



Partners Newsletter

Keeping you informed

June 2015

Marine Biosecurity Partnership Meeting

Images of fields of fanworms in the Waitemata Harbour highlighted the theme of the annual TOS Marine Biosecurity Partnership meeting in May - pathways management. Having fresh fanworms on display taken that week from the Nelson Harbour showed the risk to our region is very real.

The theme of pathways management was picked up by each speaker and reinforced in small group discussions.

Highlights:

- Nine incident responses in the last year for the Partnership.
- Commitment to using legal processes for vessels and marinas in Northland.
- Bay of Plenty has weighed in on fanworm with a small-scale management programme.
- Cawthron Institute are investigating what risk bilge water poses. They had found a diverse range of critters present: larvae, spores, small bivalves, crustaceans, macro-algae, and even live fish.
- MPI announced a shift towards preventative and coordinated pathway management aligned and integrated with existing measures, to slow the rate at which organisms are delivered to new places.
- Dr Barrie Forrest said that we: have a good understanding of risk pathways; have a good toolbox for management (tools, resources, expertise); can demonstrate that pathway management is worth the effort, although 'risk reduction' isn't universally perceived as worthwhile; and have methods for measuring the success of management efforts. The challenge now is to identify and implement effective and acceptable management practices, ideally in a consistent and coordinated way nationally.
- Annabel Young of the NZ Shipping Federation expressed support for pathways management from the commercial transport sector.
- Dr John Hellstrom said most recreational boaties don't think about biosecurity and don't even know what it is. He did not think we will get far with inducements, information and encouragement. Enforcement is the path to follow.
- Aquaculture NZ described their new environmental management framework and how that is designed to manage biosecurity risks.

Jono Underwood summed things up *"It is amazing seeing how things change over the years. I think it's all drifting towards pathways. This is a very big learning curve we are on - learning more about pathways and feasibility in a way that everybody can see the positives. No-one can argue about the values we are trying to protect."*



Barrie's Bilge

The case for pathways management



For marine pests established in our international ports, there's a common perception that nothing can be done to stop further spread around New Zealand. It's true that stopping spread is a significant challenge, but greatly slowing spread is definitely possible. The reason is that many marine pests (and diseases for that matter) have a limited ability to spread long distances by natural mechanisms, and eventually encounter barriers (e.g. unsuitable habitat) that contain their distribution. However, human activities can break down such barriers, and lead to the spread of potentially harmful species into places they would never have otherwise reached. Hull biofouling is an important pathway of spread, but other mechanisms can also be important (e.g. ballast and bilge water, sediment, deck washings).

There are good reasons that marine biosecurity is focusing on managing these types of risk pathways as a first line of defence. A key reason is that harmful organisms are hard to get rid of once established - so prevention is easier than cure. Also, management approaches that target risk pathways are likely to be effective against most associated hitch-hiker species, whether they are recognised as high risk or not. This is an important benefit for two reasons. The first is that many more species have the potential to become harmful than are recognised as such (see Barrie's bilge, March 2015). The second is that pathway management can stop the spread of native New Zealand species to other localities in New Zealand where they don't naturally occur; this is important for maintaining the unique biodiversity of regions like Fiordland, and is important for industries like aquaculture for which some of the key biofouling pests are native organisms.

So is pathway management feasible and worthwhile? The answer is yes. Research and development by scientists and dive companies provide us with the tools, resources and expertise to manage pathway risks. Risk assessment methods also confirm what our gut might tell us; that the benefits of managing the spread of harmful organisms by tackling risk pathways can greatly outweigh the costs, even for species that are already well-established. The challenge now is to translate knowledge and tools into practice, and implement effective and acceptable management practices in a way that is consistent with other regions in New Zealand and with national approaches to biosecurity management.

Message from the Chair



Lindsay Vaughan has been with the Management Committee from its establishment in 2009 as its TDC representative and has just stepped down from his role as Chair since 2012. We asked him to provide his thoughts on the changes that he has seen over that time.

The initial focus was on getting the various interested parties around the same table and talking with each other about common issues. Initial work focused on assessing the risk to the region from invasive marine organisms, identifying effective methods of managing pests and methods of preventing their arrival. It needed good scientific information and was initially dependent on advice from MAFBNZ (now MPI) to identify the high-risk pests and their potential impact on aquaculture and marine ecosystems along with ways of reducing that risk. Later Dr Barrie Forrest was directly contracted by the Partnership to provide that scientific expertise and regionally targeted advice.

The Partnership recognised there were many parties operating in the marine environment. It was essential to develop relationships with these parties and develop an effective communications strategy. A newsletter was produced and it now has a substantial base of interested readers. In the early years, summer programmes were run to raise marine biosecurity awareness and to inform recreational boat owners about the risk posed by key marine pests.

*It has been frustrating to see the arrival of new marine pests in Port Nelson, Picton and Waikawa such as *Styela* (clubbed tunicate) and *Sabella* (fanworm) that are already established elsewhere in NZ. By the time these pests have been found, they are usually too well established to be eradicated and all that can be achieved is a slowing of the rate of spread.*

It is clear that the greatest benefit will come from focusing on management of the pathways by which these pests arrive. Efforts to achieve this have been restricted by the inability to require cleaning of vessels prior to their arrival in local ports or coastal waters. Pests on boats from heavily infested areas such as Auckland ports and marinas will continue to arrive and bring in new marine pests until there is a requirement to clean vessels before they leave their home port.

Pathway management has taken a big step forward with marina authorities starting to incorporate marine biosecurity in their clean marinas project and requiring vessels in their marinas to be cleaned and anti-fouled regularly. The challenge for the Partnership will be to work with boat owners, marine authorities, port companies, divers, the aquaculture industry, other regional councils throughout the country and the Ministry for Primary Industries on minimising the risk posed by the transfer of invasive marine pests. Improving marine biosecurity in the region will depend on the Partnership's ability to influence improvements in marine biosecurity outside the region as well as within the region.



What marine pests are invading the seas in the Tasman region?

In the Top of the South Island, marine organisms have been arriving here on vessels for over 150 years and probably longer. Some, such as the Pacific oyster, have become so naturalised that most people think they have always been here. Some, however, have the potential to create havoc in our marine environment.

Unwanted marine organisms already present in the coastal waters around parts of the Top of the South are:

- *Undaria pinnatifida*, the edible Japanese seaweed, that is now widespread in Tasman but is still absent from remote areas. It has not proven to be as big a problem as initially expected;
- *Sabella spallanzanii*, the Mediterranean fanworm, has reproduced prolifically in Waitemata Harbour and is now present in low numbers in the Ports of Nelson and Picton but has not yet been detected in the Tasman region;
- *Styela clava*, the clubbed tunicate, is also present in the Ports of Nelson and Picton, but has not yet been detected in the Tasman Region. It could pose a major threat to marine farms in the region.

Nelson City and Marlborough District Councils have active programmes on the two latter pests to try to contain them within the port and marina areas. It is vital that vessel owners remove biofouling and maintain effective anti-fouling on their vessels to stop these pests being moved into uninfested areas of the region.



Sabella spallanzanii



Undaria pinnatifida



Styela clava

Photos from MPI.

Nelson & Picton Port Survey Results

Every six months MPI undertakes surveillance for high risk marine pests in 11 of New Zealand's busiest ports. It's a key part of protecting New Zealand's marine environment from harmful marine pests. NIWA are contracted to do this work for MPI.

During March, the ports of Nelson, Picton and Havelock were surveyed, and a number of non-indigenous species that have been found previously were detected once again.

In Nelson, a single fanworm *Sabella spallanzanii* was removed from a pontoon on the eastern side of the marina; the lightbulb ascidian *Clavelina lepadiformis* and the spaghetti bryozoan *Zoobotryon verticillatum* were detected throughout the marina; as were several specimens of the non-indigenous red alga *Grateloupia turuturu*. The Japanese seaweed *Undaria pinnatifida*, and the clubbed tunicate *Styela clava* were relatively widespread throughout the port.

In Picton, several specimens of the red algae *Grateloupia turuturu* were recorded from Picton marina; there were two specimens of the hydroid *Ectopleura crocea* from Waikawa Marina; the Japanese seaweed *Undaria pinnatifida* was widespread; and a single *Styela clava* was collected from Waikawa marina. The foliose red alga *Schizymenia apoda* was detected for the first time in Picton on Waitohi Wharf. It has been previously found in Wellington and Otago harbours, however this algae is particularly challenging to identify and requires molecular techniques to confirm identification, making management of this species impractical. The species has no prior history of invasiveness.

The next round of surveillance in the Top of the South will be undertaken later this winter, and weather and shipping movement dependant, is scheduled for the 24th-28th August (Nelson) and the 7th-11th of September (Picton and Havelock).

The focus of the port surveillance programme is to detect new-to New Zealand species, and as such, it only looks in a very small area of your region - those locations with high numbers of vessel movements. Consequently, we need your eyes to help us detect pests everywhere else. If you've seen something unusual, take a photo or sample, note your location, and immediately call the exotic pests and diseases hotline on 0800 80 99 66.

If you have further questions on the port surveillance programme, or wish to receive the complete results directly, send an email to Tim Riding Tim.Riding@mpi.govt.nz and he will add you to the distribution list.

Photo: The clubbed tunicate, *Styela clava*, hitch-hiking around Otago harbour on a camouflage crab - until it was intercepted by the port surveillance divers!

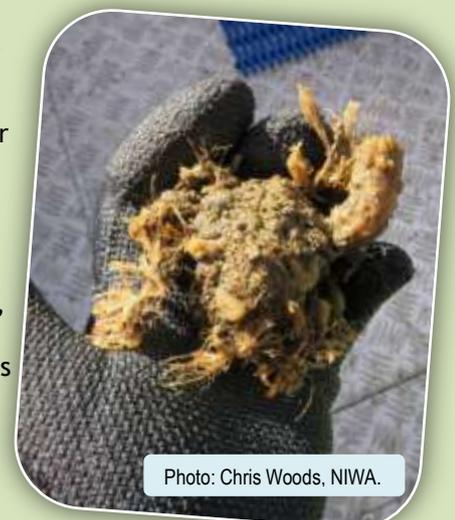


Photo: Chris Woods, NIWA.

Guest Spot – Bay of Plenty Regional Council

New powers gained to manage marine pests in Bay of Plenty

Bay of Plenty Regional Council has gained new powers to manage marine pests in the Bay of Plenty. It has declared two Small Scale Management Programmes to control and prevent the spread of the unwanted marine pests Mediterranean fanworm (*Sabella spallanzanii*) and clubbed tunicate sea squirt (*Styela clava*).

It's the first time in the country that a local authority has used the Small Scale Management Programme provisions of the Biosecurity Act to deal with a new marine pest threat. The programmes give warranted Regional Council Biosecurity staff legal powers such as to enter and inspect marinas and wharves, or direct owners to haul out and clean their boats, if necessary.

"To stop new pests from establishing here, we need to remove them as soon as they're detected, before they can spawn or spread further. We'll always try and collaborate with a boat or structure owner in the first instance. The powers are only there for when people aren't co-operating or can't be contacted," said Regional Council Biosecurity Officer Hamish Lass.

"A single Mediterranean fanworm was first found in Tauranga Harbour in September 2013. Thanks to help from Ministry for Primary Industries and University of Waikato we've now got a thorough marine pest surveillance programme in place."

"High risk sites are checked twice yearly and 38 hotspots where pests have previously been found are checked monthly. That means regular dive surveys of more than 450 moorings, 800 boat hulls, 10km of marina pontoons and 1.5km of rock walls," Mr Lass said.

In the past two years, six recreational boats moored in Tauranga Harbour have been found with the unwanted pests growing on their hulls. Five of the boats had recently travelled from parts of Auckland or Northland which are already infested. The infestation source of the sixth boat is currently being investigated.

"We've relied on co-operation from boat owners to get the boats hauled out and cleaned. That's worked so far, but without enforcement powers there's been potential for our response to be delayed or ineffective."

"The high volume of recreational boating traffic in and out of the Tauranga Harbour means there's a high risk of more pest infested boats arriving in the Bay of Plenty. The biggest problem is boats that have been moored in infested areas and then sailed here without prior checking and cleaning of their hulls," said Mr Lass.

Tips for boat owners and more information about marine pests and the new Small Scale Management Programmes is available at www.boprc.govt.nz/marinepests

For further media information please contact Katrina Knill, Communications Partner, on 0800 884 880.

Staff at Bridge Marina Travellift remove Mediterranean fanworm from bottom of boat.



www.marinebiosecurity.co.nz



Te Tau Ihu o te Waka a Maui