Partners Newsletter

Keeping you informed

March 2016

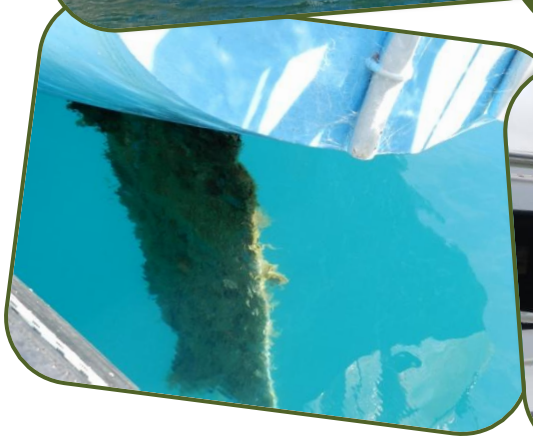
Summer Recreational Boat Survey

The Top of the South Coordination Team spent a few days on the water over summer delivering more than 1000 information packs to recreational boaters as part of our "keep your bum clean" campaign (see November 2015 Newsletter). The information packs included a questionnaire to help us learn more about boater biosecurity habits and maintenance practices. Thanks to boat support from the Tasman and Marlborough Harbour Masters, and DOC in Picton, we also managed to do a snorkel check of biofouling on boat hulls across the region. Overall we surveyed 226 boats - in Tarakohe, along the Abel Tasman coast, and in Pelorus and Queen Charlotte Sound.

Most boat hulls were fairly well-maintained, although around 16% were what we call "heavily fouled", meaning that biofouling cover on the hull was 40% or greater. Interestingly, even boats with good antifouling coatings often had biofouling in some of their "niche" areas. This was especially a problem on keels and propeller shafts of yachts, as these areas don't routinely get antifouled while on hardstand.

Overall, we found three different species of notifiable marine pest. The Mediterranean fanworm (*Sabella*) was found in Queen Charlotte Sound on a yacht from Wellington. Fortunately the worms were not reproductively mature and MPI ensured the boat was hauled out and cleaned. The clubbed sea squirt (*Styela*) was found on five yachts, three from Tarakohe, one from Nelson and one from Wellington. The Asian kelp *Undaria* was found on 55 boats and also on 44 moorings, despite it being a summer "low" period for the occurrence of this species. So it seems we have a lot of work to do to make "keep your bum clean" a reality.

In terms of questionnaire returns, so far we've received around 200, but hope that more will trickle in over the coming weeks. We've also got the travel lift operators at Waikawa and Nelson involved - they'll be helping us by assessing fouling levels on boat hulls, and by asking boat owners to fill out our questionnaire. More on that in another Newsletter.



Pete's Pondering

Vessel hygiene

Vessel hygiene is now a must have rather than a nice to have in the Top of the South. The game changer is the spread of the clubbed tunicate *Styela clava* ("Styela").

Styela is a sea squirt that has caused significant effects on mussel farms in other countries and is being a manageable nuisance in the Firth of Thames. While the way it will behave in the Top of the South is not clear, NIWA modelling suggests production losses of 30% are quite possible and increased processing costs are inevitable.

Partnership work over the last year has shown Styela to be well established at Tarakohe, Nelson, Duncan Bay, Picton and Waikawa. While there is some suppression work in harbours in association with *Sabella* (Mediterranean fan worm) surveys eradication is not possible. This means that the most important thing is to keep vessels that are moving around free of Styela. This matters most for vessels visiting marine farms or locations that are free of Styela (which is most of the Top of the South outside port areas).

While Styela reaching marine farms in our region is now inevitable, delaying its arrival has big financial benefits. Each year without Styela will be a better year than with it.

And there are legal implications as well. Once a vessel or piece of equipment is known to have Styela or any other pest classified as an unwanted organism it is an offence under the Biosecurity Act to knowingly transport it anywhere.

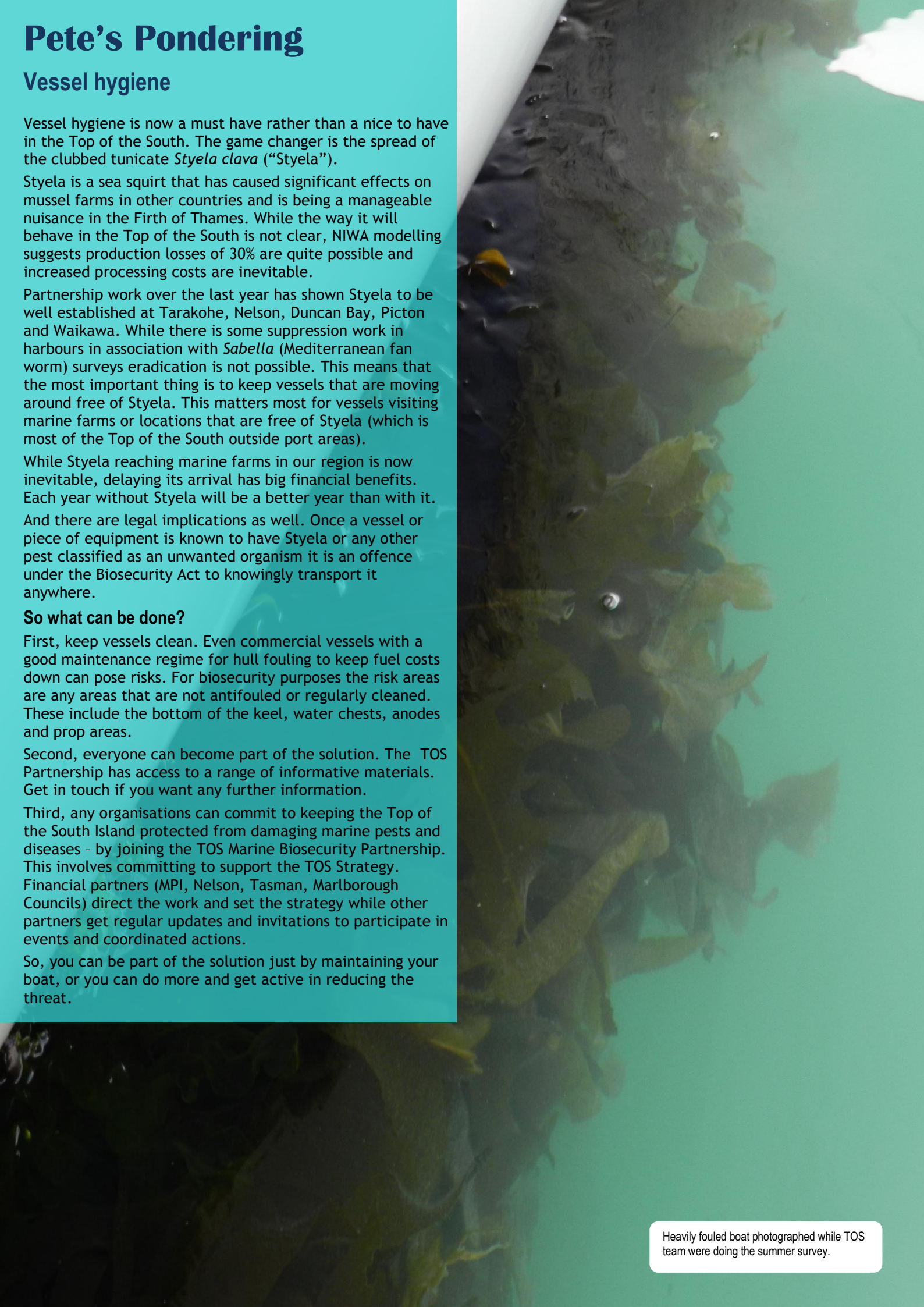
So what can be done?

First, keep vessels clean. Even commercial vessels with a good maintenance regime for hull fouling to keep fuel costs down can pose risks. For biosecurity purposes the risk areas are any areas that are not antifouled or regularly cleaned. These include the bottom of the keel, water chests, anodes and prop areas.

Second, everyone can become part of the solution. The TOS Partnership has access to a range of informative materials. Get in touch if you want any further information.

Third, any organisations can commit to keeping the Top of the South Island protected from damaging marine pests and diseases – by joining the TOS Marine Biosecurity Partnership. This involves committing to support the TOS Strategy. Financial partners (MPI, Nelson, Tasman, Marlborough Councils) direct the work and set the strategy while other partners get regular updates and invitations to participate in events and coordinated actions.

So, you can be part of the solution just by maintaining your boat, or you can do more and get active in reducing the threat.



Heavily fouled boat photographed while TOS team were doing the summer survey.

Barrie's Bilge

Incursions

The few months since the last newsletter in November have been a busy time in terms of biosecurity incidents. The clubbed tunicate *Styela clava* has been turning up in many places. Back in November it was found on the seabed in Duncan Bay where an infested boat had been moored. Since then we've found it on recreational boats during our regional summer survey (see article) and on boats from Nelson marina. The table below shows that the number of pests, diseases, or heavily fouled vessels from other locations, which have been reported to the TOS in the last five years, has steadily increased. This pattern reflects existing species like *Styela*, and the fanworm *Sabella*, becoming more established – not only in the TOS but also in regions like Auckland and Wellington from which vessels regularly arrive. It also reflects greater awareness and reporting of suspected pests and diseases, or heavily fouled vessels. On the good news front, we have a better communication network that is giving us the heads-up about the arrival of potentially high risk vessels, meaning MPI and regional councils can take swift action to ward off potential problems. Although two new diseases of shellfish have been reported (in 2014 and 2015), at least no new marine pest species have been discovered for about three years now.

Year	Number of high risk vessels reported (i.e. vessels heavily fouled or with a known pest present)	Number of new pest populations or disease incidents reported
2011	1	0
2012	0	0
2013	1	2
2014	5	2
2015	7	4
2016 (January – March)	7 ... and counting	0 ... so far

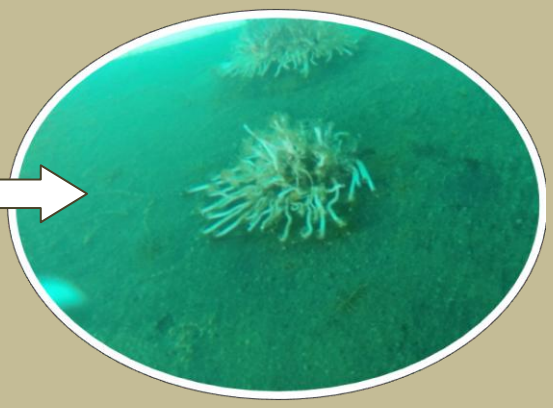
The draw for the free hull clean that was part of the "Is Your Bum Clean" campaign will be held at the annual TOS Partnership Meeting on Friday 27 May. The winner will be notified by email.

Marine pests present and past

MPI has just released an updated version of the New Zealand Marine Pest ID Guide, available at: https://www.mpi.govt.nz/document-vault/10478. It describes the diagnostic features of 11 marine pests on NZ's hit list, and has a new section on how to recognise the possible presence of diseases in fish and shellfish. The guide also has information on what to do if you suspect you've found a pest or disease.

In addition to the recognised pests, it's worth a reminder that the Top of the South has a number other species that have previously been regarded as marine pests in NZ or overseas. For example, in the summer survey, we found the sea squirt *Didemnum vexillum* on the hulls of 23 boats and on 48 moorings across the top of the south. This species was the subject of a regional eradication attempt over 2006-2008, due to concerns over its impact on aquaculture.

Another interesting organism is the fanworm *Hydroides elegans*. This worm has brittle white tubes, and can be a prolific fouler on boats in Nelson marina in warm summers. *Hydroides* isn't formally recognized as a pest in NZ, although it can be a nuisance to Nelson boaters. We were also interested to learn that the same species, and species closely related, have been reported as having significant biofouling impacts on shellfish aquaculture in the Mediterranean Sea and parts of Asia. The only antidote to this ongoing onslaught of potential problem species is to make sure your boat is clean before you head away from home.



Tubeworm *Hydroides elegans* on a yacht in the Abel Tasman.

Sea squirt *Didemnum vexillum* on a yacht (Waikawa travel lift).

What's at stake?

A new research programme aims at enabling decision-making through better measurement, forecasting and evaluation of the impacts of non-native organisms in NZ's changing ocean

NIWA, and its partners at the Cawthron Institute and Waikato University, have been awarded $3,033,760 over three years to develop novel methods to measure the current impacts of marine pests in New Zealand, and to forecast future threats.

The transport of marine plants and animals by humans to areas outside their natural range is a global environmental and food production problem that has increased as world trade and travel have expanded and diversified.

New Zealand's unique native marine species, natural habitats, and ecosystems are particularly vulnerable to introduced non-indigenous species as they have evolved in relative isolation from other coastal regions of the world.

The impacts of pests on New Zealand's iconic birds and land-based organisms are well documented, but in our coastal seas, the threat is less visible and more difficult to study.

The number and distribution of non-native species in our waters is increasing. Our ability to manage threats from them is limited by our understanding of how they behave in New Zealand. We also need to understand the impacts they have on native species, fisheries and aquaculture and other features of our marine environments.

Well-targeted measures to reduce the establishment and spread of pests in our waters may have significant long-term benefits for New Zealand. However, it is difficult to justify expenditure on management when these benefits are uncertain.

This project aims to enhance protection of New Zealand's marine ecosystems and industries through better understanding of the impacts that marine pests have on indigenous marine biodiversity and the long-term benefits we derive from it.

The research team includes ecologists, economists, social scientists and risk modellers in partnership with central and regional government, university, Maori and international collaborators.

A key goal is that the environmental, economic, social and cultural values at risk from marine pests are better protected by effective management.

The research will develop new knowledge and approaches to prioritise public investment in biosecurity that gives due consideration to the benefits of marine biodiversity.

The Top of the South is represented on the research advisory committee by Partnership Coordinator Peter Lawless.

Mediterranean fanworm, *Sabella spallanzanii* in Waitemata Harbour. Photo: Crispin Middleton, NIWA

www.marinebiosecurity.co.nz

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