

Whāngārei Marine Biosecurity Charter

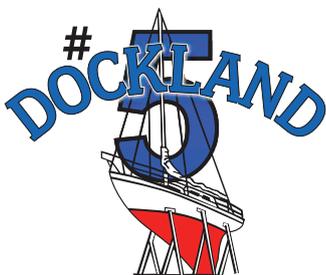
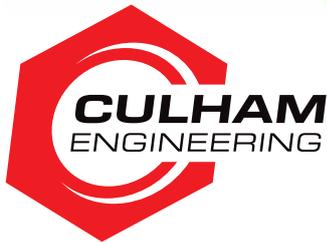
SEPTEMBER 2013

A joint industry and agency response to managing Mediterranean fanworm in the Whāngārei area prepared by the Northland Regional Council in conjunction with the Whāngārei Marine Biosecurity Charter Group.

Putting Northland first

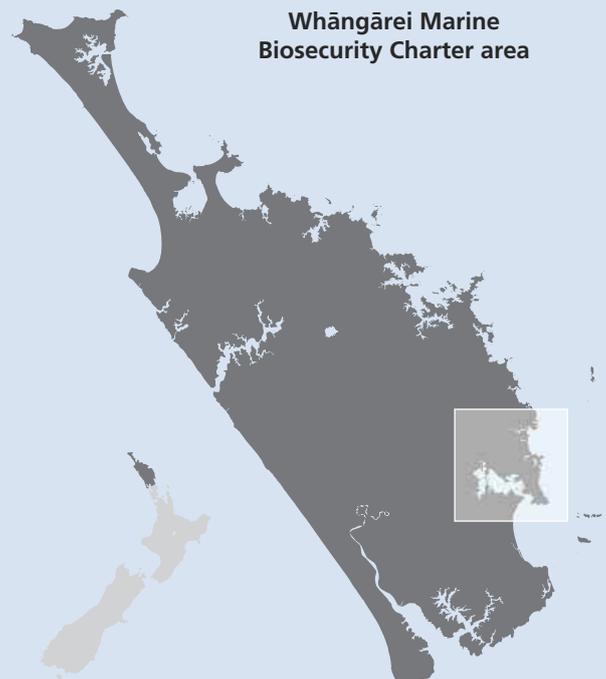
**NORTHLAND
REGIONAL
COUNCIL** 

CHARTER PARTICIPANTS



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Foreword

This Whāngārei Marine Biosecurity Charter is a joint bid to help address an ever-increasing number of marine biosecurity challenges facing Northland. It has been developed by a stakeholder group committed to preventing the transfer of marine pests (in particular Mediterranean fanworm) via vessel hulls.

This is no easy task. More than 80 percent of all marine pest incursions nationally have been attributed to hull fouling. Given that 2000 domestic and international recreational vessels visit Northland annually our region is at high risk from new marine pests. Our aquaculture and tourism industries, environment and our culture – and the significant economic benefits they collectively generate – could all be negatively affected.

Northland's marine industry alone contributes at least \$80 million annually to the regional economy, directly employing more than 1000 people. But there are also hundreds of associated jobs linked to accommodation, food and beverage and the provision of other supplies needed by visiting vessel owners. Our coast is also well travelled by vessels trading in goods like cement, logs and petroleum products.



Malcolm Nicolson
Chief Executive Officer
Northland Regional Council

It's important to know if marine pests like Mediterranean fanworm could be on the hulls of vessels visiting Northland. This charter provides a simple risk assessment that can be applied to any vessel and provide us with a crucial early warning system aimed at forecasting those most at risk of spreading marine pests – and what must be done to reduce that risk.

This charter also requires facilities which host vessels to have management plans in place so that Mediterranean fanworm and other biofouling is dealt with in a way that ensures all risk species are contained and there is no risk of further spread.

We wish to thank all those individuals and agencies who have worked collaboratively to develop this charter. The next step is to ensure the wider marine community takes the charter to heart so that we can collectively afford future generations – and our precious marine environment – the protection they so richly deserve.



Peter Busfield
Chief Executive Officer
Marine Industry Association

Introduction

The following charter is based on collaboration between marine industry providers and the Northland Regional Council. It has been developed in good faith and with the support and input of all charter members.

Purpose of the charter

This charter has been prepared to halt the establishment of Mediterranean fanworm in Northland. The contents provide information, assess risk, and provide a description of the practises and methodologies the charter group intends to apply. It also records the responsibilities of the parties involved and has been designed to ensure the parties can effectively work together toward a common goal.

The charter is an open document and any person or business is encouraged to join by providing an approved management plan.

Principles

Charter participants have to work together because all organisations have marine biosecurity responsibilities, interests or concerns.

Participants comprise of several organisations and businesses. It is recognised that an individual or agency obligations to its own stakeholders may influence its level of activity, ability to deliver on its responsibilities and obligations. These factors will, at all times, be respected and supported by other members.

The following principles form the basis of the working relationship between charter participants:

Principle 1: Protect Northlands' unique marine environment from Mediterranean fanworm

The participants acknowledge that the coast and marine environment of Northland is of significant value from both a cultural and economic point of view. International and domestic tourists visit Northland primarily to

experience the natural marine environment, including the well-known marine reserves and offshore islands. Recreational fishing and boating are popular recreational activities and along with the marine construction and refit industry, are important income earners for the region. Significant areas of the coast are protected for their marine biodiversity values.

The participants recognise that Mediterranean fanworm will have a significant impact on the marine ecology and economy in Northland if the species became established.

Principle 2: Prompt response

The participants agree that the fundamental reason for this partnership is to achieve the best outcome for the continued exclusion of fanworm from the Northland region. The secondary focus is to respond promptly and eradicate any new populations of fanworm that may be inadvertently introduced to the Northland region.

The participants agree to use their best endeavours to fulfil the objectives and agree that the charter document, including the objectives will be reviewed at regular intervals.

Principle 3: Commitment to responsibilities and obligations

The participants acknowledge that they have a range of responsibilities and obligations. These include behaving reasonably and in good faith towards each other at all times. The participants also agree to confirm key processes and activities and who will be responsible for the various actions required.

The participants accept that compliance with the Biosecurity Act 1993 and the current Northland Regional Pest Management Strategy is required when managing Mediterranean fanworm.

Objectives

This charter consists of two main objectives as described below.

Preventing new incursions: Minimise the risk of a new infection of Mediterranean fanworm in Northland by putting in place an approved management plan to ensure infected vessels and structures are treated in a way that ensures that no new infestations of Mediterranean fanworm will occur.

Eradication or removal of new populations: Ensure all fanworm in the Northland region are effectively removed from the substrate and killed.

The processes to achieve objectives:

Tasks	Who is responsible?
Training of snorkel observers	Northland Regional Council
Random dive surveys	Northland Regional Council and industry partners
Movement controls	Northland Regional Council
Tracing	Northland Regional Council and industry partners
Information gathering	Northland Regional Council and industry partners
Compliance monitoring	Northland Regional Council
Vessel hull treatment	Vessel owners and industry partners
Diver removal of Mediterranean fanworm	Vessel owners/Northland Regional Council
Developing management plans	Industry partners
Development and review of the charter document	Northland Regional Council and industry partners
Development of a register of risk vessels	Northland Regional Council and industry partners

Risk assessment

The risk assessment flow chart (overleaf) should be the primary tool used to assess any vessel which visits Northland. This flow chart identifies key information which must be gained from vessel owners and helps structure owners determine when they should put in place their management plan.

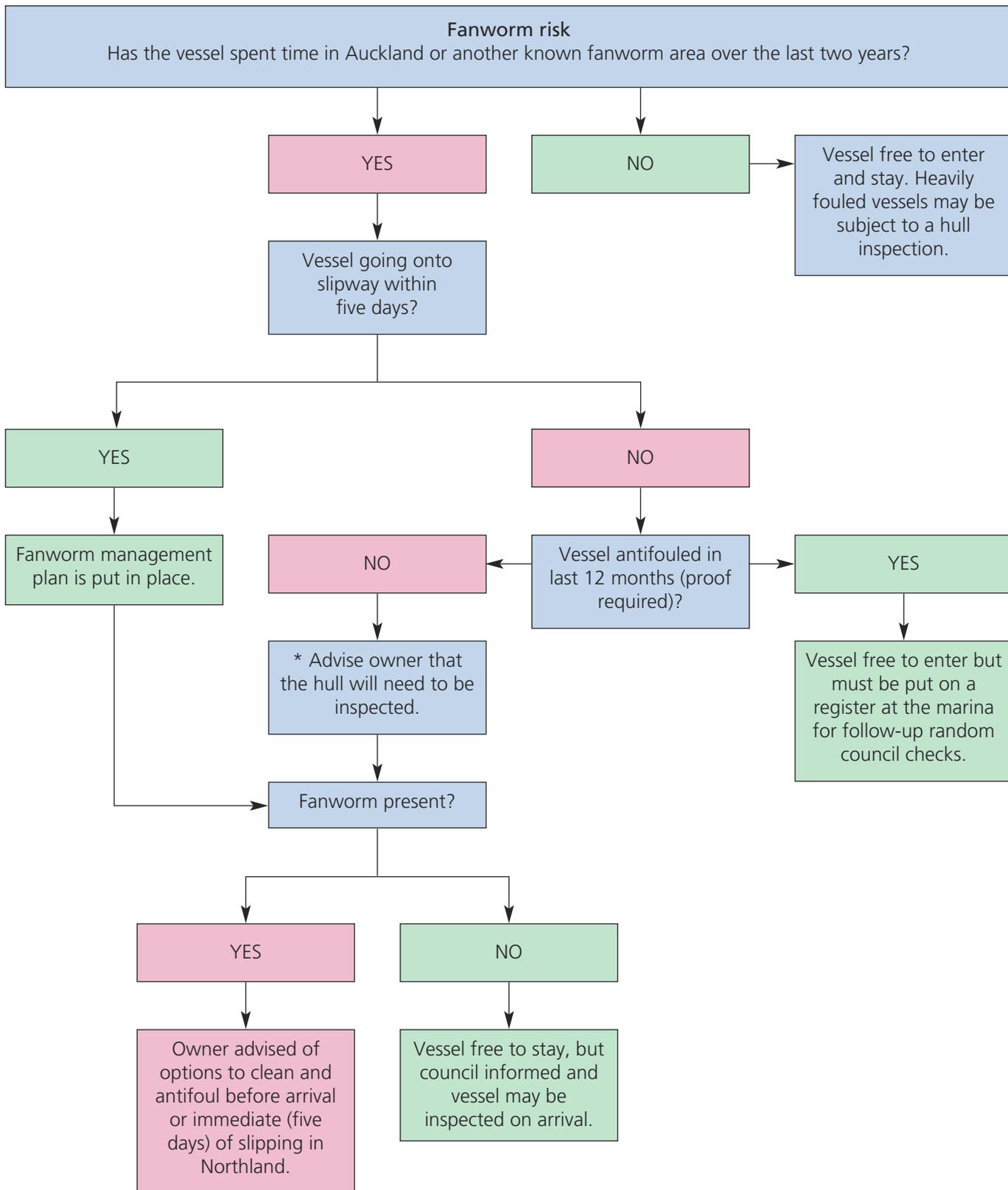
The risk assessment matrix (Appendix 1) has been developed as a further tool for charter participants to use to assess the level of risk that vessels and marine equipment pose in terms of transporting fanworm.

Marine equipment that may be used in building or the maintenance of new marine structures could include, but is not limited to: ropes, pilings, mooring blocks, chains and anchors and channel markers.



Risk assessment flow chart

For assessing and treating incoming vessels to minimise the risk of fanworm spreading.



* The inspection can be done in Auckland before departure or in Northland under a management plan.

Management plans

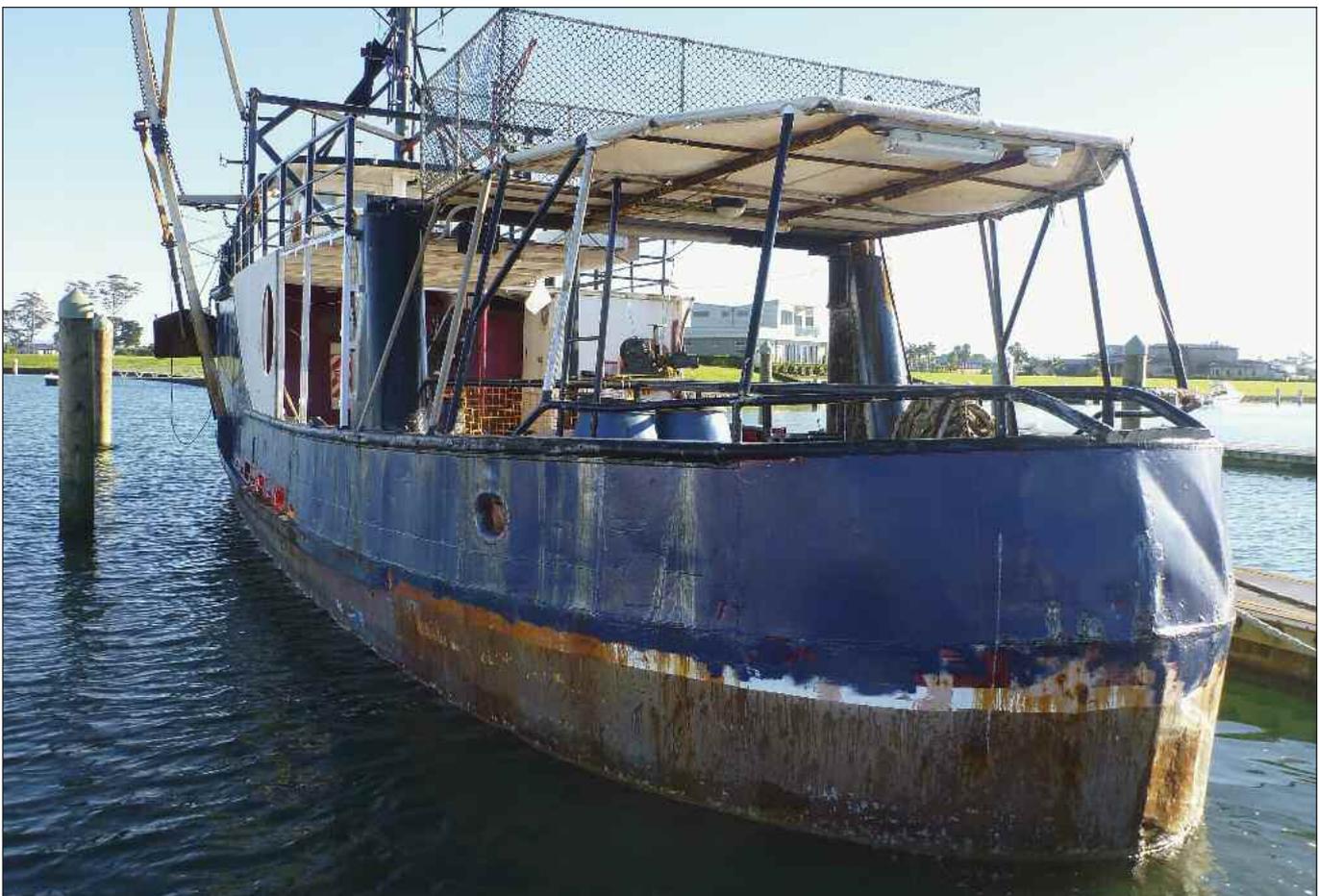
It is the responsibility of each charter participant to develop a 'Mediterranean fanworm management plan' that adheres to the Biosecurity Act 1993 and the current Northland Regional Pest Management Strategy. The management plan will be site specific and contain procedures which address the following as a minimum requirement. Not all points will apply to all parties equally, e.g haul-out facilities will need to cover point one, however marinas will not.

1. Provide location details of the haul-out or service site and a recent photo of the facility.
2. Provide evidence of a pre-arrival risk analysis of vessels.
3. Minimise the time spent in the water by any risk vessel hosted by slipways and hardstands.
4. Take all practicable steps to ensure no fanworm eggs, tubes and/or any parts of worms have the ability to survive and re-enter the water during the haul out,

maintenance and cleaning procedures on hardstands and slipways.

5. Provide a method for post arrival hull checks of high and extreme risk vessels (this will be essential if vessel is to stay in water alongside the facility for more than five days).
6. Reduce the risk of fanworm escaping or being dislodged from their tubes during an in-water stay of more than five days.
7. Manage fanworm populations on vessels that are unable to be hauled out immediately and which present extreme risk that is a 'plan B'.
8. At marinas, develop a register of all risk vessels. These will be prioritised for hull inspection dives by the council.

Note: Tidal grids are not acceptable cleaning facilities when dealing with Mediterranean fanworm.



Appendix 1 – Risk assessment matrix

Description	How did it happen?	Consequence description	Risk level			Report to the council?	Management plan required?
			Likelihood	Consequence	Risk level		
Unannounced vessel with spawning fanworm	Uninformed owner of vessel from high risk area visiting Northland	Potential release and spread of larvae over a wide area (14 day larval period)	1	1	Extreme	Y	Y
Planned visit by vessel with spawning fanworm	Maintenance visit or planned stay in marina	Potential release and spread of larvae over a wide area (14 day larval period)	1	1	Extreme	Y	Y
Unannounced vessel with large population of adult fanworm	Uninformed owner of vessel from high risk area visiting Northland	Potential for dislodgement and reestablishment of fanworm in localised area. If long stay, potential release and spread of larvae over a wide area	2	2	High	Y	Y
Planned visit by vessel with large population of adult fanworm	Maintenance visit or planned stay in marina	Potential for dislodgement and reestablishment of fanworm in localised area. If long stay, potential release and spread of larvae over a wide area	2	2	High	Y	Y
Unannounced vessel with large population of juvenile fanworm	Uninformed owner of vessel from high risk area visiting Northland; or fanworm gone unnoticed	Potential for dislodgement and reestablishment of fanworm in localised area	3	3	Moderate	N	Y
Planned visit by vessel with large population of juvenile fanworm	Uninformed owner of vessel from high risk area visiting Northland; or fanworm gone unnoticed	Potential for dislodgement and reestablishment of fanworm in localised area	3	4	Moderate	N	Y
Unannounced vessel with small amount of adult or juvenile fanworm in niche areas (keel /block area)	Uninformed owner of vessel from high risk area visiting Northland; or fanworm gone unnoticed	Potential for dislodgement and reestablishment of fanworm in localised area	4	4	Moderate	N	Y
Planned visit by a vessel with small amount of adult or juvenile fanworm in niche areas (keel /block area)	Uninformed owner of vessel from high risk area visiting Northland: or fanworm gone unnoticed	Potential for dislodgement and reestablishment of fanworm in localised area	4	5	Low	N	Y

Likelihood

Is based on the number of vessels we have had in each category in the past, vessel movements and fanworm biology.

1 = Rare 2 = Unlikely 3 = Possible 4 = Likely 5 = Almost Certain

Consequence

Is based on current knowledge of fanworm biology and extent of previous infestations in Whāngārei and elsewhere in New Zealand.

1 = Catastrophic 2 = Major 3 = Moderate 4 = Minor 5 = Insignificant

Appendix 2 – Background information

Impact of Mediterranean fanworm to Northland.

Northland's economy is heavily reliant on its marine environment from both a tourism and industry point of view. The region's marine construction and refit industry, clustered mostly around the Whāngārei Harbour, contributes over \$50 million annually to the Whāngārei economy and employs around 500 people. Northland is globally recognised for its coastal environment, which includes 14 major harbours, many smaller estuaries and long stretches of open, sandy coastline.

Marine pests threaten both the marine environment and the marine industry. They can increase fouling of marine structures, affect the integrity of marina and wharf piles, alter existing ecosystems and compete with recreational activities. Currently the Ministry of Primary Industries (MPI) has six species listed on their 'most unwanted list', one of which is the Mediterranean fanworm. Being on this list means that under the Biosecurity Act 1993 (Sections 46, 52 and 53) it is illegal to sell, breed or multiply Mediterranean fanworm and/or knowingly transport or release Mediterranean fanworm. There is also a legal requirement to report any suspected sightings of Mediterranean fanworm to the council or MPI.



Mediterranean fanworm

Mediterranean fanworm (*Sabella spallanzanii*) is a filter feeding tube worm that is native to the Mediterranean and Atlantic coast of Europe, it is the largest fanworm in the Sabellidae family reaching tube lengths of up to 70cm. The tube-dwelling worm remains inside its tube and extends a spiral crown of tentacles through the opening of its tube. The tube is often covered with encrusting or fouling organisms and the fan colour varies from white and pale fawn through to orange and banded red-brown (CSIRO 2001).

Mediterranean fanworm is internationally recognised as an invasive marine species and has been a very successful colonizer in its introduced range which includes Brazil, Australia and New Zealand. The potential impacts of fanworm are many and include:

- competing with native species for food and space.
- physically altering the water-flow and structure of native ecosystems.
- impacting commercially and recreationally on important species such as scallops and mussels.
- creating a nuisance fouling species in marinas and on vessel hulls.





As with many marine pests, fanworm has two main vectors of spread: hull biofouling and as larvae in ballast water. A heavily fouled vessel poses a double threat. Fanworm on the hull could spawn in the new environment (they produce up to 50,000 eggs per worm which are released during a temperature drop in autumn). Alternatively, mature fanworm could be dislodged and reattach in the new environment.

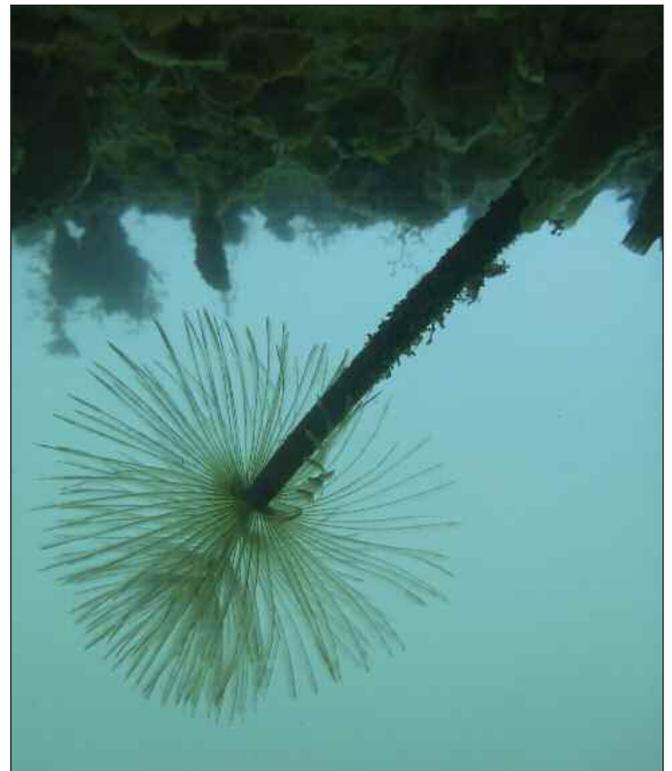
Fanworm as small as 50mm worm length are capable of sexual reproduction. The males will release the sperm which is then captured and stored by the female until the eggs are ready to release. Fanworm also have the ability to regenerate from the smallest fragment and, if the foot is intact, can reattach to new substrate within 18 hours.



Vectors

In New Zealand all known fanworm incursions have been traced back to hull fouling. In 2009 a barge heavily infested with fanworm was found in Auckland Harbour. It originated from Australia and has been identified as the vector that spread fanworm to the Waitemata Harbour. In Whāngārei Harbour in 2012 two infected fishing vessels were identified at Port Nikau and shortly after another in Marsden Cove.

It is in the interest of both marine service providers and the council to minimise the risk of fanworm establishing in Northland. To do this the approach must be two-fold; new incursions must be prevented by managing hull biofouling and local populations of fanworm must be eradicated.



Statutory requirements

This charter does not replace or override in any manner other statutory requirements such as the Health and Safety in Employment Act 1992 or resource consents from the council. It is suggested that you contact the council to determine the status of the relevant regional plan rules and confirm that your operation, including any coastal discharges, complies with the relevant regulations.

Appendix 3 – Definitions

Adult fanworm: fanworm with a total tube length of over 100mm.

Antifoul: a coating, paint, surface treatment, surface or device that is used on a vessel to prevent attachment of fouling organisms.

Berthage facility: A place for mooring vessels in a dock or harbour, particularly large recreational vessels and commercial vessels.

Biofouling: the accumulation of aquatic organisms on surfaces immersed in, or exposed to, the aquatic environment.

Biosecurity: the exclusion, eradication or effective management of risks posed by pests and diseases to the economy, environment and human health.

Clean: a vessel on which there are no visible aquatic organisms on the hull, including niche areas, except as a slime layer.

Compliance: conforming or fulfilling official requirements set out in acts, standards, policies and rules.

Containment: to contain and reduce the geographic distribution and infestation level of a pest to an area over time.

Eradication: The removal of every individual and propagule of an unwanted species so that only reintroduction from outside the regions borders would enable the re-emergence of the species.

Exclusion: preventing the establishment of a pest that is present in New Zealand but not yet established in the area.

Fouling: see biofouling.

Hardstand: Open ground, having a hard surface, adjacent to a boat ramp that is used for the storage and maintenance of vessels.

Haul-out facility: a facility at which a vessel can get pulled, lifted or moved from the water onto dry land.

Hull: the immersed surfaces of a vessel including all appendages, pontoons, internal sea-water systems, niche areas except ballast tanks.

Incursion: The occurrence of an organism not previously known to be present in the region, where there is a likelihood that the organism found is part of a breeding population.

Juvenile fanworm: fanworm with a total tube length of less than 100mm.

Management plan: A plan written by each of the participants that outlines the specific steps they will undertake to reduce the risks of Mediterranean fanworm and other biofouling organisms spreading from their facilities.

Marina: A specially designed harbour with moorings for pleasure craft and small boats.

MPI: Ministry for Primary Industries MPI is the Ministry formed from the merger of the Ministry of Agriculture and Forestry, the Ministry of Fisheries and the New Zealand Food Safety Authority, and is responsible for NZ national level biosecurity.

Niche areas: areas on a vessel which are susceptible to biofouling due to: different hydrodynamic forces, susceptibility to antifoul wear or damage, being inadequately inspected, cleaned and antifouled. These include, but are not limited to, sea chests, the vessels' waterline, and base of the keel, bow thrusters, inlet gratings, braces and haul out facility support strips or blocks.

Northland: the region comprising the Whāngārei, Far North and Kaipara districts. The lower boundary on the east coast is just south of Mangawhai and on the west coast the boundary runs through the centre of the Kaipara harbour.

Risk: the likelihood of the occurrence and the likely magnitude of the consequences of an adverse event.

Slime layer: a layer of microscopic organisms, such as bacteria or diatoms, and the slimy substances they produce.

Slipway: structure consisting of a sloping ramp down to the water from the facility where vessels are built, repaired and maintained.

Spawning fanworm: an adult fanworm that is capable of releasing viable eggs or sperm. For the risk analysis: an adult fanworm during the spawning period between the start of May and the end of August.

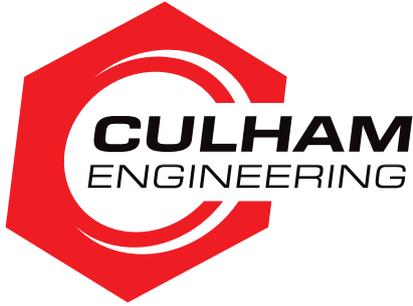
Tidal grid: an area within a harbour that a vessel can moor up to during high tide that leaves the vessel dry on the seashore at low tide. Often used for vessel cleaning, inspection or maintenance.

Tracing or trace-back: ascertain the infection source, route and prior locations of an infected vessel by searching or researching evidence. Tracing will help to assess the risk the vessel posed in other regions, where the infection source may have been and vectors.

Unannounced vessel: A vessel that arrives at a facility without first contacting the facility to announce their visit.

Vector: any agent that assists the movement of a pest from one place to another.

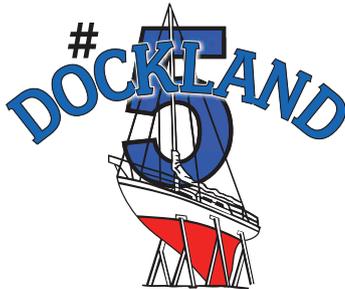
Vessel: a mobile structure of any type whatsoever operating in the marine environment and includes floating craft, fixed or floating platforms, and any structures associated with the craft or platforms.



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Contact us:

Telephone: 09 470 1200 **Facsimile:** 09 470 1202

Freephone: 0800 002 004

24/7 Environmental Hotline: 0800 504 639

E-mail: mailroom@nrc.govt.nz

Website: www.nrc.govt.nz

Facebook: www.facebook.com/NorthlandRegionalCouncil

Twitter: www.twitter.com/NRCExpress

Main office

36 Water Street, Whāngārei
Private Bag 9021, Whāngārei
Mail Centre, Whāngārei 0148

Ōpua office

Unit 10, Ōpua Marine Park
Ōpua 0200
T: 09 402 7516, F: 09 402 7510

Kaitiāia office

192 Commerce Street
Kaitiāia 0410
T: 09 408 6600, F: 09 408 6601

Dargaville office

61B Victoria Street
Dargaville 0310
T: 09 439 3300, F: 09 439 3301