to the natural forces of nature - wind, waves and tidal movement. Utilising this endless energy source, we have designed a simple system that is not only easy to install, but easy to use, operate and maintain. We believe Easy Cradle will help boat owners and operators to not only save on hull maintenance, but play a part in maintaining a healthy and safe coastal environment we can all enjoy."



Drive in Boat Wash

Auckland company Parker Marine Group is promoting drive in boat wash technology as an alternative to anti-fouling coatings. Mike Parker says "Copper based antifouls are now completely ineffective and the many thousands of moored/berthed vessels with these useless coatings on them, provide perfect inner harbour sanctuaries for these native and foreign biofouling organisms. I understand and agree with the reasons for decreasing the copper content in these coatings and I fully support further reductions, indeed I would like to see the total elimination of these coatings. As a nation we simply cannot keep adding copper (albeit at reduced levels) to our inner waterways and harbours and there have been a number of really good foul release coatings that have come on to the market. These coatings contain absolutely no biocides or copper, but they require regular cleaning and this has put most boat owners off using them. The solution is staggering in its simplicity. It's a drive in boat wash system designed and built in Sweden. No longer would moored or berthed vessels have to use toxic antifoul, they could apply one of the non-toxic foul release coatings, or they could choose to apply nothing at all. They would simply book a time to be cleaned, drive in dirty and drive out clean. All waste, including all those nasty foreign biofouling organisms, would be contained within the boat wash, able to be disposed of in a landfill."



Cawthron - Bilge water project

Have you ever wondered what is floating around in your oily or fishy bilge water?

Well, it turns out it can contain a diverse range of life-stages of marine critters, including pests. For over five years, Cawthron has been researching the biosecurity risks associated with bilge water discharges from small vessels, and collectively our work has shown that this risk can and should be managed.

Recently, a selection of vessel operators was asked general questions about their vessel and specific questions about their bilge water practices. Overall, biosecurity risks from bilge water discharges was assessed as being highest for yachts, followed by launches, trailer boats and commercial vessels. Of the 110 vessels surveyed, only three reported not having a bilge system on board. The proportion of vessels with pre-discharge treatments (e.g. in-line filters) was low (13.7%), confirming the potential for organisms to be viable at discharge. Yachts were characterised by a high frequency of use, visits to multiple regions and a high likelihood of bilge water on board when leaving port (i.e. high-risk source regions). Almost all yachts operated automatic bilge systems, suggesting that discharge occurs primarily when the volume is sufficient to trigger the pump mechanism and that associated bilge water could be carried significant distances. In contrast, only one in five trailered boats surveyed had automated bilge systems, but over half used manual discharge on departure from a location suggesting short distance carriage for bilge water associated with this vessel type.

Our findings show that bilge water does pose a biosecurity risk and highlights the variability within and across vessel types, operating systems, and operator behaviours. So how do we manage these risks? Awareness of where bilge water discharges are occurring represents the most easily achievable reduction in risk. We suggest all boaties **empty the bilge before setting out on a trip, use the pump regularly** throughout the day so that any pests that end up in the bilge are not transported with you, and **don't discharge bilge water near high-value locations** like marine reserves and marine farms.

This work was funded by the National Institute of Water and Atmospheric Research Ltd (NIWA) under Coasts and Oceans Research Programme 6, Marine Biosecurity (SCI 2017/18).

For more information: Lauren Fletcher, Cawthron Institute, lauren.fletcher@cawthron.org.nz

Fletcher LM, Zaiko A, Atalah J, Richter I, Dufour CM, Pochon X, Wood SA, Hopkins GA (2017) Bilge water as a vector for the spread of marine pests: a morphological, metabarcoding and experimental assessment. *Biological Invasions* 19:2851-2867

Pochon X, Zaiko A, Fletcher LM, Laroche O, and Wood SA (2017) Wanted dead or alive? Using metabarcoding of environmental DNA and RNA to distinguish living assemblages for biosecurity applications. *PLoS ONE* 12(11): e0187636.

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Bilge discharge.



Bilge water from yacht.

Biosecurity Matters: Seeking Your Feedback

Cawthron Institute and Scion are interested in the views, attitudes and reservations of boat owners about preventing the spread of marine pests and biofouling (biological growth) on their boat hulls. They are implementing the five-year Marine Biosecurity Toolbox Research Programme www.biosecurity-toolbox.org.nz

Owners of boats moored at wharves, marinas, or piers (not trailer boats) are invited to participate in a small discussion group in Nelson on **31 August 2021** (evening). This will take approximately 90 minutes. Findings will help inform the development of a nation-wide survey to better understand boater values for more targeted and appropriate biosecurity interventions. Involvement is entirely voluntary and any views or information you share will be kept confidential.

If you would like to take part, please contact: Alaric.McCarthy@cawthron.org.nz



Fanworm find in Picton Marina

One large fanworm was recently detected in Picton Marina by a commercial diver undertaking maintenance checks on a vessel hull.

The fanworm was large, approximately 350mm long, found on a pontoon jetty near the coat hanger bridge. Marlborough District Council responded by putting a dive contractor in the water to carefully check over the entire jetty including the piles and all boats on the jetty. Intensive lead lining was also undertaken on the seafloor below the immediate area. Nothing further was found.

It is likely that this fanworm has been there for a number of years before growing long enough to stick out of the fouling on the jetty. The find was the first fanworm found in Picton Marina since 2018. While it isn't good news that the fanworm was found it was positive that the diver recognised that it was a pest species.

Throughout the Americas cup period Marlborough District Council engaged with arriving super yachts to ensure their vessels were clean and not carrying any pests. All vessels that council made contact with were able to provide evidence of their last clean, no areas of concern arose out of this. One 66m long vessel was snorkelled to ensure the cleanliness certificates where of a good quality. The boat was very clean with a light slime layer.

Councils regular Autumn surveillance work has been undertaken throughout the Picton and Waikawa Marinas along with the Waikawa Bay moorings area. No further fanworm have been found.

More surveillance work is planned to be undertaken before the end of June in the Grove Arm, Port Underwood, Ship Cove and Shakespeare Bay areas provided that weather conditions allow.



Inspecting the bow thruster on a super yacht.
Photo: Marlborough District Council.

Auckland steps up control of marine pests



New stringent rules made by the Auckland Council will help protect the Top of the South from harmful marine organisms.

Auckland has a wider range of harmful marine organisms than any other region in New Zealand and is a key source region for hull fouling organisms that can reach here. The Council is using education and regulation and has stepped up regional surveillance. They say that *“Tāmaki Makaurau/Auckland is highly connected to other regions of Aotearoa/New Zealand through the movement of both commercial and recreational vessels, and it is likely that new species will continue to be introduced and spread. However, effective management systems would reduce the rate of spread and prevent some new species from establishing.”* The new rules are largely aligned with a number of other regional and territorial authorities, to assist in reducing the human-mediated spread of pests between regions, as well as within Tāmaki Makaurau/Auckland itself. They say that *“Aligned rules will also make compliance easier for vessels moving between regions.”*

In summary the new rules say that:

- *All owners or person in charge of any craft in the Auckland region must ensure that the level of fouling on the hull and in niches of the craft does not exceed ‘light fouling’.*
- *Any craft entering any marine water body in the Auckland region from the land must be free of all ballast water, bilge water, holding tank water or sea water held in any other container.*

No more than “light fouling” means:

- *Slime: a hull can be partially or completely covered in biofilm (aka slime). You can “write” with your finger through slime.*
- *Macro-fouling (barnacles, worms, weed etc): can cover no more than 5% of the hull, including niches such as inlets, outlets, rudders, propellers etc. The species of fouling doesn't matter to this measurement: total coverage must be no more than 5%. However, if pest species are present then you must not move the craft to a new location as this will involve communicating the pest.*

The Council has also made it unlawful to allow a hull to become so heavily fouled in its region that passive discharges occur, without obtaining a Resource Consent. All of this means that all vessels coming to the Top of the South from Auckland will now be required on leaving to meet higher standards than are set by local rules here.

Farewell to Matt Molloy

Our best wishes go with Matt Molloy as he finishes with the TOS Coordination Team at the end of June.

Matt has been the face of the Partnership to a wide range of businesses and other organisations over the last 7 years. His depth of background in public health and incident response made Matt a natural for the team. His warm practical approach has been appreciated by many. Matt has been happy to be part of the team as long as *"it doesn't involve getting in a boat."*

While working for the Partnership Matt established his own company MM Consulting and he is now in such demand looking after drinking water across New Zealand that his time is more than fully booked.

We will miss you Matt and wish you well in your new endeavours.



Anti-fouling workshop held in Nelson

In April around 20 people learned about the whys and hows of keeping the hulls of recreational vessels free of marine fouling organisms. A well-kept older concrete vessel that had been moored by the boulder bank was brought in and hauled out by Nelmac for demonstration purposes. This showed the benefits of a thorough anti-fouling job two years before but still had young clubbed tunicates in the niche areas around the rudder. People particularly appreciated the advice provided by Altex staff on how to get the best from your anti-fouling paint. The prize of a can of anti-foul paint was won by Fraenzi Furigo and will be doing good service in the Marlborough Sounds.



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