Partners Newsletter

Keeping you informed

May 2013

Summer survey finds plenty of fouled boats

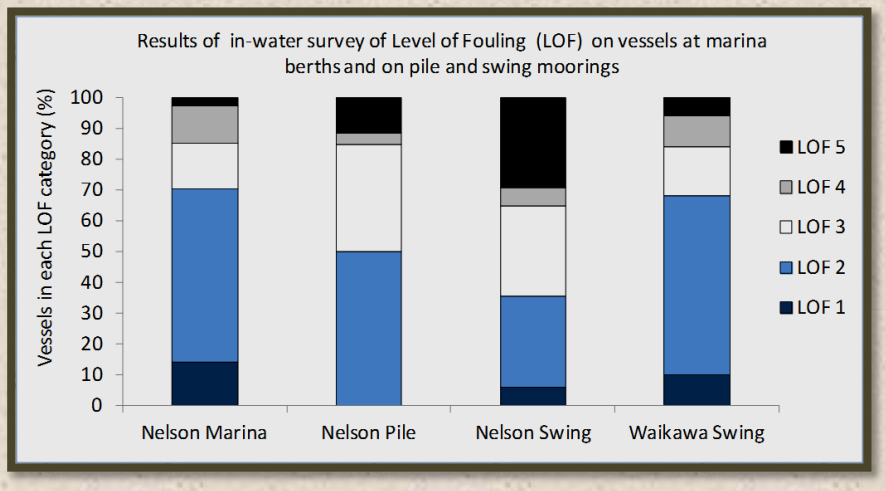
The summer survey found over a third of vessels on swing moorings in Nelson Haven were highly fouled with encrusting organisms (levels 4 or 5 on the graph below). About half as many vessels on Nelson marina and pile berths, and vessels on swing moorings in Waikawa Bay, were highly fouled. But even 15% of vessels being highly fouled poses significant risks to regional marine biosecurity.

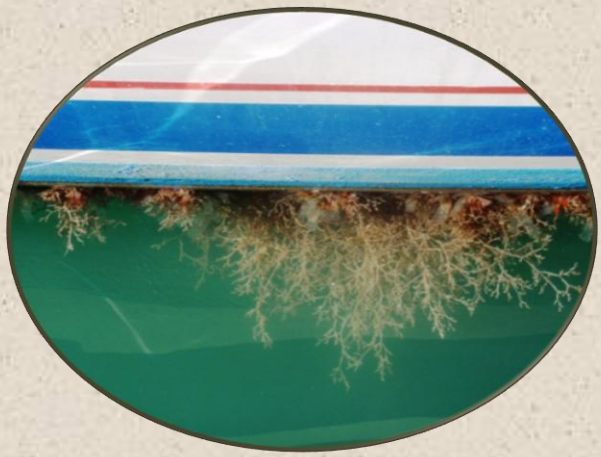
In the summer months Dr Barrie Forrest surveyed hull fouling on almost 600 vessels in the Top of the South, covering the berths in Nelson marina, and swing moorings in Nelson Harbour and Waikawa Bay. He assessed their fouling status according to an existing Level of Fouling (LOF) scale (see Table), first from the surface (see photo) and then by snorkelling around in the water. As part of the snorkel survey he also checked for the presence of known pests, and for species designated as Unwanted Organisms by the Ministry for Primary Industries (MPI). Compared with previous surveys, there has so far been no detectable reduction in vessel fouling in the Top of the South as a result of awareness raising activity. If vessel monitoring in years to come shows a decline in vessel fouling, we'll know that the message is getting through. New rules in the marinas and on swing moorings requiring boats to be kept clean may make the difference. These are just being introduced in Nelson. The only organism found from the MPI Unwanted list was the Japanese kelp *Undaria*, which is already quite widespread in the region. However, some known marine pests were surprisingly common on hulls, even at intermediate levels of fouling (LOF 3). These included two species of sea squirt that have previously caused problems for aquaculture in Marlborough. Their prevalence on vessels in the Top of the South indicates that closely related species on the MPI pest list (like the clubbed tunicate) could equally become common on fouled vessels in the region. Many fouling organisms can't spread very far or very quickly by their own methods, but by hitch-hiking on vessel hulls they can be spread long distances.

So the simple message is to keep your hull clean and your antifouling in good condition, especially when you plan to leave port.

Level of Fouling (LOF) scale used to assess vessels (developed by O. Floerl and others, NIWA)

LOF	Description	Macrofouling cover (%)
1	**Slime layer** fouling only.	Nil
2	**Light fouling**. Hull covered in biofilm and 1-2 very small patches of macrofouling	1 – 5
3	**Considerable fouling**. Presence of biofilm, and macrofouling still patchy but clearly visible	6 – 15
4	**Extensive fouling**. Presence of biofilm, and abundant fouling assemblages consisting of more than one species	16 – 40
5	**Very heavy fouling**. Diverse assemblages covering most of visible hull surfaces	41 – 100





Example of LOF 5 as seen from the surface

Seaweek Success

Seaweek activities in the Top of the South reached over 450 people in Nelson, Blenheim and Picton. A marine biosecurity focus was a first for Seaweek. The involvement of the Top of the South Partnership made this a bigger and more vibrant event than has been seen here.

This event proved ideal to help our local school children to learn about and connect with the sea. We infused the week with a particular focus on marine biosecurity. The event facilitated a connection between schools and their community and allowed science professionals and marine industries to share their specialist knowledge.

A wide range of organisations freely gave their time and enthusiasm. These included the Cawthron Institute, NIWA, Port Nelson, The Truck, NMIT, the NZ Sea Cadets, University of Otago Marine Studies, Sealord Fisheries, Nelson City Council, Maitahi Outrigger Canoe Club. In addition the Tasman Bay Cruising Club provided a venue free of charge. Coffee was supplied by ZUMO Nelson.

The teachers were excited to have an educational experience outside the classroom. Educational materials were provided to the classroom teachers, allowing them to follow up this experience back at school. Many children had never been to the marina, and to learn from professionals in a safe supportive environment was priceless.

The concept of an invasive species was effectively communicated to the children. This is the first time most children had heard of biosecurity.

The Marine Metre Squared module showed the importance of careful monitoring of our ocean fauna and flora.

The presenters enjoyed sharing their knowledge with the students and making connections with the schools. There was also a great feeling of collaboration as relationships were formed or furthered through sharing amongst professionals.

All presenters expressed their love of the sea, and conveyed the healthy sea message. “We are a town that relies on our port for transport, fishing and tourism. This kind of event should be on the school calendar every year.”

Pete's Ponderings

What is the next big marine biosecurity threat?

The report that a scientist had found the droplet tunicate *Eudistoma elongatum* near Nelson off Pepin Island on the 8th of February tested our biosecurity incursion planning. The suspect organism turned out to be a native algae and no threat at all but raised the question of what the next threat might be.

The most likely candidates are the unwanted organisms that are getting close to us and the diseases that already affect our nearest neighbours, such as Australia.

Within New Zealand the droplet tunicate is wide spread from East Cape to Cape Reinga in the North Island but is absent from the south, so far.

The Mediterranean fan worm *Sabella* is rampant in the Waitemata Harbour and present in Lyttleton.

The sea squirt *Styela clava* is present in Nelson Harbour and has recently been found in Pauahatanui Inlet near Porirua. It has yet to establish in the Marlborough Sounds where it could be a real nuisance for mussel farms

The sea squirt *Pyura stolonifera praeputialis* is widespread in Northland and is found at 21 locations so far. It has been identified as having high fouling potential for marine farms.

The abalone virus AVG is busy destroying livelihoods on the east coast of Australia.

Perhaps one of these five is our next greatest threat, perhaps it will be something quite new. We are focusing right now on how to reduce these risks and pre-plan for an incursions response. Watch this space for developments.

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Feature Marine Pest

Mediterranean fanworm, *Sabella spallanzanii*

Status in New Zealand: Established.

Why is this a threat?

It forms dense groups competing with native species for food and space.

Key features:

- Spiral fan of feeding tentacles on top of leathery tube. Fan is white banded with pale fawn/orange or brown.
- Tube is tough and flexible, dull grey/brown coloured and up to 40cm.
- Tube is often muddy in appearance with other organisms growing on it.
- Commonly forms clumps of several individuals, creating a canopy of feeding fans.

Where are they found?

- Attaches to hard surfaces including rocks, concrete, and seabed organisms such as mussels and oysters.
- Has been found on boat hulls and wharf and marina structures.
- Sheltered temperate waters, up to 30 metres depth.

Report sightings:

- Note exact location.
- Take a photo or sample where possible.
- Seal in plastic bag with small amount of seawater and chill, or preserve in methylated spirits.
- DO NOT FREEZE
- Call MPI on 0800 80 99 66.

Marine Pathway Management Workshop

MPI has contracted NIWA and Cawthron to analyse what will be effective in marine pathway management using the new provisions of the Biosecurity Act. The work is focused on creating pathway management plans under the Biosecurity Act and on alternatives such as self regulation, incentives, information programmes and technical assistance.
Graeme Inglis of NIWA provided statistics on the value of the resource:

- Oil and gas $2.99B
- Fisheries $1.32B
- Marine industries $0.71B.

And on the vectors:

- Cargo vessel movements 6,000 per annum
- Domestic fishing 1,107 vessels
- Domestic passenger vessels 1,458
- Non-domestic passenger vessels 747
- International yachts 650 per annum
- Recreational vessels 500,000

And the species:

- 324 non-native species recorded
- 172 established

Key things to consider for the Top of the South are:

- There will be no immediate risk reduction from the development of pathway plans.
- The first pathway plans are likely to be national rather than regional.
- Pest management strategies and plans need to harmonise with RMA policies and plans, both to dovetail in terms of controls reducing biosecurity risks, and to avoid having the RMA plans place obstacles to approaches like in-water hull cleaning.
- Councils active in this area appear to be Northland, Auckland, Waikato and Southland and links with these regions will have value.
- Auckland will test the capacity of the RMA to control the movement of fouled vessels.
- We need to get up to speed on in-water cleaning techniques such as acetic acid treatments and in-water steam cleaning.

The next round of workshops being held by NIWA to further develop this work are 23 and 24 May 2013.

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