

Bay of Islands / Whangaroa / Mangonui Marine Biosecurity Charter

A joint industry and agency response to managing marine pests in the Far North area



Prepared by: Northland Regional Council in conjunction with the Far North Marine Charter Group

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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 - Overview

The parties agree to work together because all organisations have marine biosecurity responsibilities, interests or concerns.

The following principles form the basis of the working relationship between parties:

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

The parties 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 biodiversity values.

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

Principle 2: Outcome focus and desired behaviour

The parties 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 parties 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: Stakeholder responsibilities and obligations

The parties acknowledge that there is a range of responsibilities and obligations these include behaving reasonably and in good faith towards each other at all times. The parties also agree to confirm key processes and activities in their management plans and who will be responsible for the various actions required.

The parties agree to meet at least annually to review the Charter.

The parties acknowledge the Biosecurity Act 1993 and the Northland Regional Council RPMS 2010-2015 is required when managing Mediterranean fanworm.

Objectives

This charter consists of two main objectives as described below.

Exclusion programme

Minimise the risk of a new infection of Mediterranean fanworm in Northland by taking all measures to ensure no vessels or structures that could be infested with Mediterranean fanworm will enter Northland with out an approved management plan.

Progressive containment programme: 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 | NRC |
| • Random dive surveys | NRC and industry partners |
| • Movement controls | NRC |
| • Tracing | NRC and industry partners |
| • Information gathering | NRC and industry partners |
| • Compliance monitoring | NRC |
| • Vessel hull treatment | Vessel owners and industry |
| • Diver removal of Fanworm | Vessel owners/NRC |
| • Developing management plans | Industry partners |
| • Development of Charter document | NRC and industry partners |
| • Development of a register of risk vessels | NRC and industry partners |

Risk Assessment

The following risk assessment matrix has been developed as a tool for charter parties to use to assess which vessels pose a high risk in regards to fanworm incursions, when to put management plans in place and when to contact NRC regarding a possible risk of incursion. Also attached is a risk assessment flow chart, this should be the initial tool to assess any vessel visiting the facility (Appendix 1); the risk assessment matrix should be used to gain more information into the steps to take to minimise the vessels risk status.

Marine equipment that may be used in building or maintenance of new marine structures or even building materials is not listed in the risk matrix. These should be treated as 'vessels' and run through the risk matrix in a similar manner. This equipment could include, but is not limited to: pilings, mooring blocks, channel markers, chains and anchors should be treated the same as 'vessels' in the risk matrix.

| Description | How did it happen? | Consequence description | Risk level | | | Report to NRC? | Management plan required? | <p>*Likelihood:</p> <p>Is based on the number of vessels we have had in each category in the past, vessel movements and fanworm biology.</p> <p>1= Rare</p> <p>2= Unlikely</p> <p>3= Possible</p> <p>4= Likely</p> <p>5= Almost Certain</p> <p>*Consequence:</p> <p>Is based on current knowledge of fanworm biology and extent of previous infestations in Whangarei and elsewhere in New Zealand.</p> <p>1= Catastrophic</p> <p>2= Major</p> <p>3= Moderate</p> <p>4= Minor</p> <p>5=Insignificant</p> <p>See below for definitions</p> |
|--|--|--|---------------------|----------------------|---------------------------|----------------|---------------------------|---|
| | | | Likelihood (1 to 5) | Consequence (1 to 5) | Risk level Extreme to low | | | |
| Unannounced vessel with spawning fanworm (adult Fanworm during peak spawning season May-August) | Uninformed owner of vessel from high risk area visiting Northland | 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 (adult fanworm during peak spawning season May-August) | 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 (over 100mm tube length) | 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 (over 100mm tube length) | 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 Fan worm (under 100mm tube length) | Uninformed owner of vessel from high risk owner visiting Northland. Or fanworm gone unnoticed | Potential for dislodgement and reestablishment of fanworm in localised area | 3 | 3 | Moderate | Y | Y | |
| Planned visit by vessel with large population of juvenile fanworm (under 100mm tube length) | Uninformed owner of vessel from high risk owner visiting Northland. Or Fan worm gone unnoticed | Potential for dislodgement and reestablishment of fanworm in localised area | 3 | 4 | Moderate | Y | Y | |
| Unannounced vessel with small amount of adult or juvenile Fan worm in niche areas (Keel /block area) | Uninformed owner of vessel from high risk owner visiting Northland. Or Fan worm 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 owner visiting Northland. Or Fan worm gone unnoticed | Potential for dislodgement and reestablishment of fanworm in localised area | 4 | 5 | Low | N | Y | |

Likelihood:

- 1= *Rare*: up to 5 vessels annually into Far North
- 2= *Unlikely*: between 5-10 vessels annually into Far North
- 3= *Possible*: between 10-25 vessels annually into Far North
- 4= *Likely*: at least once per month into Far North
- 5= *Almost Certain*: at least once per week into Far North

Consequence:

- 1= *Catastrophic*: fanworm will spread widely if treatment is not immediate
- 2= *Major*: Likely that fanworm will spread widely if treatment is not immediate.
- 3= *Moderate*: likely that fanworm will get dislodged or spread locally if treatment is not immediate
- 4= *Minor*: minimal chance of fanworm being dislodged and establishing locally. However large scale impact is unlikely
- 5= *Insignificant*: The risk of fanworm establishment is so small or negligible as to not be worth considering putting a wide scale treatment and assessment plan in place.

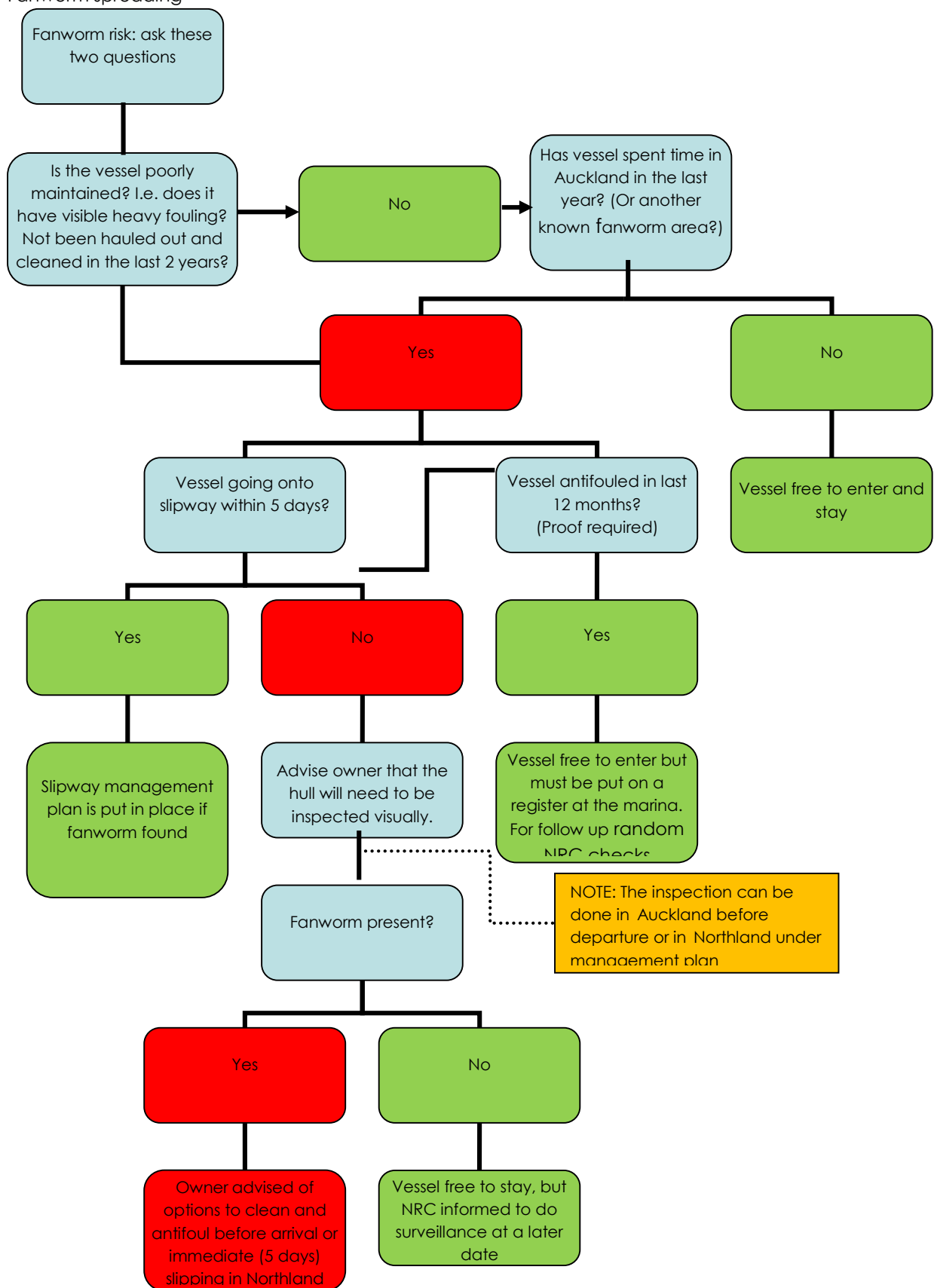
Management plans

It is the responsibility of each charter party to develop a 'Mediterranean fanworm Management Plan' that adheres to the Biosecurity Act 1993 and the Northland Regional Council RPMS 2010-2015. 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, i.e. 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 arriving at your facility;
- 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 5 days);
- 6) Reduce the risk of fanworm escaping or being dislodged from their tubes during an in-water stay of more than 5 days;
- 7) Manage fanworm populations on vessels that are unable to be hauled out immediately and which present extreme risk, i.e. a 'plan B'; and
- 8) At marinas develop a register of all risk vessels. These will be prioritised for hull inspection dives by NRC.

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

Appendix 1 Flow diagram for assessing and treating incoming vessels to minimise the risk of Fanworm spreading



Appendix 2

Back ground information regarding Mediterranean fanworm in Northland.

Background

The Northland economy is heavily reliant on it's the marine environment from both a tourism and industry point of view. The marine construction and refit industry, clustered mostly around the Whangarei Harbour, and is a major contributor to the Far North economy. 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 businesses operating within the marine industry. They can increase fouling of marine structures, affect the integrity of marina and wharf piles, alter existing ecosystems and compete with local recreational. Currently MPI (Ministry of Primary industries) has six species listed on their 'most unwanted list' one of those is the Mediterranean fanworm *Sabella Spallanzanii*. 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. You also have a legal obligation to report any suspected sightings of Mediterranean fanworm to NRC 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, when in high densities they can impact commercially and recreationally important species such as scallops and mussels, they are also 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 (fanworm produce up to 50,000 eggs per worm that are released during a temperature drop in autumn) or the mature fanworm could be dislodged and reattach in the new environment. Fanworm as small as 50mm 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 eighteen hours.

Vectors

In New Zealand all of the fanworm incursions have been traced back to hull fouling, in 2009 a barge heavily infested with fanworm was found in the Viaduct basin, it originated from Australia and has been identified as the vector that spread fanworm to the Waitemata Harbour. In Whangarei 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 NRC 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.

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 Northland Regional Council. It is suggested that you contact NRC 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

BOI Marina

Kerikeri

Whangaroa

Mangonui

Definitions

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

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

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

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

Fouling: see biofouling

Tracing or traceback: 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.

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

Exclusion programme: a plan that will prevent the establishment of a pest that is present in New Zealand but not yet established in the area from establishing.

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

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

Northland: the region comprising the Whangarei, 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.

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

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

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.

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

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

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

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

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.

Juvenile Fanworm: Fanworm with a total tube length of under 100mm.

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

Niche areas: areas on a vessel that 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, base of the keel, bow thrusters, inlet gratings, braces and haul out facility support strips or blocks.

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

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

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.

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 biosecurity.