





Biosecurity

Manage our own ship

Productivity

Internal protection

External protection



# biosecurity

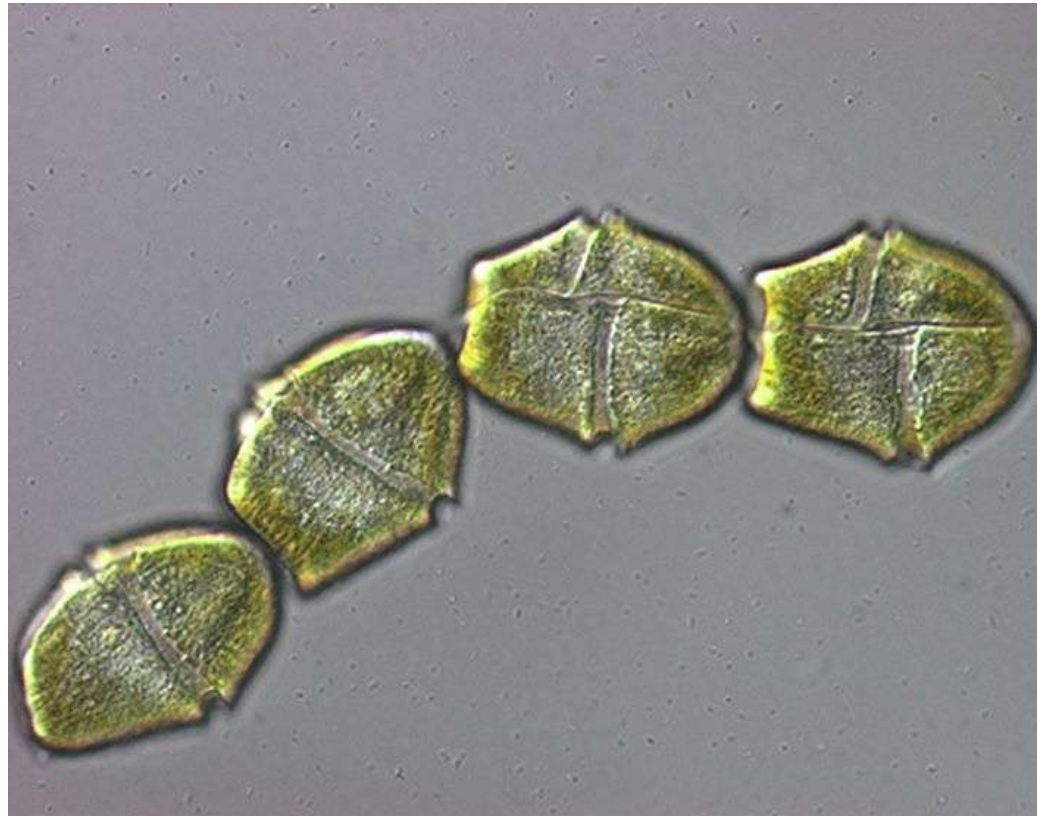
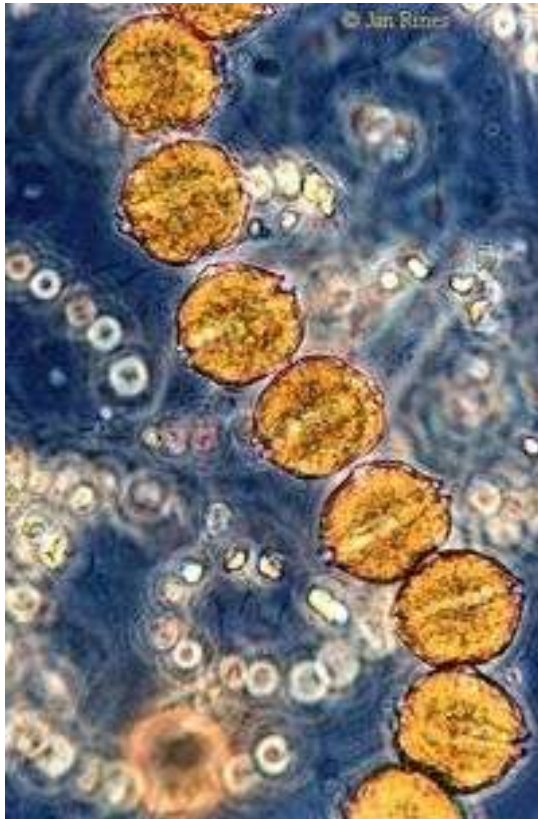
*noun* | bio·se·cu·ri·ty | \.bī-(.)ō-sī-'kyūr-ə-tē\

## Definition of BIOSECURITY

Popularity: Bottom 20% of words

: security from exposure to harmful biological agents; *also* : measures taken to ensure this security









## The 'pests'

**Mediterranean fanworm**  
*Sabella spallanzanii*



Source: C. Middleton (NIWA)

**Clubbed tunicate**  
*Styela clava*



Source: C. Woods (NIWA)/Newfoundland Aquaculture Industry Assoc.







clubbed tunicate corom... x Map (Nabis [Ministry for... x

← → ↻ www.nabis.govt.nz/map.aspx?topic=Aquaculture ☆

Apps For quick access, place your bookmarks here on the bookmarks bar. Import bookmarks now...

# NABIS

Internet mapping of New Zealand's marine environment, species distributions and fisheries management

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**MAP TOOLS:** What's Here? Measure Distance Erase Reset Map Undo Customise Print Map Help Draw Polygon Save My Layers Add OGC Layer

Latitude: 40.6446°S (40°38.68'S); Longitude: 172.7173°E (172°43.04'E)

**LAYER GENERATION TOOLS**

- Commercial Catch
- Commercial Fishing Effort
- Import my Points
- Trawl Survey

**CURRENT LAYERS (3)**

**ENVIRONMENT (63)**

**MANAGEMENT (239)**

**Aquaculture (43)**

- Aquaculture Settlement
- Aquaculture Settlement
- Current Marine Farm ap
- ☒ Current Marine Farms
- Declined Marine Farm a
- Previous Marine Farm a
- Previous Marine Farms

**Habitat (12)**

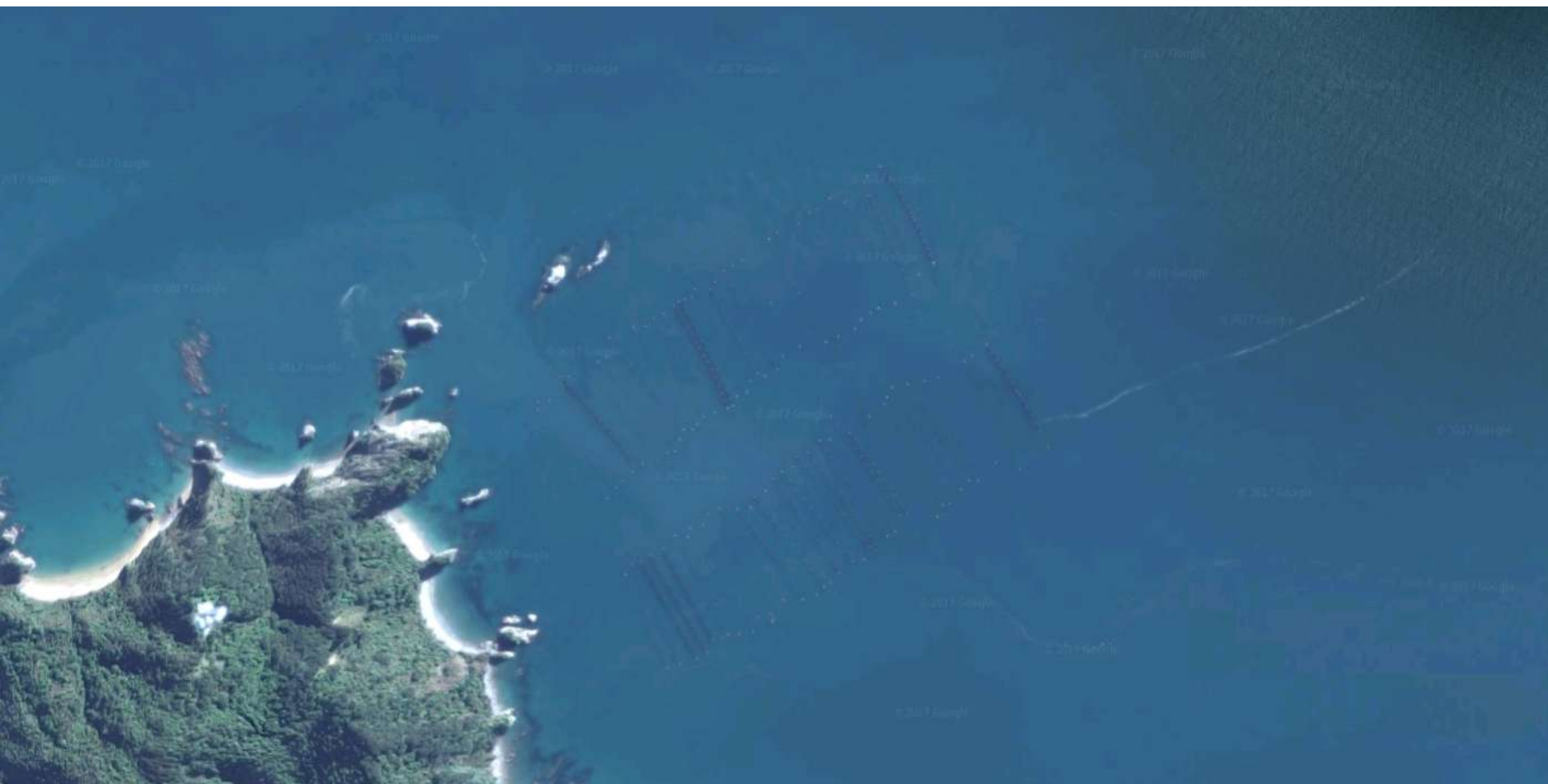
Update Map

NABIS - Crown Copyright Reserved  
Latitude / Longitude (WGS 84)  
Map scale: 1:500000

5 km  
2 km

NORTH

11:05 PM  
25/05/2017  
New Zealand







Conservative survey design: 50% diver efficiency (we could expect 80%)  
 Design prevalence of 1 *Styela*/1000m<sup>2</sup>



- Lines stripped in Collingwood → landfill
- Movement restrictions on spat rope
- Inspections while grading seed for movement
- Movement reporting
- Reporting of Styela during farm management  
– removal of Styela where possible
- 2 x surveys of Wainui
- Agreement and funding to go in and clean up Wainui
- Styela clava CoP



## What next for industry?

- A+ standards – update and incorporate *Styela clava* CoP
- Keep spat nodes under survey and clean
- A wider strategic look at biosecurity for the mussel industry
- Develop information/research:
  - Training for staff – recognition, impact, procedure
  - Impact assessment e.g. in Coromandel
  - Surveillance – active, enhanced passive, passive
  - How can we effectively de-bulk marine pests on farms to reduce spread risk and propagule pressure
  - How can we reduce risk on seed pathways? Seed/rope?
- Protection from other conveyors critical