



Food and Agriculture
Organization of the
United Nations



THE WORLD BANK
IBRD · IDA

Stakeholder Consultation on Progressive Management Pathway (PMP) to Improve Aquaculture Biosecurity

World Bank Headquarters, Washington, D.C. 10-12 April 2018

Aquaculture Biosecurity approach in Chilean salmon industry “Learned lessons”

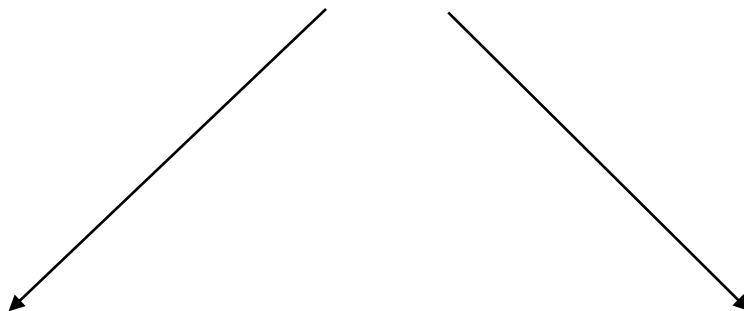
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Aquaculture biosecurity/Aquatic animal health in Chile



Animal Health control programs



Terrestrial

	SAG Ministerio de Agricultura
Gobierno de Chile	

Acuatics

	SERNAPESCA Ministerio de Economía, Fomento y Turismo
Gobierno de Chile	



SERNAPESCA
Government agency



**It is the competent authority in
Biosecurity and AAH in
aquaculture
Also in environmental
aquaculture issues and fisheries
matters**



**Responsible of
foodsafety of
aquaculture and
fisheries products
for exports**



**150 veterinarians
inspectors**

1100 employees

Other aquaculture stakeholders



Research
institutions




Indigenous people
representatives



The most challenging AB/AAH problem in Chile



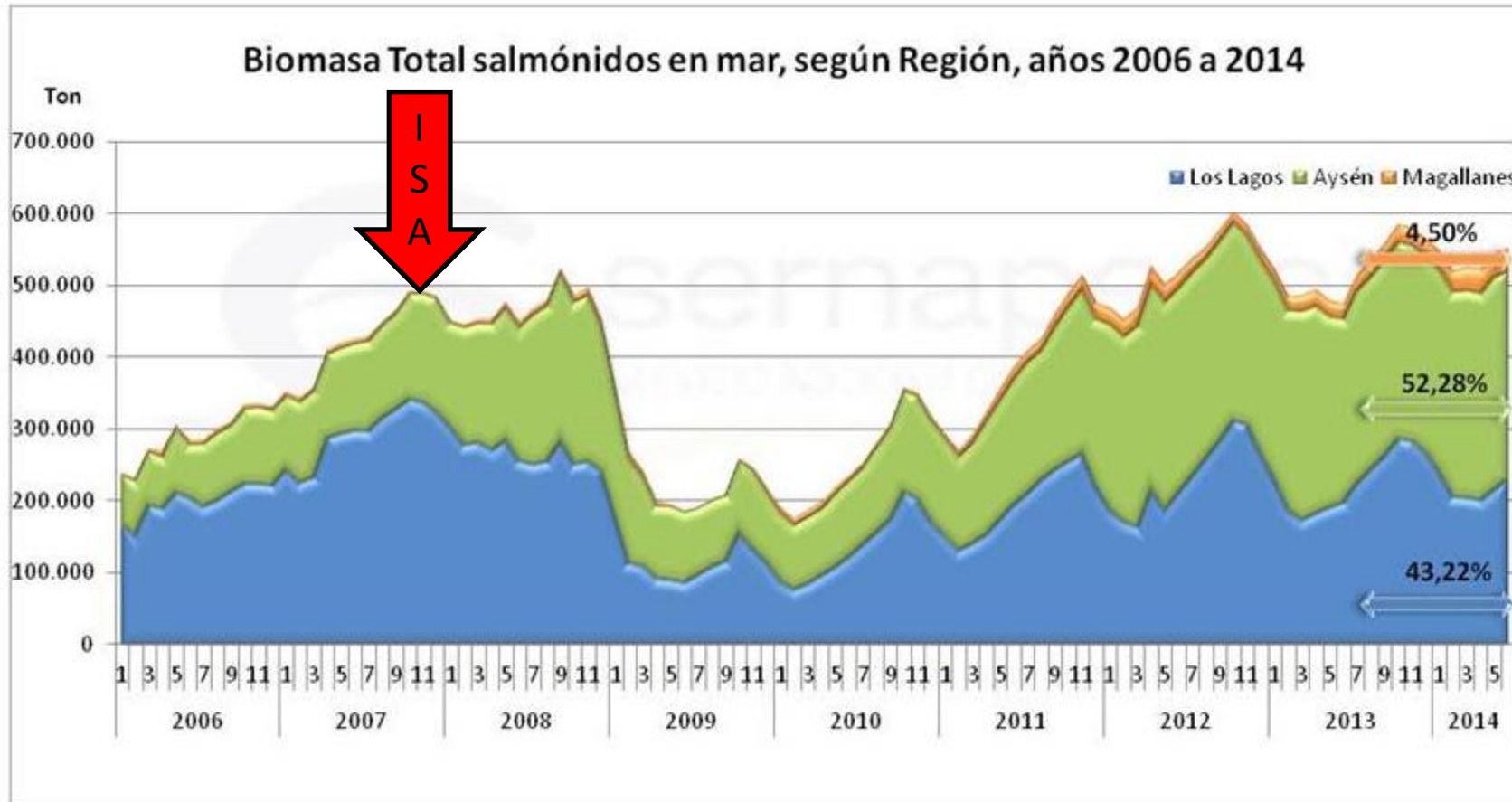


"The appearance of an exotic disease or even its mere suspicion can potentially be disastrous in a country or region." The appearance of the ISA virus cost Chile 3,500 million dollars, 15,000 jobs and a reduction in 25 points of the GDP of the Los Lagos region “

World Bank study
2010



Impact in production



It took four years to recover the same production

America Aquaculture Production 2014

Asia



65.601,9 miles de ton

Region produces 2.7 ton (million) in
aquaculture

América



3.351,6 miles de ton (*)

- América Latina a excepción de Chile 1.544,2 miles de ton
- Chile 1.214,5 miles de ton
- América del Norte 559,7 miles de ton

Europe



2.930,1 miles de ton
.(*)

Main threat in AAH in the region
is TiLV

(*) FAO, 2016. El estado mundial de la pesca y la
acuicultura

Main biosecurity actions put in place



Strategy: Implementation of Biosecurity Plan



Key points

1. Immediate establishment of a working group
- 2. Risk assessment**
- 3. Identification of critical control points of control**
- 4. Implementation of biosecurity plan national and farm level**
5. Legislation modification
6. Increase capabilities in Sernapesca
7. Active international cooperation (OIE/FAO)
8. Specific public-private research





Immediate establishment of a working group

- Public and private participation
 - National experts
 - International collaboration
 - Ministry Advisor
- 



**Risk assessment, identification of critical control points
of control, elaboration and implementation of biosecurity
plan**



Risk assessment national level in salmon production



Análisis de Riesgo Externo e Interno de la Salmonicultura Chilena

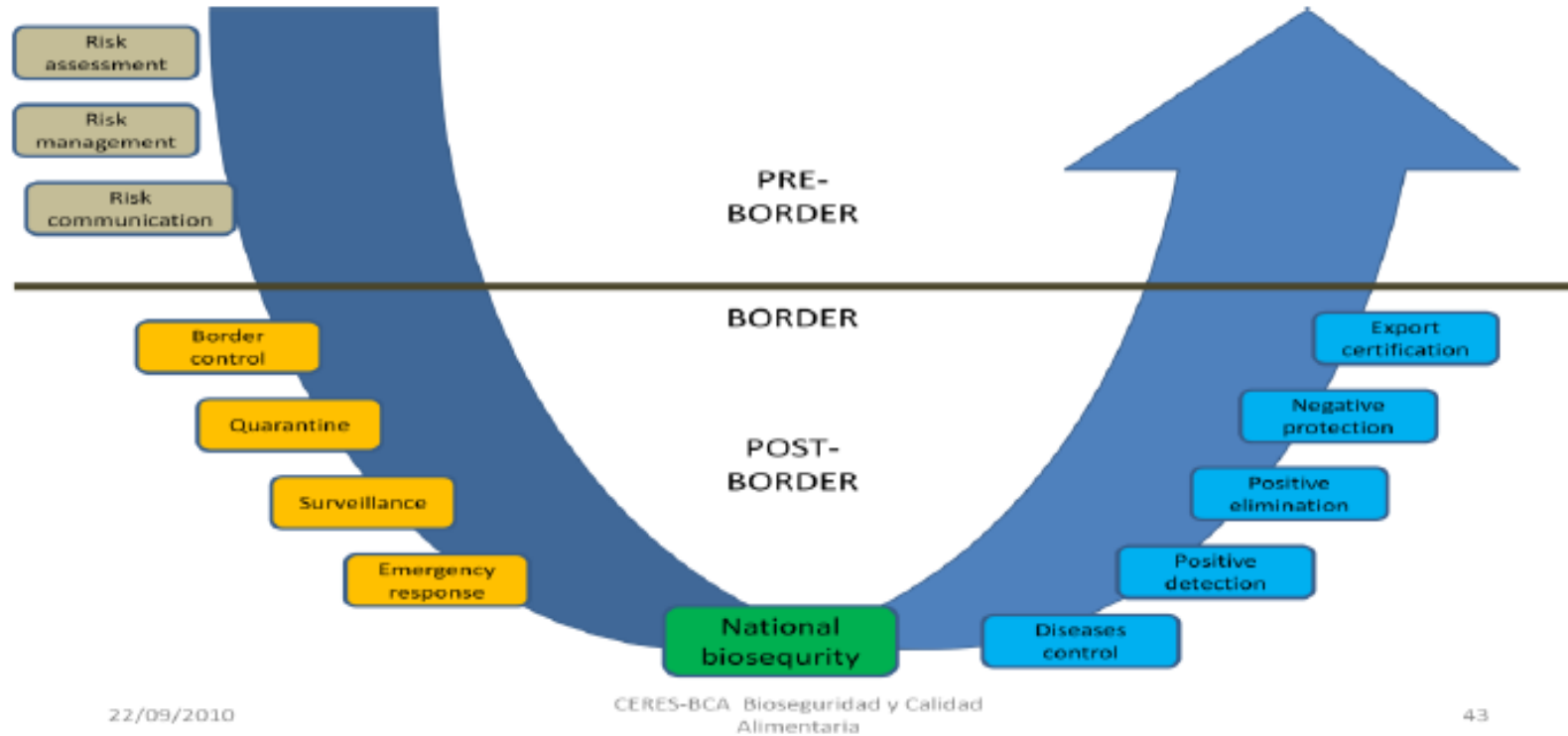


Figura 7. Modelos integral de gestión sanitario.

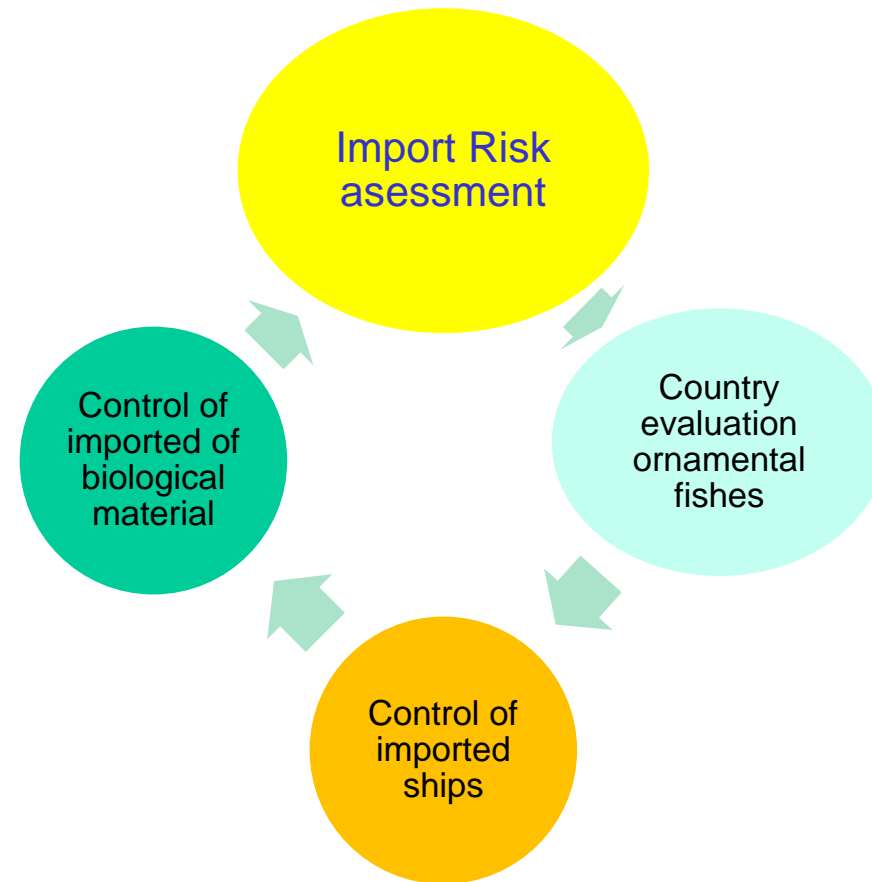
La gestión sanitaria se explica por grandes componentes. Este modelo se explica





Pre border measures



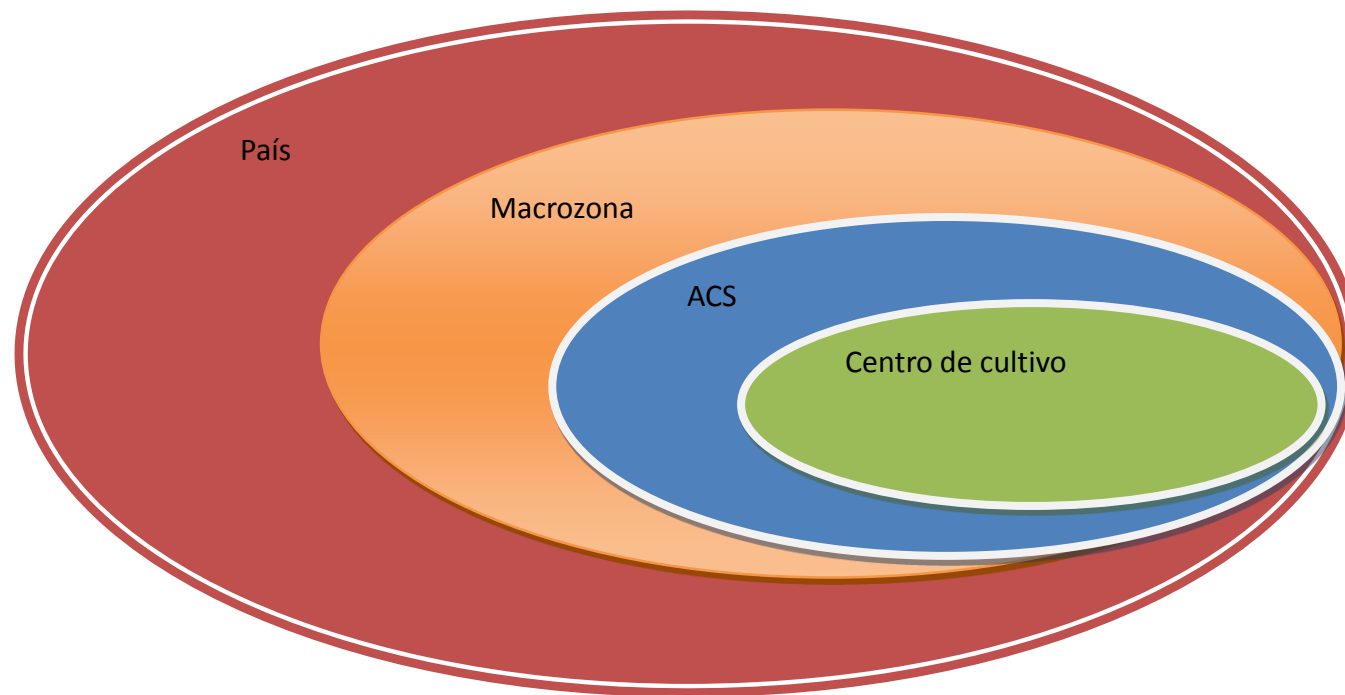




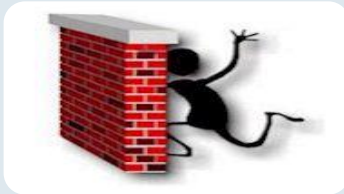
Biosecurity Plan



Zoning



Summary focus on:



Avoid entry of diseases to the country



Early Detection

- Active and passive surveillance
- Mandatory immediate notification

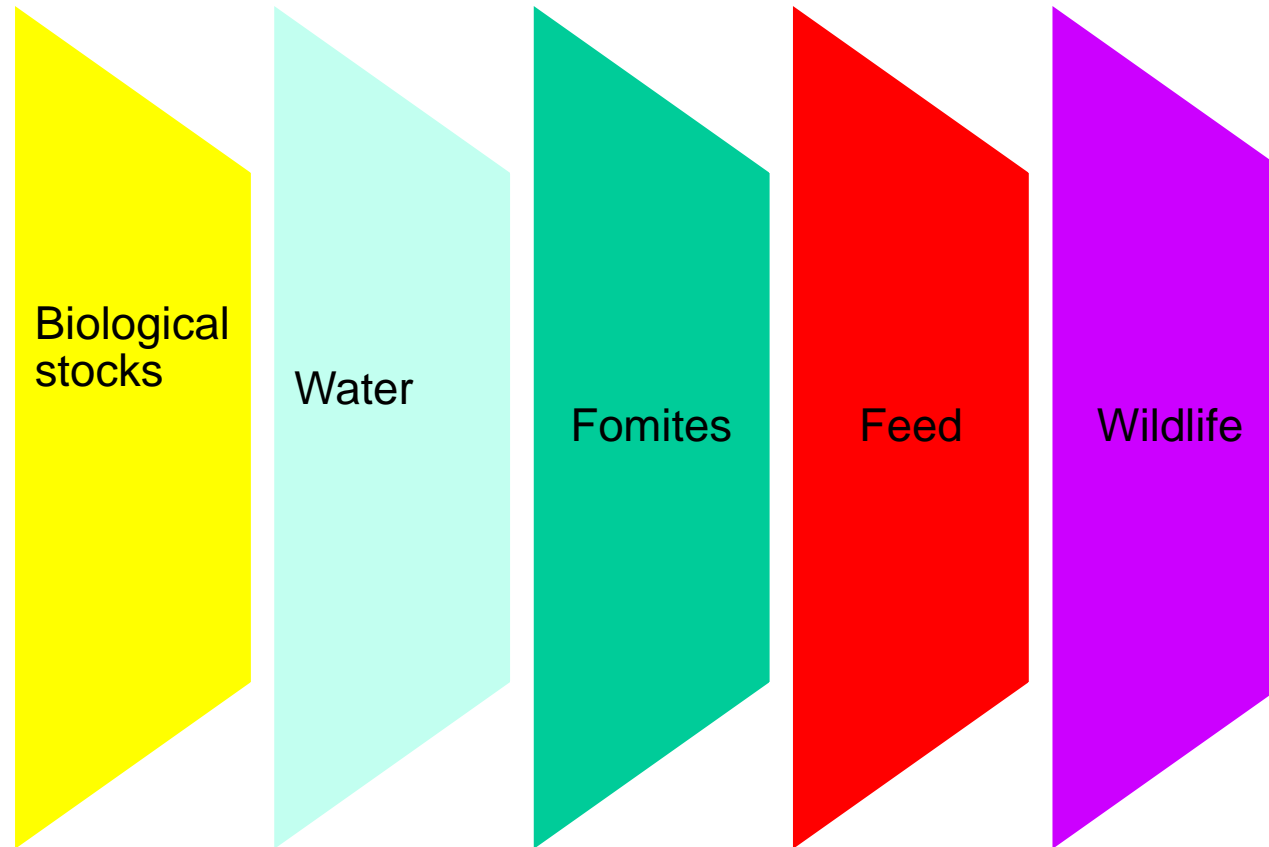


Immediate depopulation
Case definition

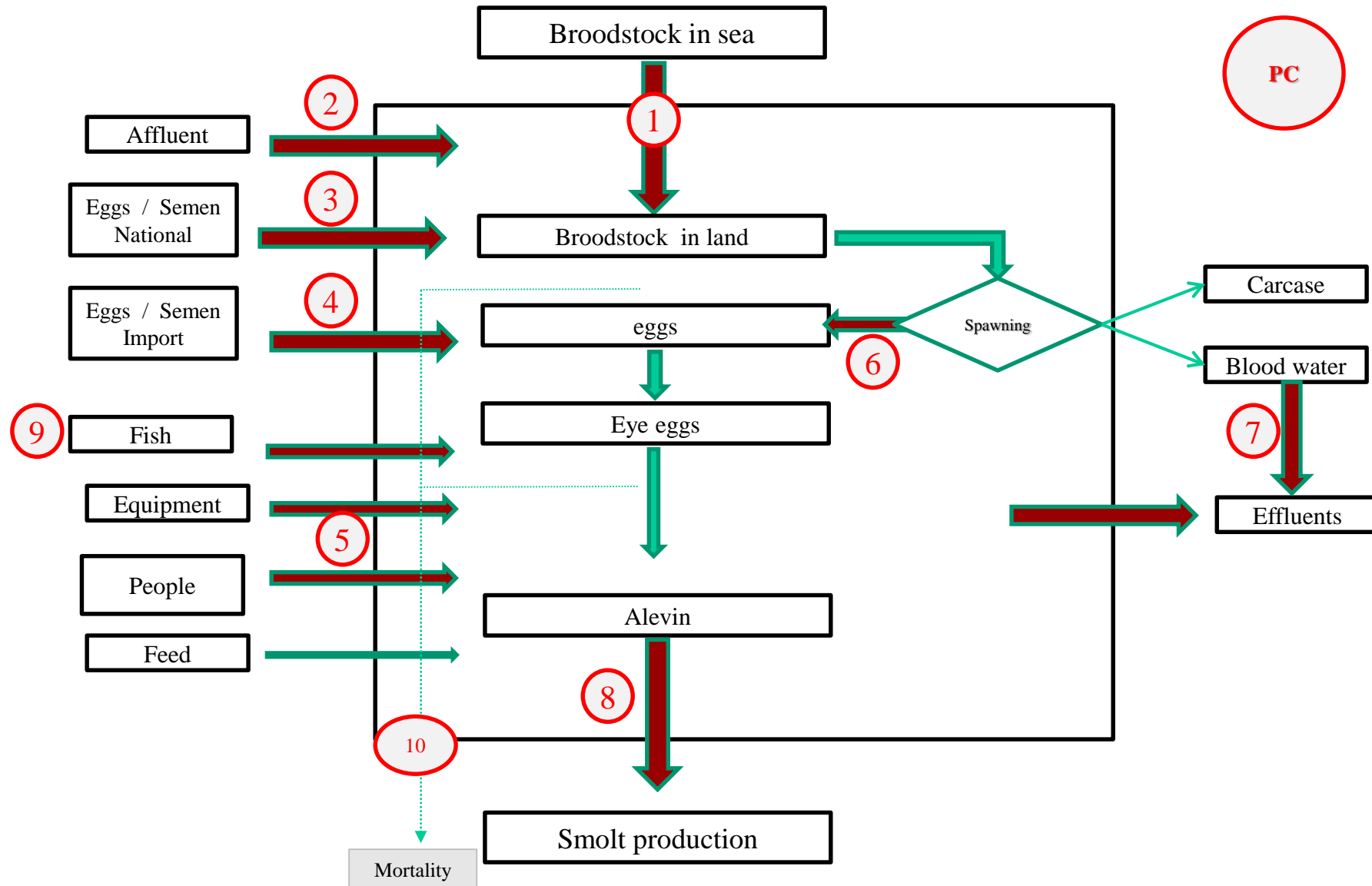


Communication

“Exclusion” To prevent introduction and spread of the disease



Flowchart and control point Farm level



Main biosecurity measures

Density control
Biosecurity score
by site and área

**Establishment of
Bay
Managemente
Areas**

Prudent and
responsible use
of antimicrobials

**Desinfection
procedures**

**Effluent
disinfection**

**Coordinated
Fallow periods**

VMS

**Control of
movement**

**Reporting,
transparency
and
enforcement**

Increase capabilities in Sernapesca and in diagnostic in general

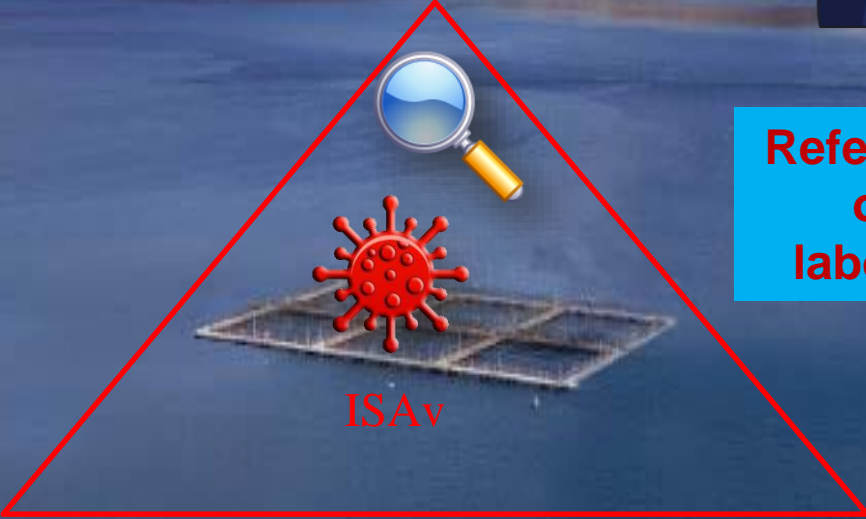


Early detection- Veterinary inspections

Veterinarians Sernapesca



Reference and official laboratories



Accredited veterinarians

Private veterinarians

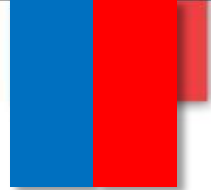


Specific public-private research



Research focus in AAH biosecurity (pre competitive)





- the big change : specific network on biosecurity measures
- Outcomes: regulations, good practices or only science recommendations



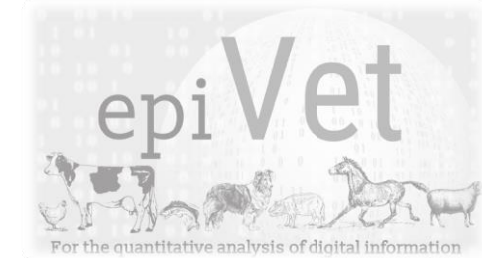
INSTITUTO DE
FOMENTO
PESQUERO



Universidad Austral de Chile
Conocimiento y Naturaleza





Universidad
Andrés Bello



Proposal 5 most challenging issues on aquaculture biosecurity



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1. Development of **country capacity in AAH**
 2. **Emergency diseases** (early detection and implementation of control measures)
 3. Develop capacities to **integrate relevant information** and establish indicators (example mortality rates)
 4. Implementation of **regional net work** in AAH (collaboration and to share information ej CVP FMD)
 5. **Clear policies** in the countries (role of the state, of the private and science)
- 

Country/institution contributing to the PMP





Capacity development in the region on biosecurity plans





Let's not forget ... "the human factor"

we work with the people who manage the fish...





SERNAPESCA

Ministerio de
Economía Fomento
y Turismo

Gobierno de Chile

Gracias por su atención!

