Redrisk

Reduction of Risk in Shellfish Harvesting Areas

Monique Pommepuy

Pillar 3: Seafood Safety Projects (B Doré, Pillar coordination)

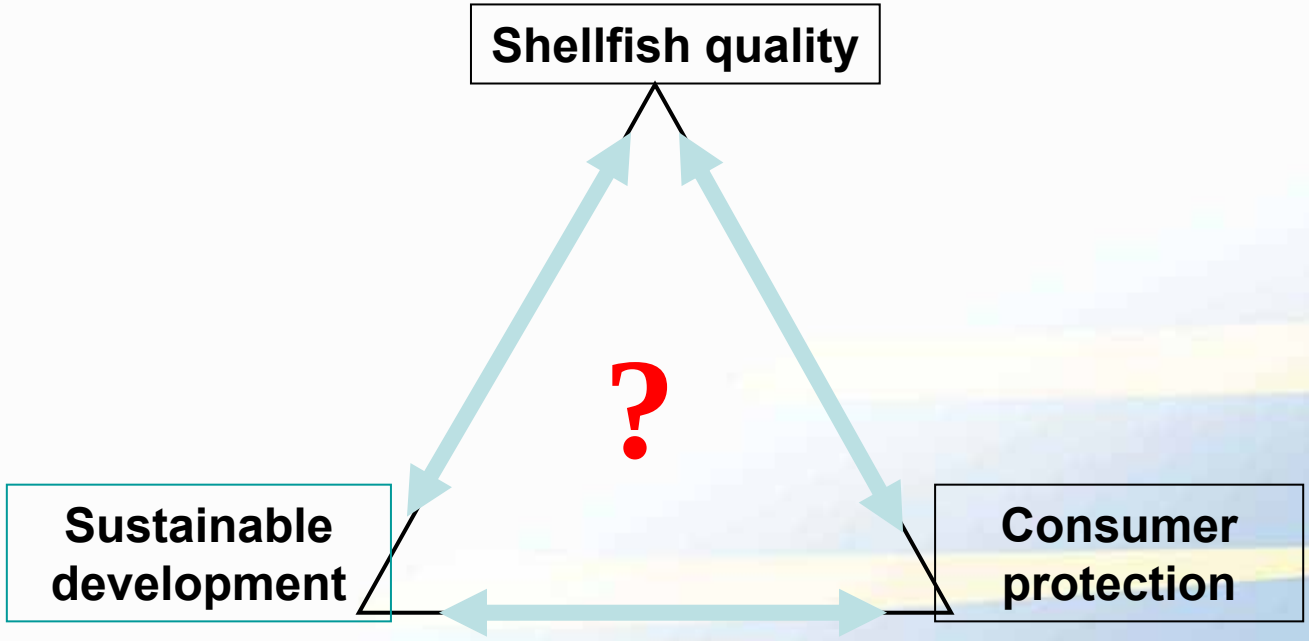
Partners: Ifremer (FR, coordination), Cefas (UK), Marine Institut (IR)Univ. Santiagio and Barcelona (Spain),

"attached" partner: SAMS (Scotland)

- Seafood is generally recognised as a wholesome, safe and nutritious food.
- However a number of well defined and potential health risks are linked to seafood consumption
- SEAFOODplus strategy to concentrate on the major identified health risks

Pillar 3 objectives To make seafood safe for the consumer, by avoiding risks caused by bacterial & viral contamination, and the formation of biogenic amines in seafood.

Redrisk one of the sub-projects pillar 3

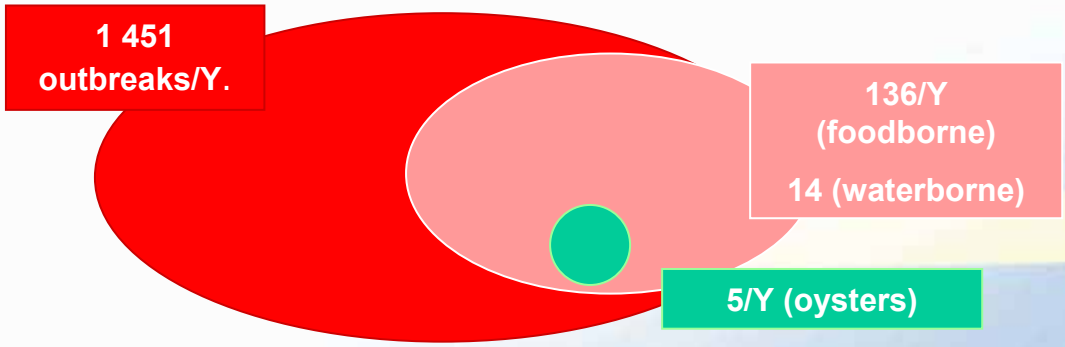


How to solve the problem ?

Seafoodplus/REDRISK Project : Open discussion between the different partners to find way to reduce the risk

Shellfish risk ?: viral outbreak European survey (3 years)

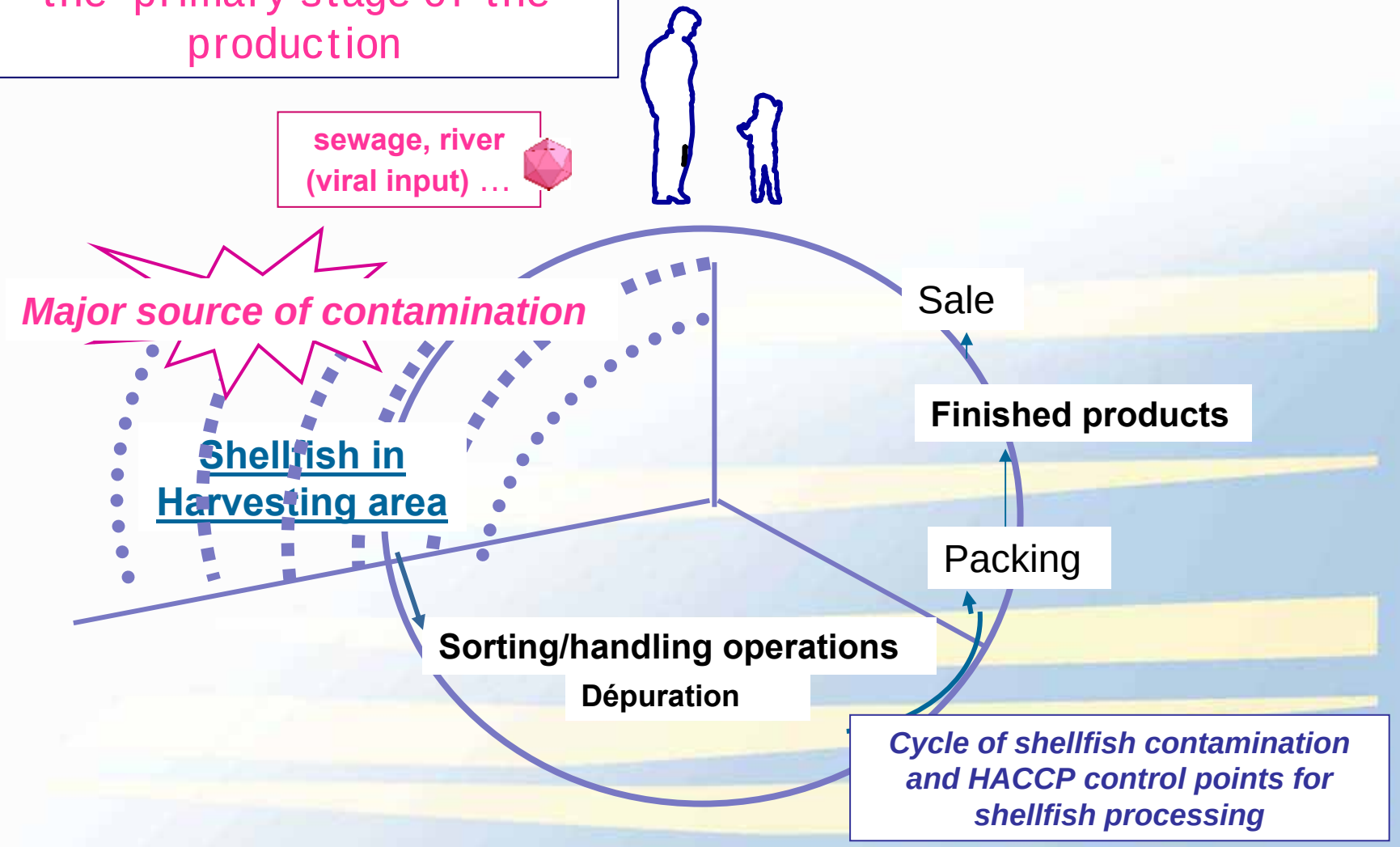
(data from « FOODBORNE VIRUS IN EUROPE » EU project - M Koopman)



Depending on the year: 5 (2002), but 50 (2006) outbreaks
(under-estimated)

Limited but real risk

Shellfish get contaminated in the primary stage of the production



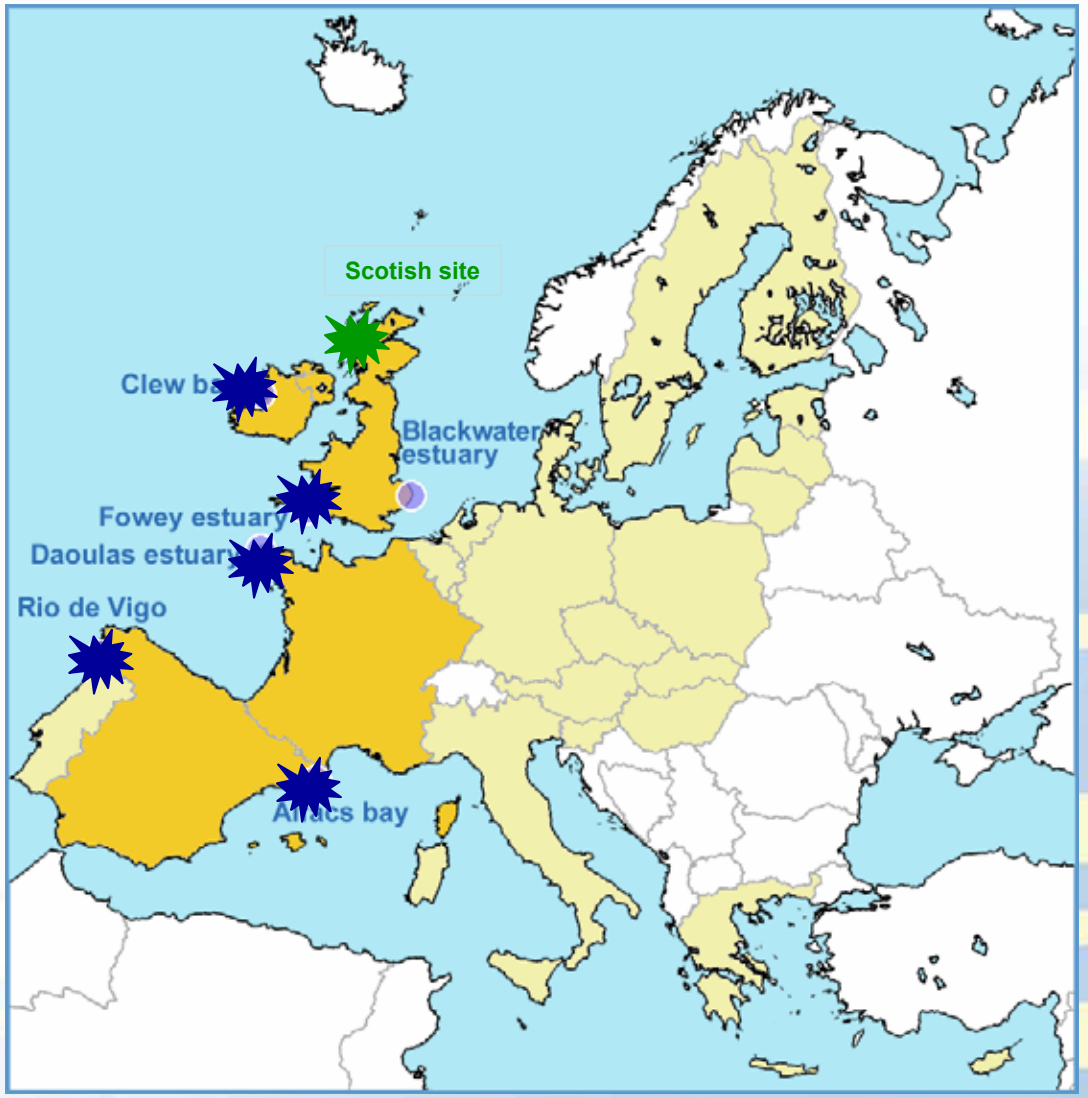
Cycle of shellfish contamination and HACCP control points for shellfish processing

REDRISK Objectives

- to identify pollution sources in harvesting areas
- to determine impact of pollution sources and environmental conditions on virus contamination.

This will provide a framework for a risk management approach to controlling the viral risk associated with shellfish during primary production.

Six sites: Irish, Great Britain, French, Spanish sites



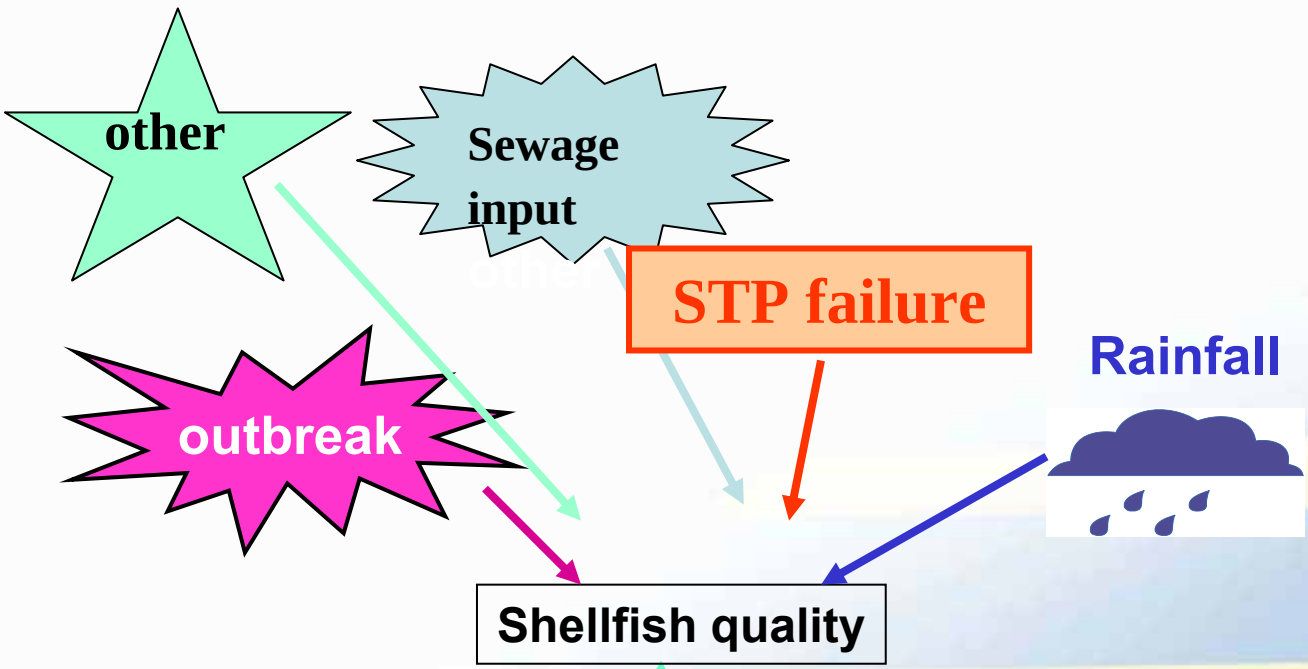
REDRISK

The effort is focused on 2 actions:

1. to understand the factors leading to viral contamination during the primary production

2. to define the best way for risk control.

1. Factors leading to shellfish contamination



To collect information on sites

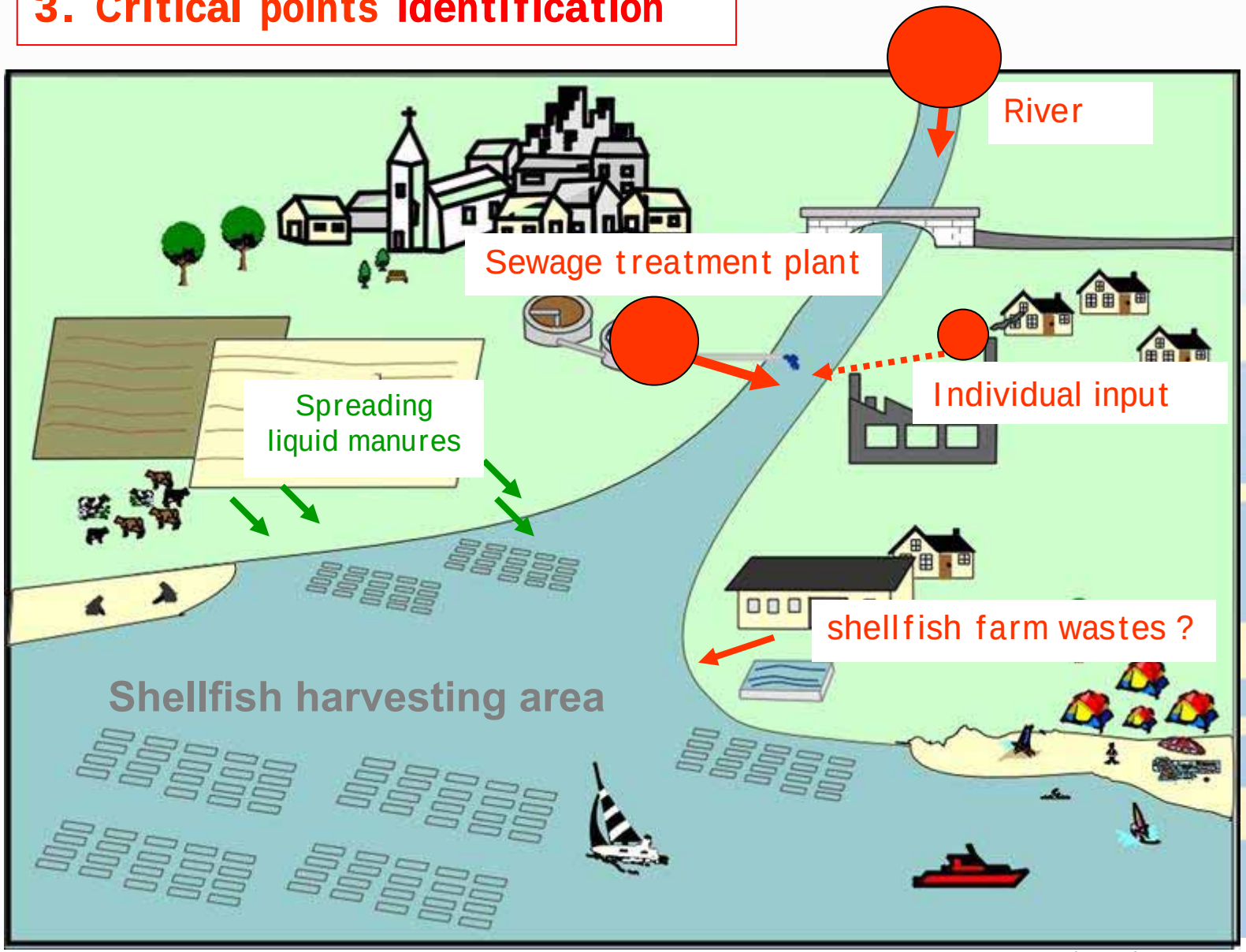
To determine the impact of the different factors

Sustainable development

Consummer protection

2. Microbial sources identification (Human/Animal)

3. Critical points identification



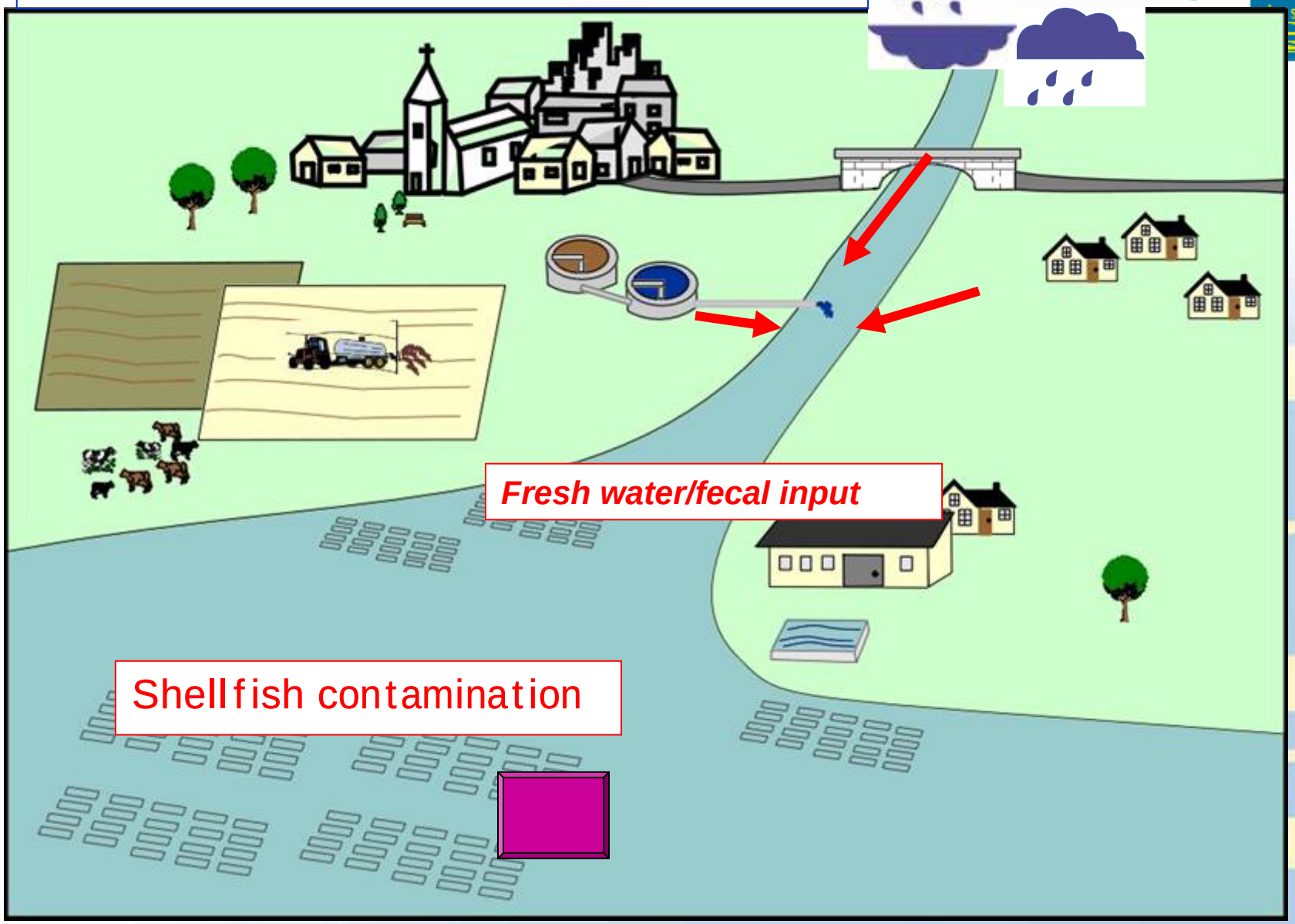
REDRISK

The effort will be focused on 2 actions:

1. **to understand the factors** leading to viral contamination during the primary production

2. **to define the best way for risk control.**

To define the best way for risk control.



To determine SIMPLE PARAMETERS to address viral impact Facto
leading to viral contamination

RAINFALL

STP/run off

RIVER FLOW

SALINITY

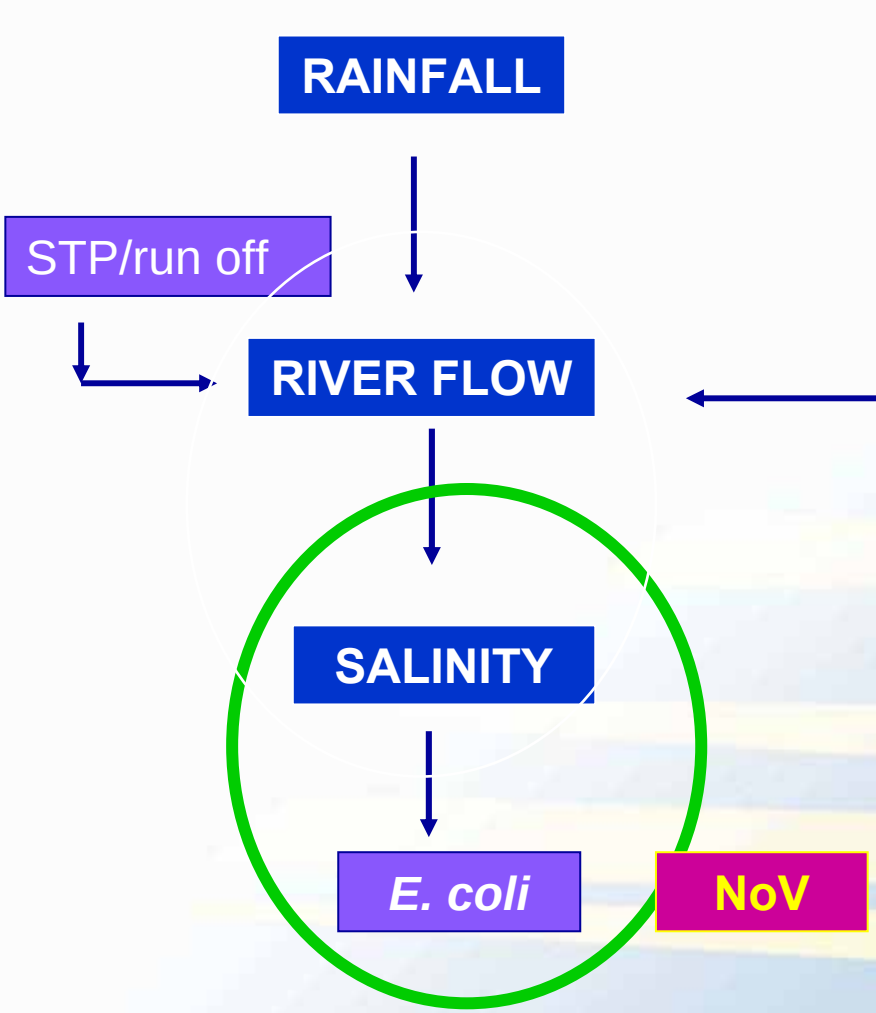
E. coli

Epidemics in population

Viral input

NoV (VHA)

To validate simple parameterd to address viral impact



Hypothesis : Salinity (sensor)

To be validated :

1. Flow /Salinity relationship

2. Salinity/ *E coli* relationship

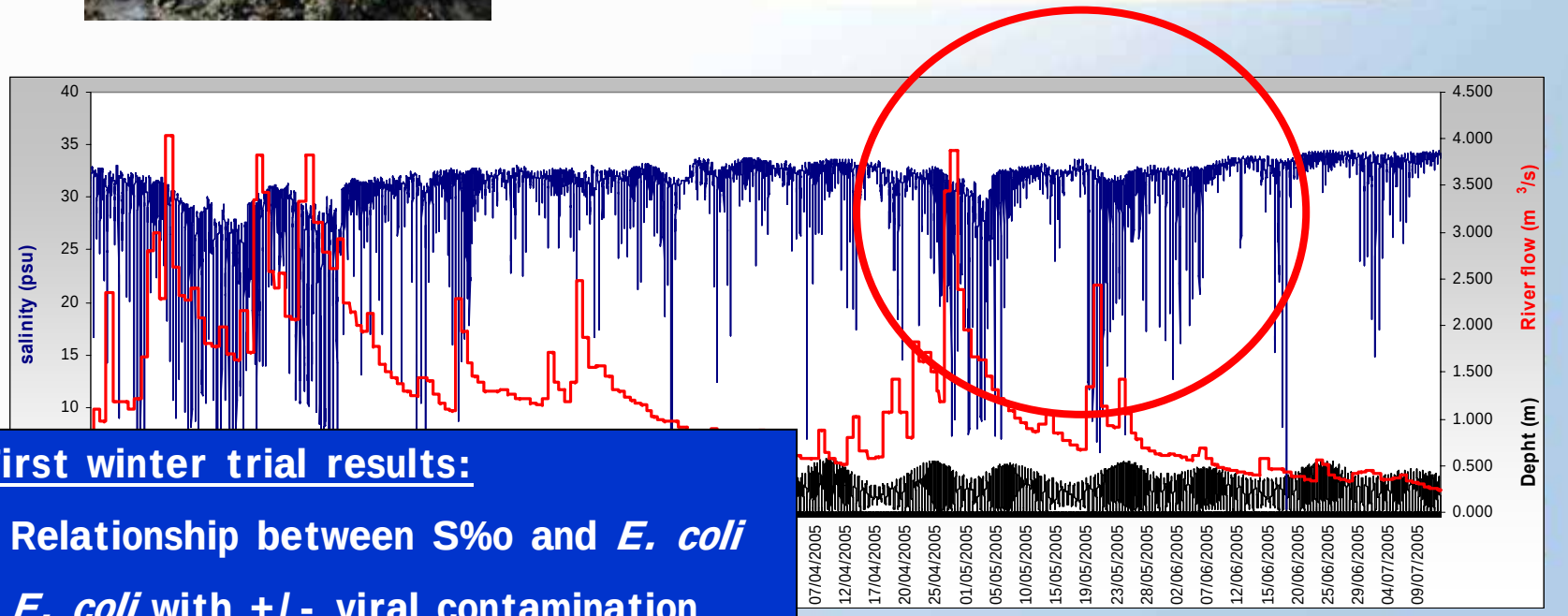
3. links between epidemic/viral input

Daoulas estuary : recorded salinity station

Salinity sensor

Station C

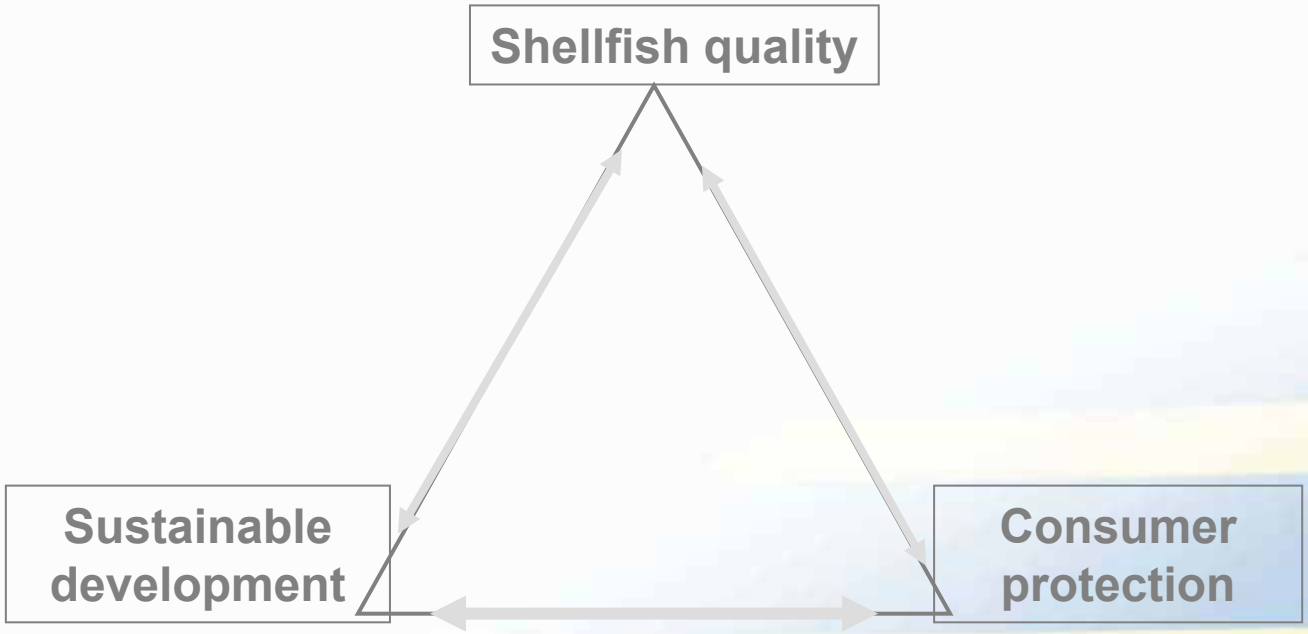
Rainfall/Fresh water input: Salinity effect



First winter trial results:

- Relationship between S‰ and *E. coli*
- *E. coli* with +/- viral contamination

Period 16.12.2004 – 12.07.2005 — RIVER FLOW — SALINITY — DEPTH



First conclusions

- Initial risk assessment confirmed.
- Possible correlation between environmental factors and microbiological contamination. It may not be a simple relationship & could be depending on the site
- How to manage the risk? Different ways are investigated from specificity N/S sites…: this could be early warning systems based on salinity sensors, population survey….

Thanks REDRISK Participants

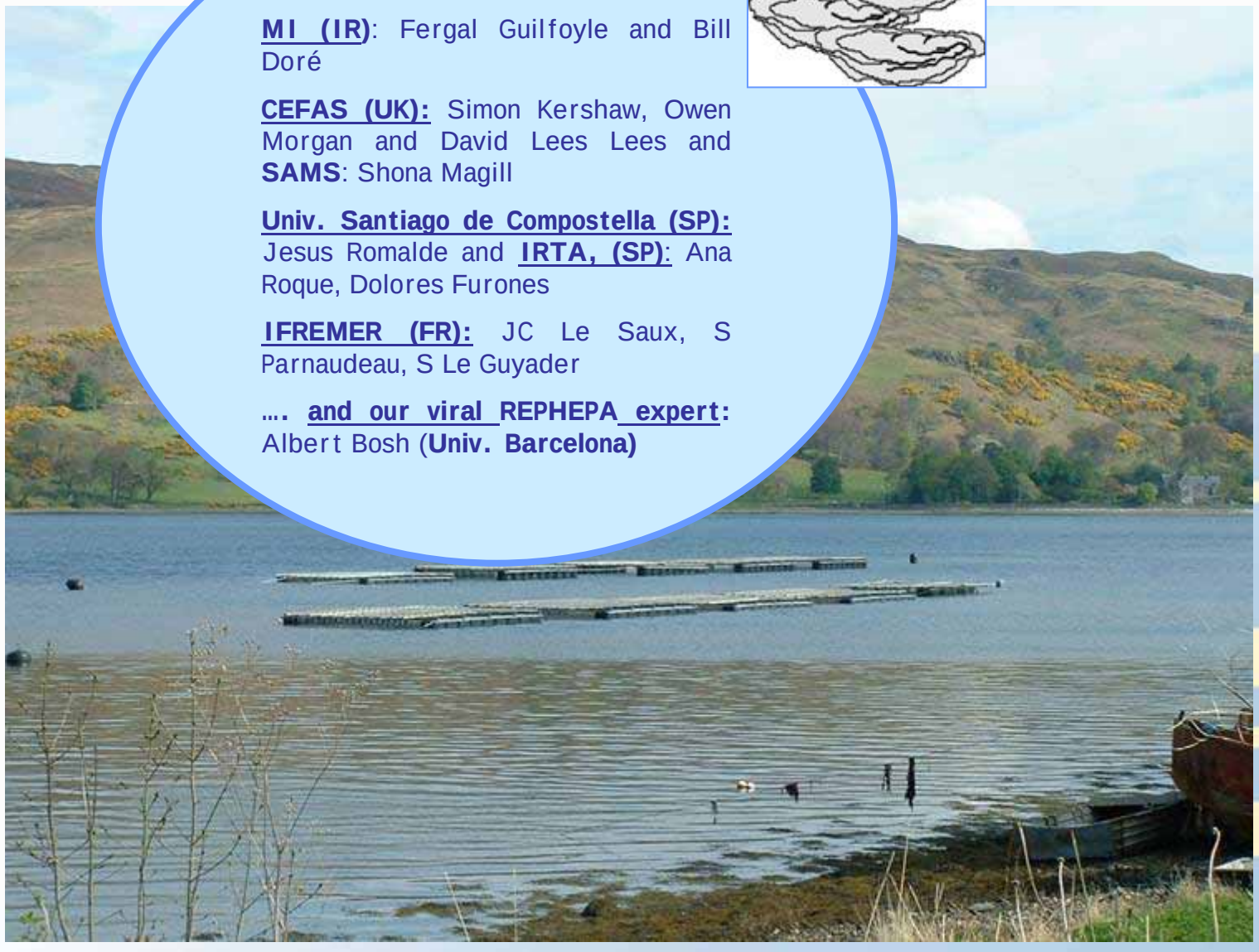
MI (IR): Fergal Guilfoyle and Bill Doré

CEFAS (UK): Simon Kershaw, Owen Morgan and David Lees Lees and **SAMS**: Shona Magill

Univ. Santiago de Compostella (SP): Jesus Romalde and **IRTA, (SP)**: Ana Roque, Dolores Furones

IFREMER (FR): JC Le Saux, S Parnaudeau, S Le Guyader

…. and our viral REPHEPA expert: Albert Bosh (**Univ. Barcelona)**



A better life with seafood…

SEAFOOD plus

www.seafoodplus.org