

PROGRAMMA **NAAR EEN**
RIJKE WADDENZEE

Mussel transition in the
Dutch Wadden Sea and the
risks of introducing invasive
species by mussel transports

Hein Sas

**Neobiota in the Wadden Sea:
Challenges for Nature Conservation
Wilhelmshaven, 26-08-2010**

Contents

1. Introduction
2. Summary of 'Mussel transition'
3. Mussel transports in transition process: relation with invasive species policy
4. Wider implications: development of overall invasive aquatic species policy in Dutch coastal waters

Introduction

Milestone: Agreement on the transition of mussel culture & nature restoration of the Dutch Wadden Sea

Essence = agreement with all stakeholders about:

1. Fishing on bottom seed mussel banks to be phased out
2. To be replaced by seed collectors (SC), suspended in the water phase

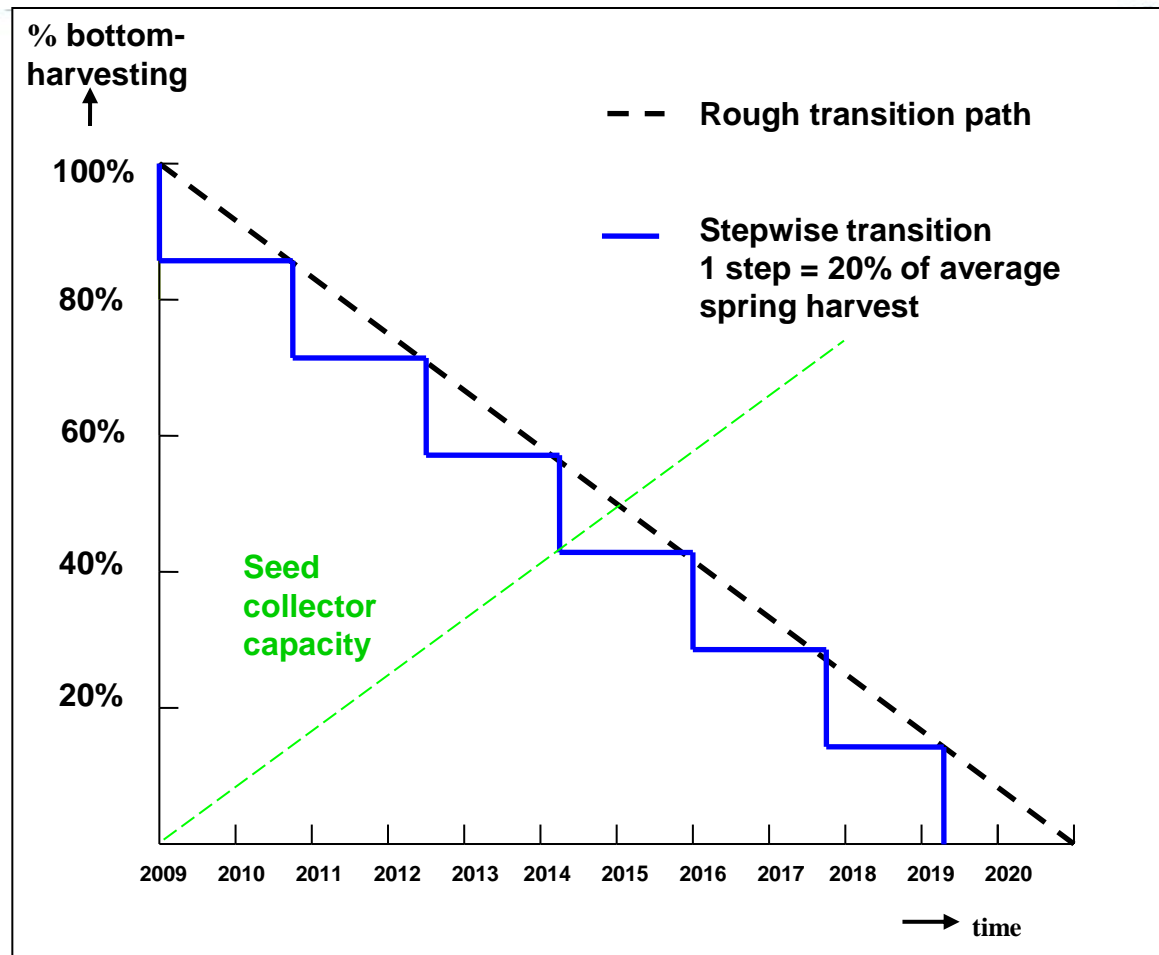
Function Hein Sas: mussel transition coordinator

(member of the 'Towards a Rich Wadden Sea' programme team)

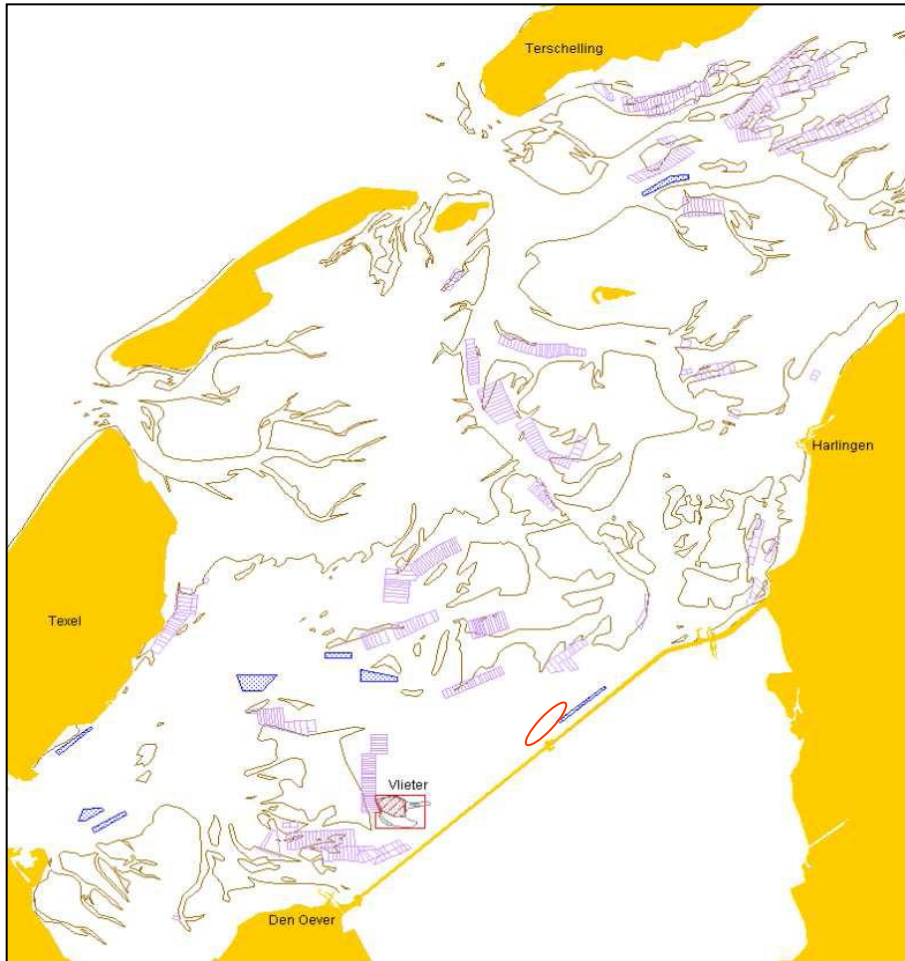
Mussel seed collector



Transition path

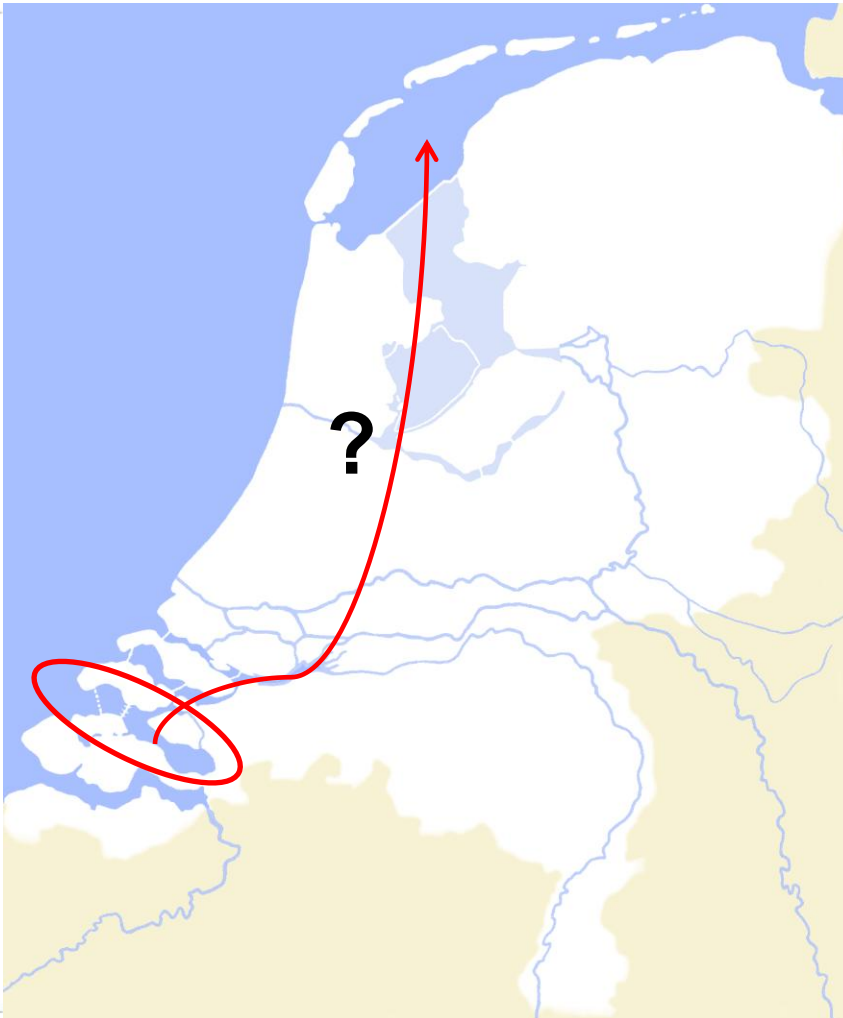


Culture plots, SC areas & closed seed banks in western Wadden Sea



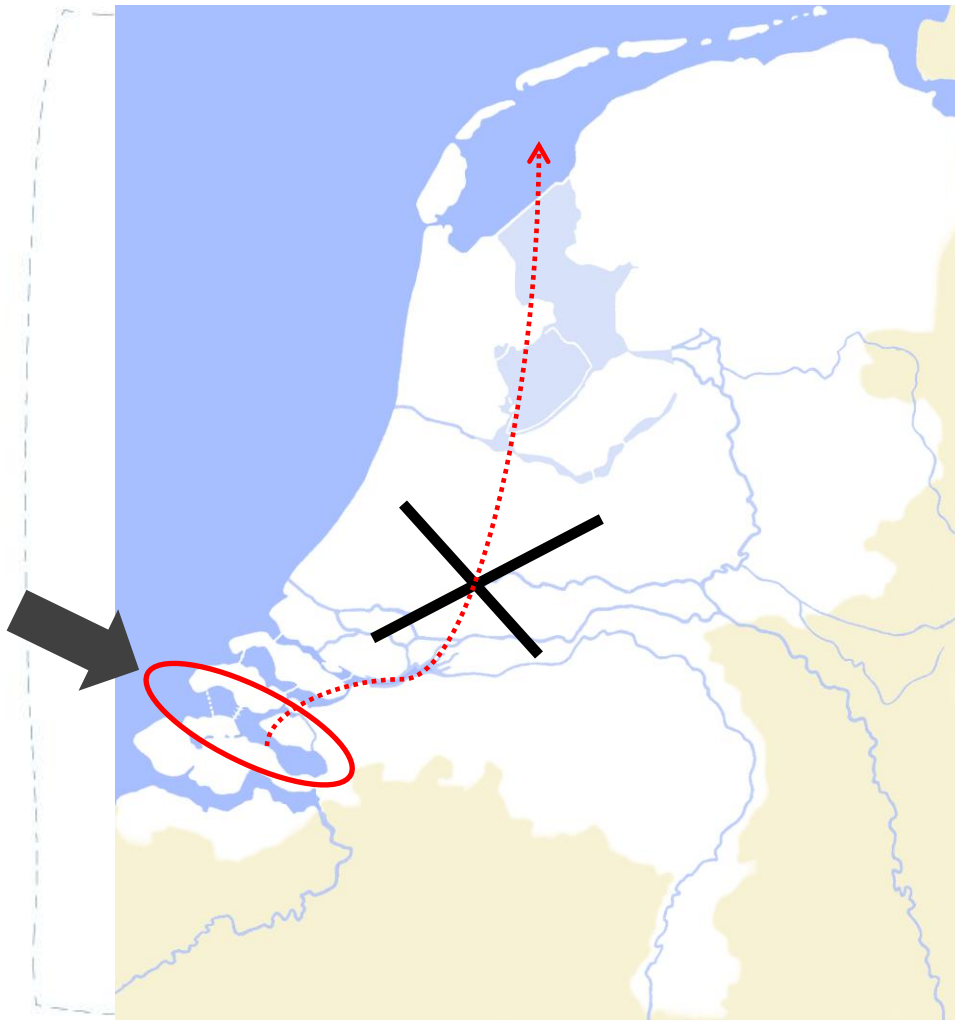
- Seed collector areas (500 ha)
- Culture plots (7600 ha)
- Closed seed banks 2009/10 (210 ha)

How do invasive species come into this?



200 ha seed collector area in
Oosterschelde
Mussels do not grow well
there
Mussel producers want to
transport seed to the Wadden
Sea

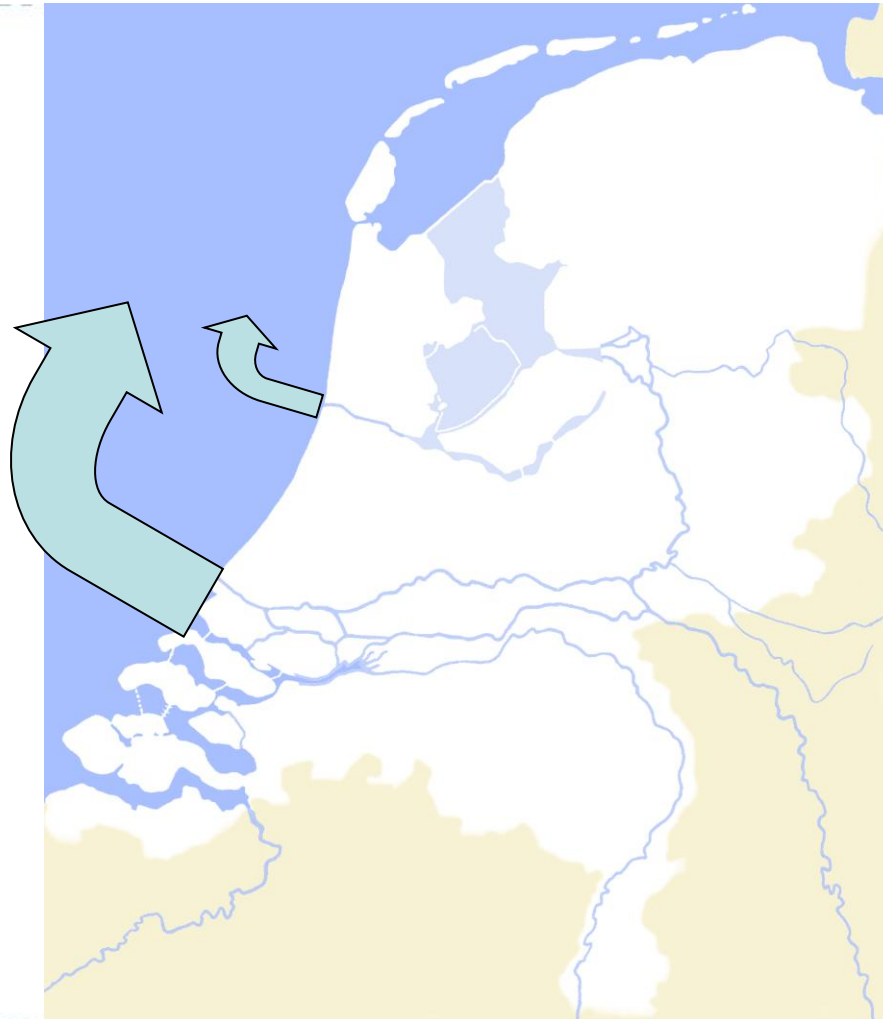
How do invasive species come into this?



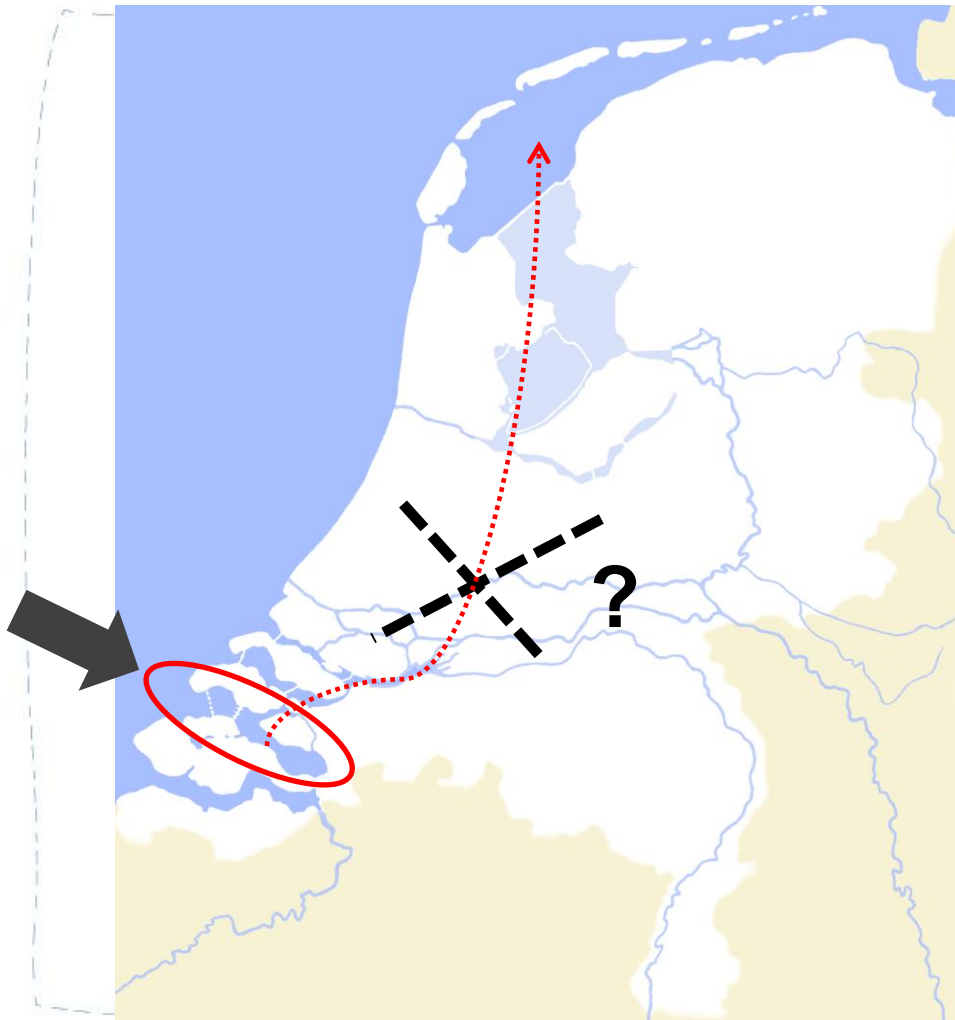
200 ha seed collector area in Oosterschelde
Mussels do not grow well there
Mussel producers want to transport seed to the Wadden Sea

- Under current policy, this is **not** allowed
- Reason: presence of **invasive alien species** in Oosterschelde

Freshwater barriers between Wadden Sea & Oosterscheldt



How do invasive species come into this?



200 ha seed collector area in Oosterschelde
Mussels do not grow well there
Mussel producers want to transport seed to the Wadden Sea

- Under current policy, this is **not** allowed
- Reason: presence of **invasive alien species** in Oosterschelde
- Covenant partners have agreed to **try to find a way** to enable the SC-seed transports

Research findings 2009 (GiMaRis, Faasse & Ligthart & others)

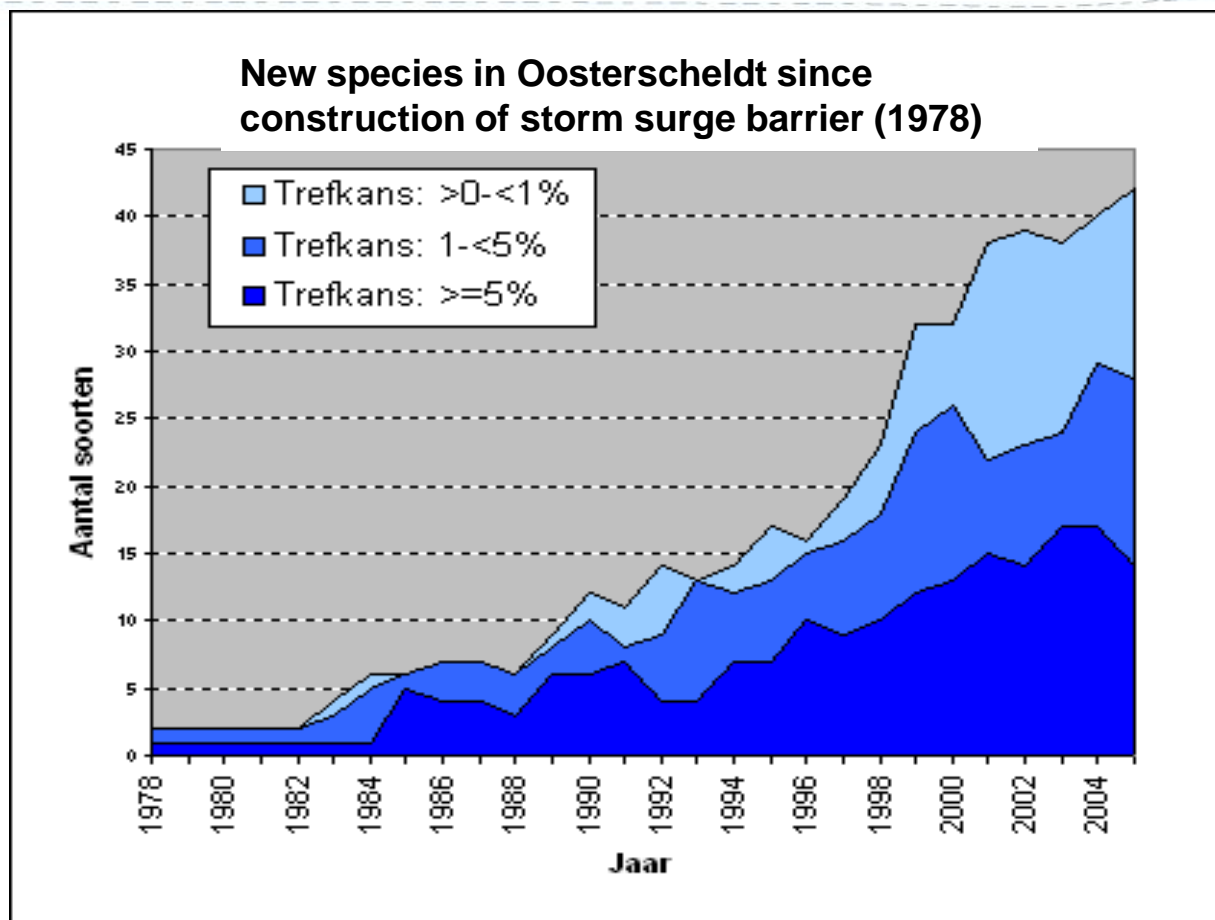
Oosterschelde:

- New invasive species (American & Pacific Oyster drills, Manilla Clam) are found since 2005-2007
- Shellfish imports are plausible vector (from Kent & Sussex)
- Import regulation has not prevented this

Wadden Sea:

- Many potentially invasive species already present
- Likely vector: recreational shipping (hull fouling)
- Oyster drills: not present

Alien species in Oosterschelde: not only due to shellfish transports



To transport or not to transport?

Choice:

1. Do **not** allow shellfish transports to Wadden Sea: proven to be effective against Oyster drills and other permanent bottom dwellers
2. Develop **2-way policy**
 - A. 'Close the back door' to Oosterschelde
 - B. Regulate & control SC seed transports

Wider implication: wake up call on marine invasive species

- Independent of mussel transport choice: develop invasive species policy for Dutch coastal waters
- Emphasized by UNESCO & IUCN (World Heritage nomination)

A. Close back door to Oosterschelde

Current policy on shellfish transports to Oosterschelde:

1. Clear risk areas (south of The Channel, other continents): **no contact with open water allowed** (quarantine required)
2. Intermediate & low risk areas (NSAP): **permit + conditions** under Nature Conservation Law required

Actions:

- Review permit conditions: summer/autumn 2010
 - Perform audit, in order to reveal weak points in 1/2: autumn 2010
- **Ministry of Agriculture, Nature & Food Quality to lead**

B. Regulate & control SC-seed transports

Develop coherent system (summer/autumn 2010):

1. Keep isolated from other basins of Oosterschelde
2. Monitor on SC's
3. Clean & monitor 'parking plots'
4. Monitor before departure
5. Treatment during transport
6. Monitor at arrival

➤ **Mussel sector to lead**

Next steps:

- **Assess remaining risks of 2-way policy (A+B)**
- **Decide go/no go for SC-mussel transports to Wadden Sea**
- **Decision to be taken: early 2011**

Develop general policy

1. Develop **overall invasive species policy** for Dutch Wadden Sea & other coastal waters, regarding:
 - A. Population survey: set up monitoring
 - B. Set up control system on import vectors:
 - Shellfish transports
 - Shipping: professional & recreational (hull fouling + ballast water)
2. Develop trilateral Wadden Sea invasive species policy
3. Integrate invasive species management in current EU regulations on sanitary, veterinary & **ecological** aspects

Lead and timing (being discussed)

- 1. Overall invasive species policy** for Dutch Wadden Sea & other coastal waters:
 - Ministries of Agriculture, Nature & Food Quality + Transport & Public Works: 2011-12?

- 2. Trilateral** Wadden Sea invasive species policy:
 - NL/D/Dn: 2011-2012?

- 3. Integrate EU regulations:**
 - EU: ?