Biosecurity Planning: from guidance to practice

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What is biosecurity planning?

“Good biosecurity practice refers to a way of working that minimises the risk of contamination and the spread of animal and plant pests and diseases, parasites and non-native species.”

Taking action in order to minimise the spread of pathogens and non-native species

Documenting actions taken into a working plan

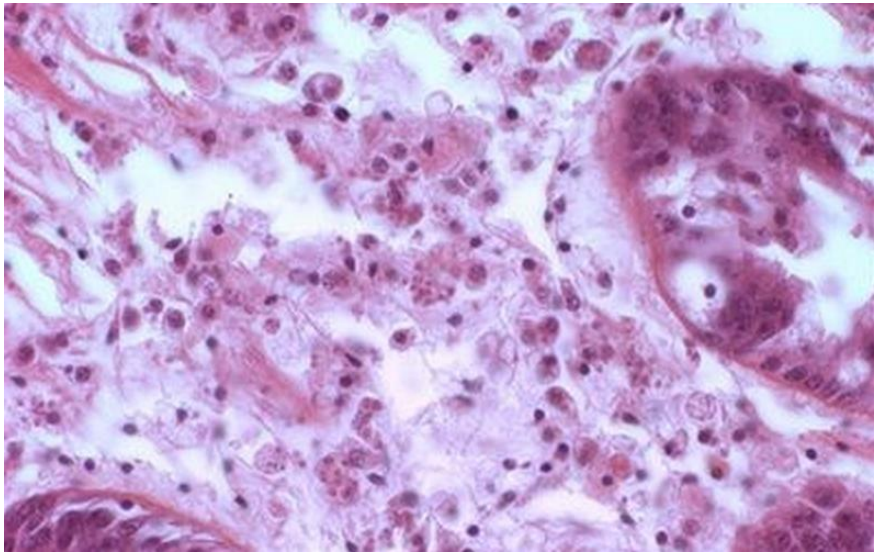
Drivers for biosecurity: Disease

theguardian
Winner of the Pulitzer prize 2014

Herpes virus wipes out millions of Kent oysters

Fears that containment area imposed in parts of Kent comes too late as wild oysters believed to be infected by outbreak

Oyster stocks in Whitstable have been devastated by an outbreak of herpes Photograph: Olivier Pon/Corbis



Bonamia ostreae infection of haemocytes. This is a notifiable disease. Source: FHI

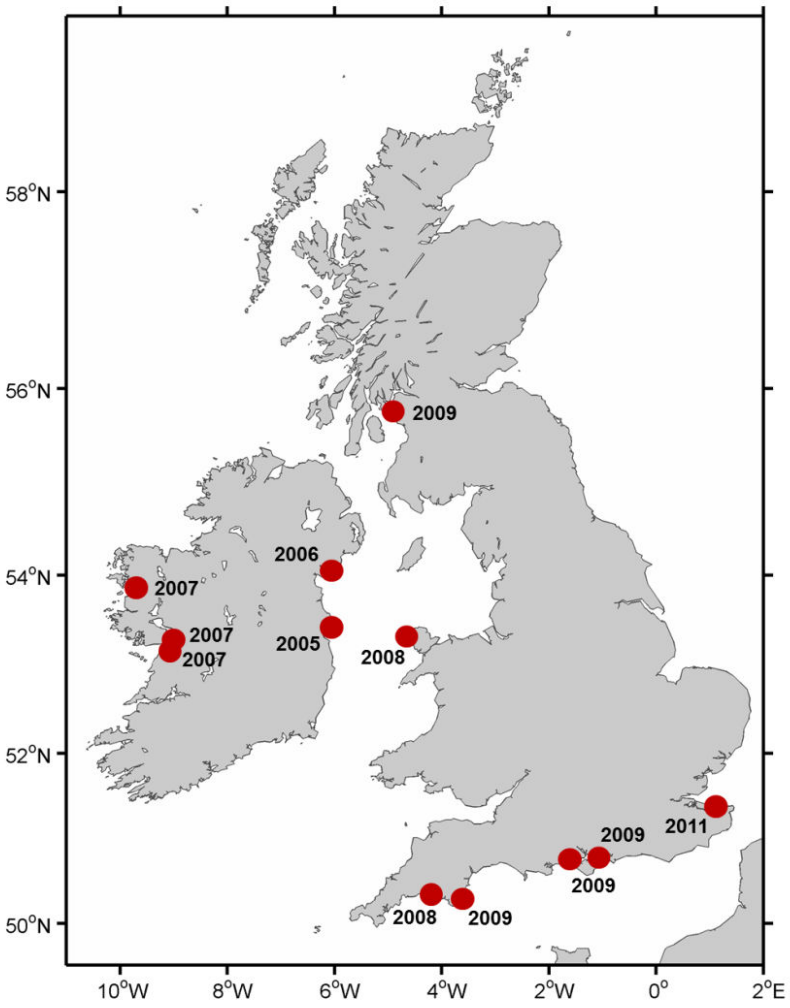
What impact will a virus which can cause 100% mortality have on a $4.1 billion global industry?

Drivers for biosecurity: Non-native species

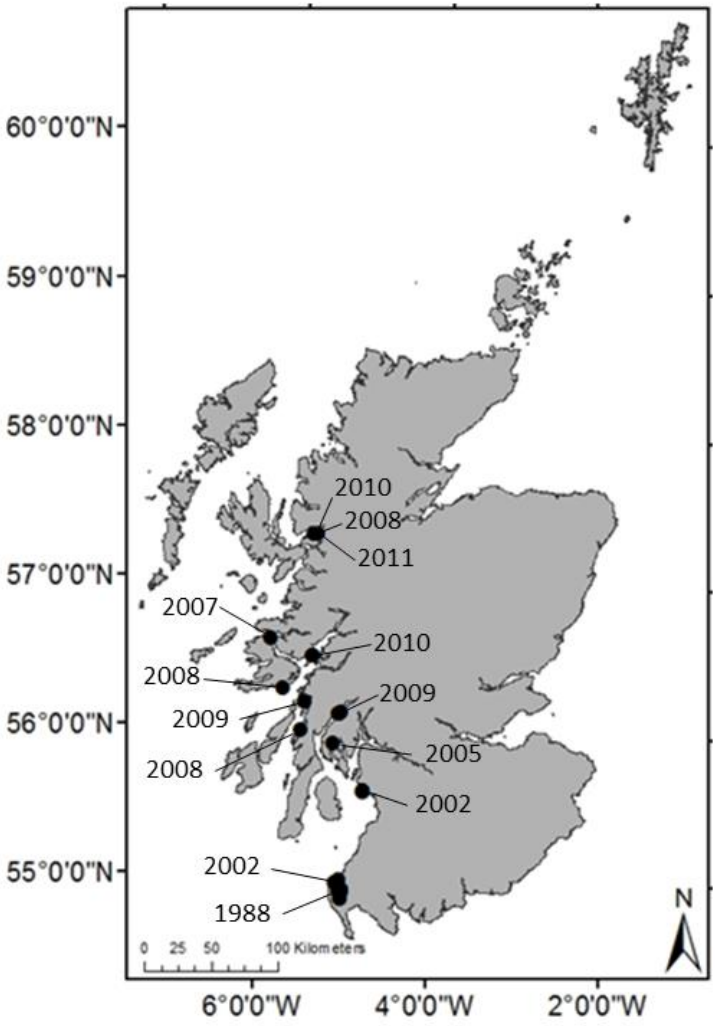
The estimated economic impact of Styela clava between 2006 and 2011 in New Zealand was estimated to be as much as NZ$9.4 million.

The Clubbed Tunicate *Styela clava* covering mussel lines , southern Ireland © D. Minchin

To help save the shellfish industry in New Zealand, $650,000 NZ dollars were spent on eradication of *D. vexillum*. However, the attempts to eradicate *D. vexillum* were unsuccessful and it was soon seen spreading to mussel farms in the region, resulting in significant crop losses.



Map to show distribution of Carpet Sea squirt *Didemnum vexillum* in UK



Map showing current known distribution of the Clubbed Tunicate *Styela clava* (Cook et al. in press)

Drivers for biosecurity: Rewarding responsible growers

3. Principle: avoid adverse effects on the health and genetic diversity of wild populations

3.1.1 Indicator: No allowance for the illegal introduction of a non-native species, pest or pathogen attributable to the farm within 10 years prior to assessment.

3.1.2 Indicator: Documentation of compliance with established protocol or evidence of following appropriate best management practices for preventing and managing disease and pest introductions with seed and/or farm equipment

Drivers for biosecurity: Rewarding responsible growers

1. Principle: obey the law and comply with all applicable legal requirements and regulations where farming operation is located.

1.1.1 Indicator: Evidence of compliance with all applicable legal requirements and regulations where the farming operation is located.

Drivers for biosecurity: The law

Precautionary approach

WANE Bios

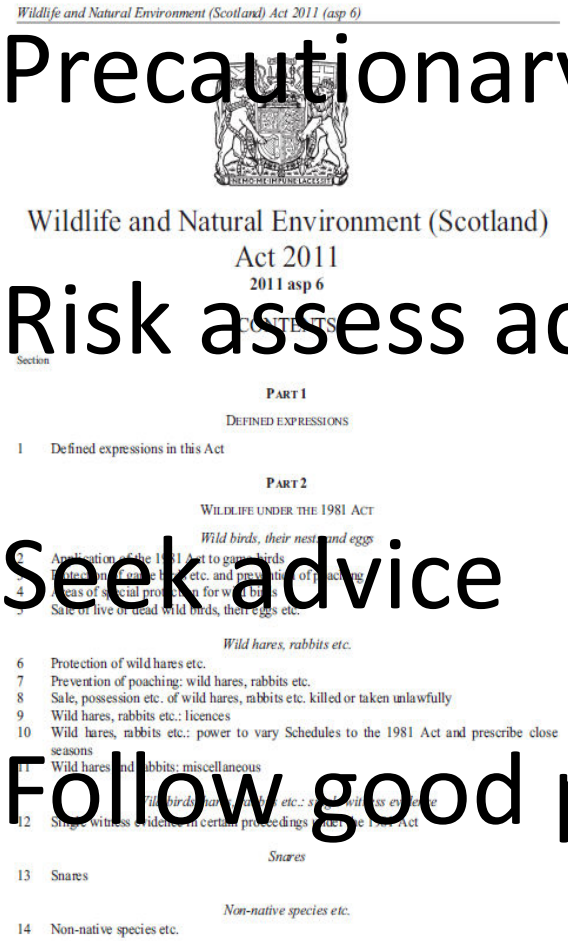
Risk assess activities

Species Con

Seek advice

Follow good practice

Polluter Pay



Wildlife and Natural Environment (Scotland) Act 2011 (asp 6)

Wildlife and Natural Environment (Scotland) Act 2011

2011 asp 6

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14 Non-native species etc.

Code of Practice on Non-Native Species

Made by the Scottish Ministers under section 14C of the Wildlife and Countryside Act 1981

The Scottish Government

Producing a biosecurity plan

Firth of Clyde FORUM

Firth of Clyde

BIOSECURITY PLAN

2012 - 2016

Prepared by

Fiona Mills
Firth of Clyde Forum

with funding support from
SNH, SEPA, Scottish Government and RAFTS

Carpet Sea Squirt (*Didemnum vexillum*)
© SAMS/SNH

Japanese Skeleton Shrimp
(*Caprella mutica*)
© Hans Hillewaert

Wireweed (*Sargassum muticum*)
© GB NNSS

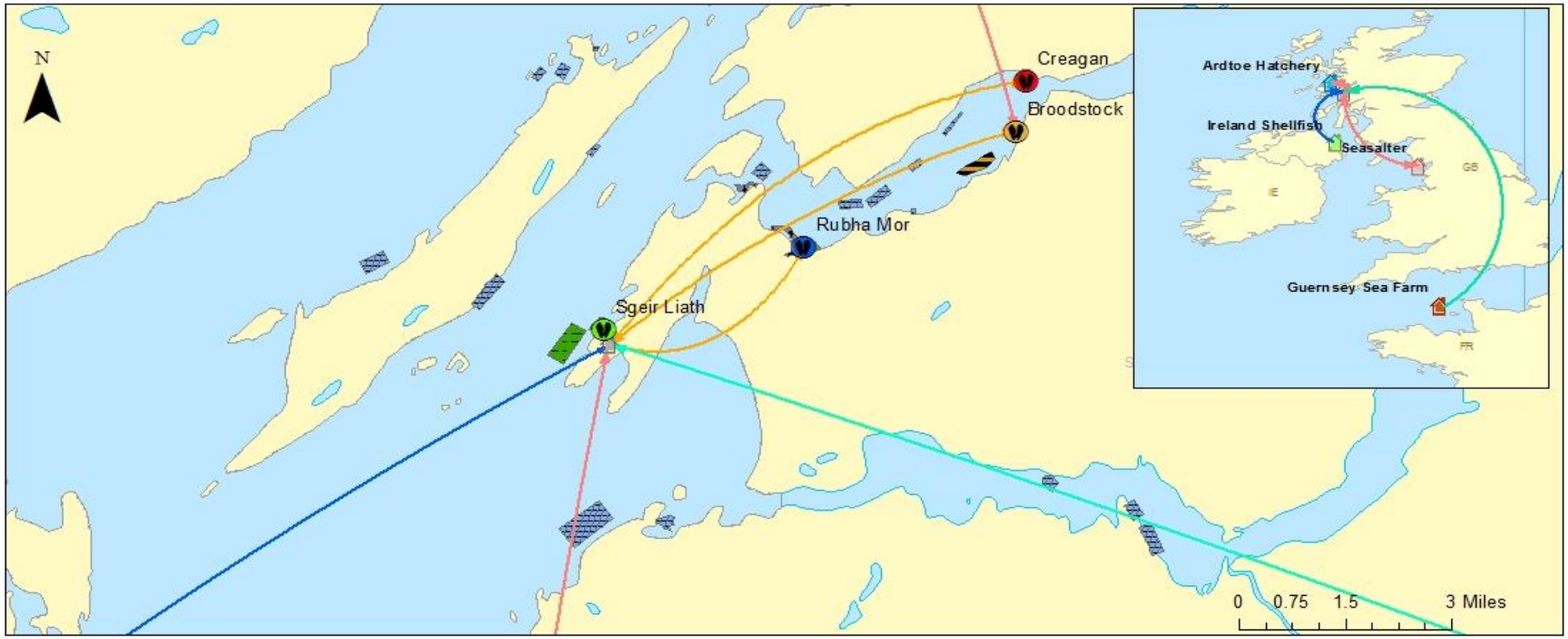
1-Describe the activity.

2-Identify all the hazards and vectors.

3-Assess the risk for all activities.

4-Give relevant Control measures

5- Contingency plan and Monitoring



Write a brief description of your activity based on “who, what, when, where, why and how”.

1-Describe the activity.

2-Identify all the hazards and vectors.

3-Assess the risk for all activities.

4-Give relevant Control measures

5- Contingency plan and Monitoring

Think about the main activities that take place at your site. List any activities which have a reasonable risk of leading to the introduction on a pathogens and non-native species

1-Describe the activity.

2-Identify all the hazards and vectors.

3-Assess the risk for all activities.

4-Give relevant Control measures

5- Contingency plan and Monitoring

Risk = **potential threat** × **likelihood of introduction** + **likelihood of establishment and spread**

1-Describe the activity.

2-Identify all the hazards and vectors.

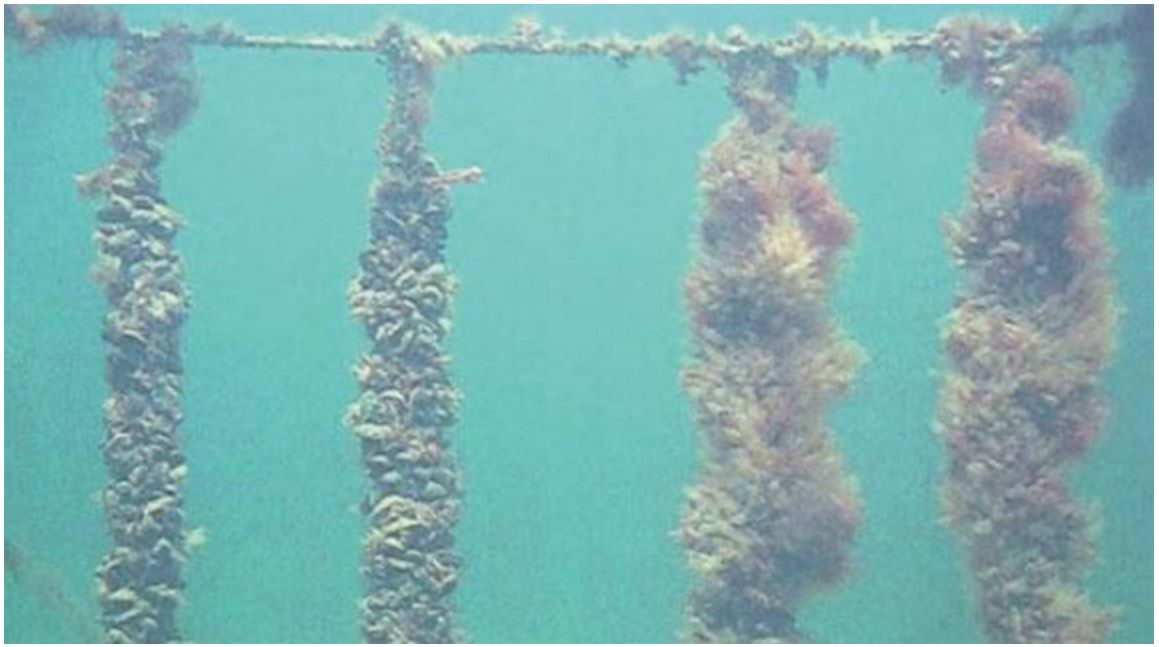
3-Assess the risk for all activities.

4-Give relevant Control measures

5-Contingency plan and Monitoring

Experimental work is currently being carried out in Clew Bay using two simple control treatments; Acetic acid (vinegar), (a number of studies have identified this as an eco-friendly chemical found to reduce *Didemnum vexillum* cover by 80 – 100%) and bag turning. Image GB non-native species secretariat.

1-Describe the activity. → 2-Identify all the hazards and vectors. → 3-Assess the risk for all activities. → 4-Give relevant Control measures → 5- Contingency plan and Monitoring



Mussels lines in British Columbia infested with a tunicate *Ciona intestinalis* © Y. Fontana, Station Biologique de Roscoff.

A good biosecurity plan should consider what steps must be taken if a particular problem is identified. In this way you ensure a rapid and effective response.

A Biosecurity Plan For Lochnell Oysters

Incorporating Non-native species and Pathogens.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