

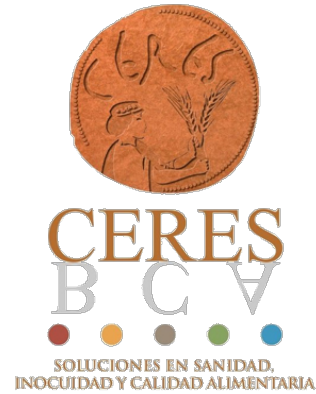
Evaluation of the Economic Impact of ISA virus in Salmon Aquaculture of Chile (Pilot project)

Hernán Rojas – Director CERES BCA





GBADs



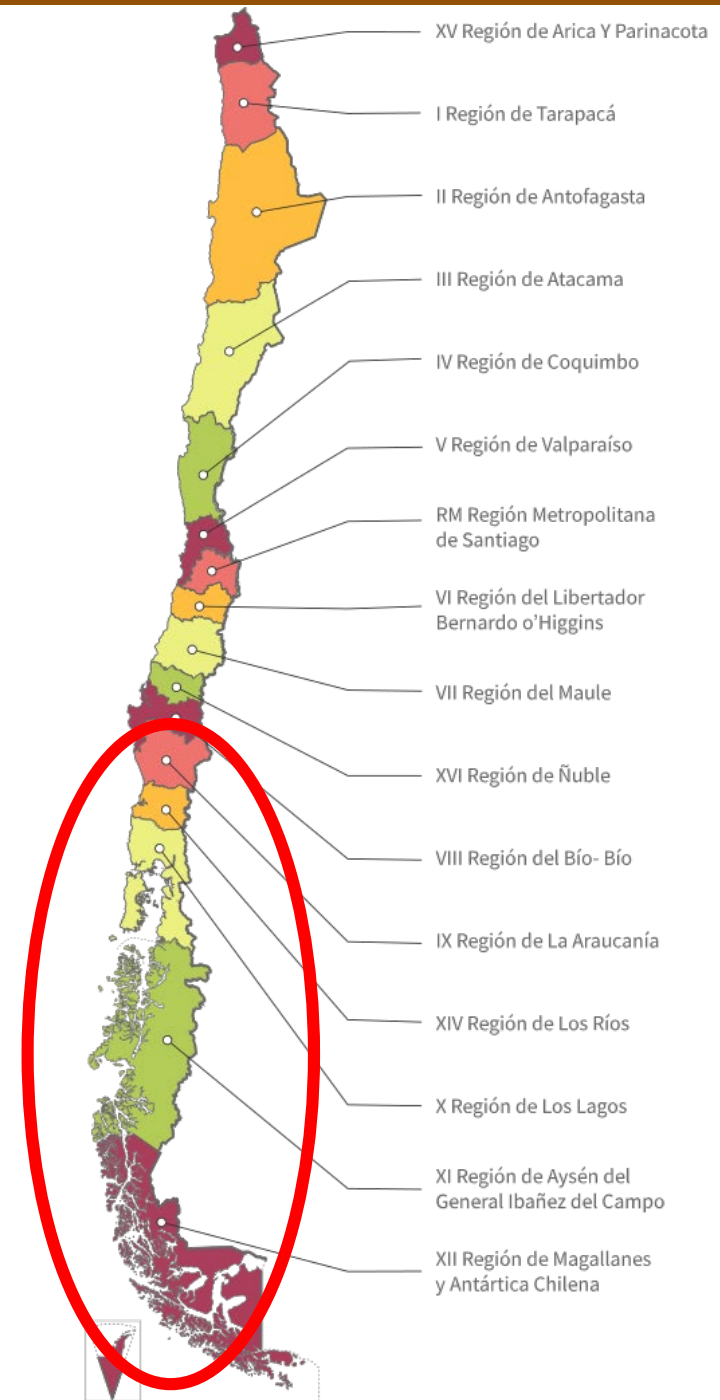
GBADs

Collaboration Agreement:

- To share expert knowledge, data and relevant information
- To implement GBADs methodologies and analysis in Chilean Aquaculture
- To develop other activities, such as, workshops and seminars
- To build a network of collaboration

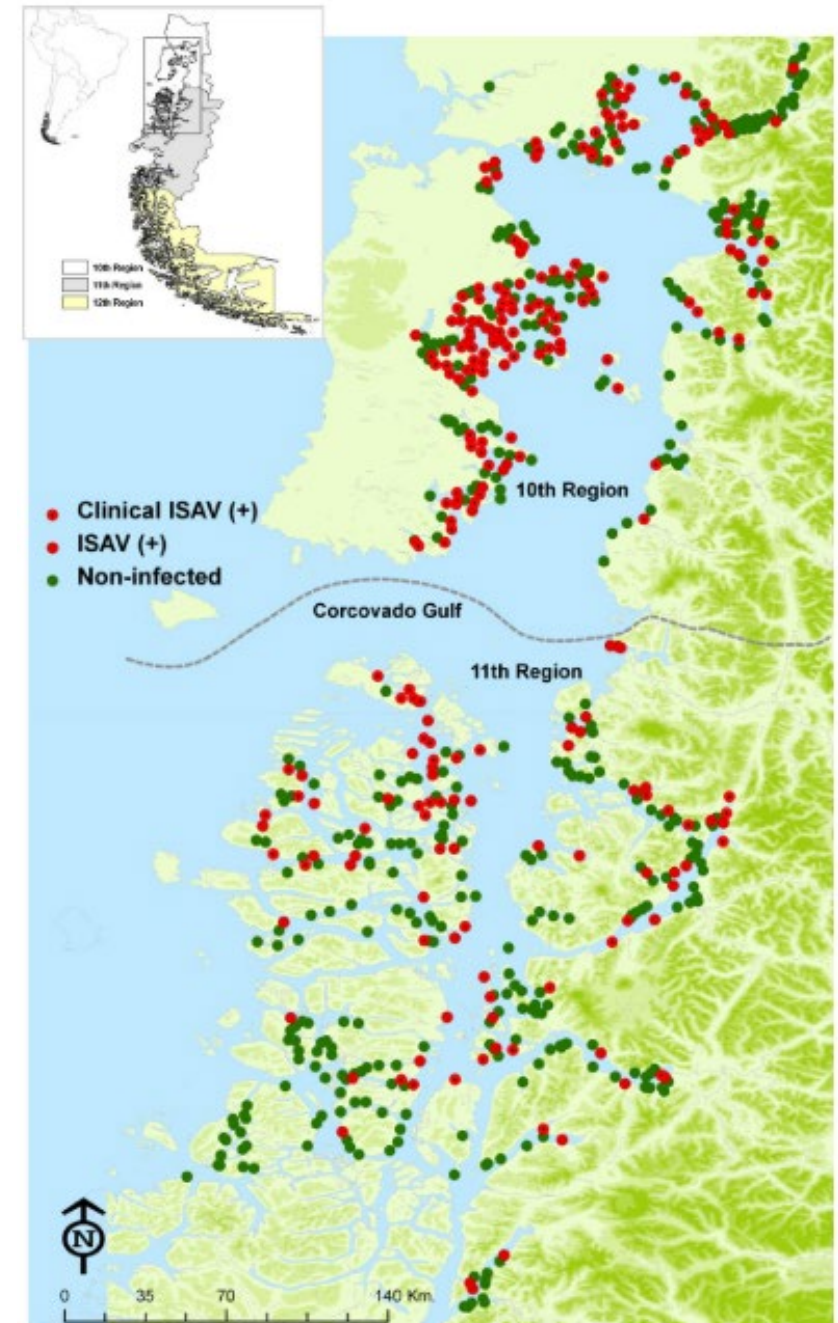
Background

- ❖ Most important animal production system in Chile (600 sites in south of the country).
- ❖ Second world exporter country.
- ❖ Diseases: Salmon Rickettsial Syndrome, Sea lice, IPN, ISA virus,
- ❖ Public/Private measures for disease prevention and control
- ❖ There is a need for technical tools that support the public and private decision-making processes



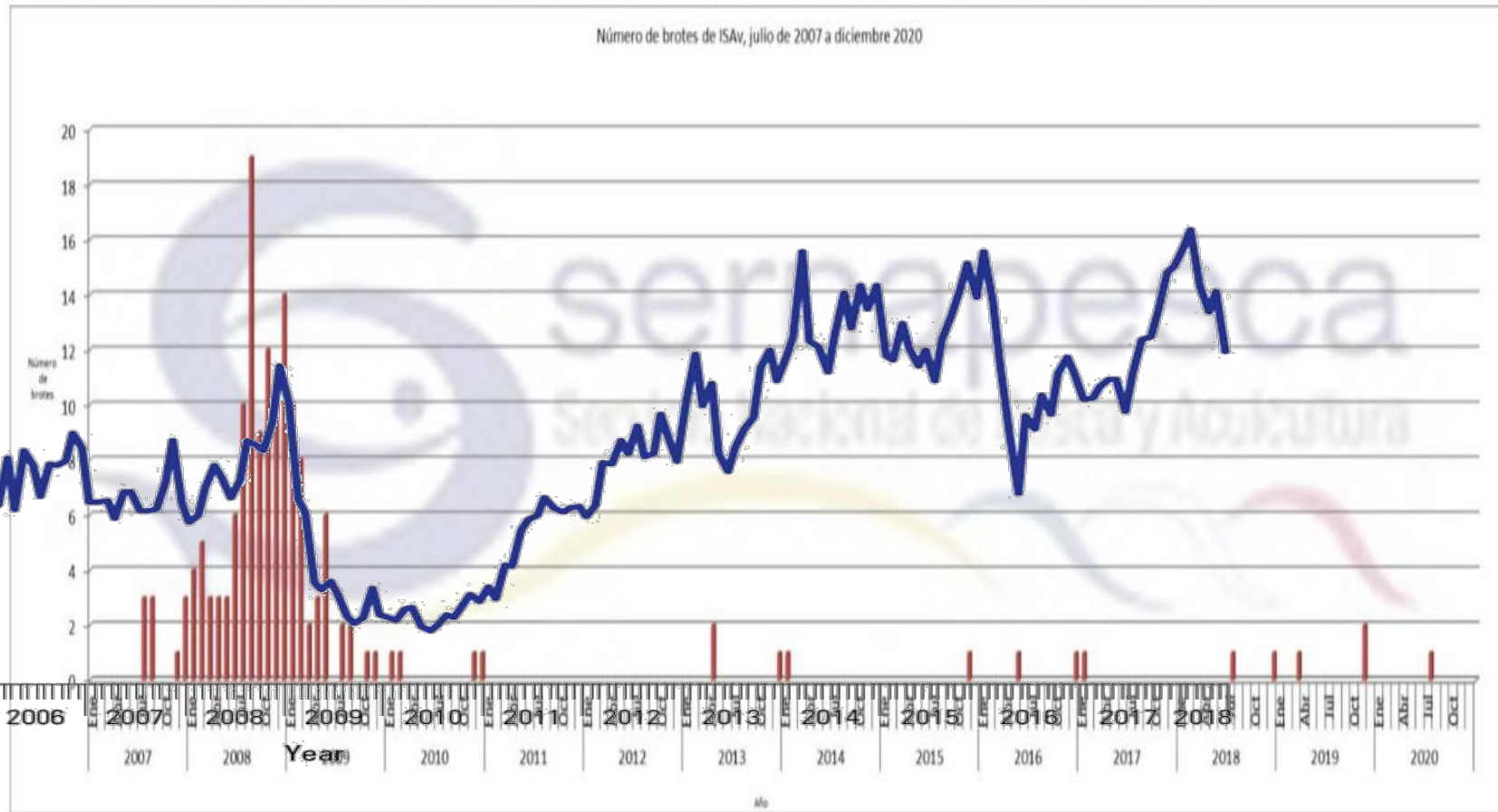
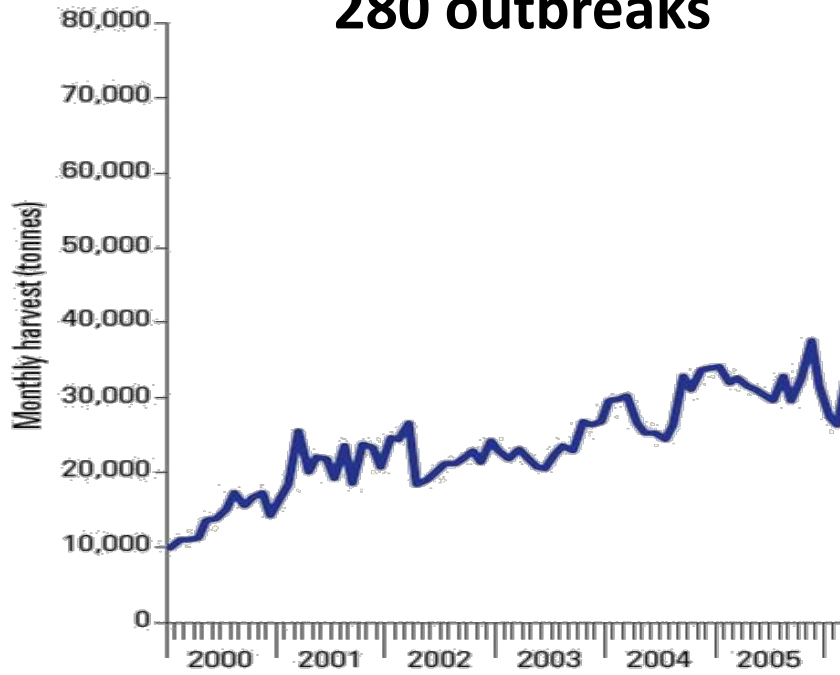
2007-2009 ISAV Epidemic

- ❖ Important losses
- ❖ Public/Private actions
- ❖ ISA Regulations in 2008, 2011, 2019
 - Biosecurity: Bio-exclusion and Bio-contention
 - Vaccination promotion
 - Epidemiologic surveillance
 - Contingency response plans
 - Reference Labs



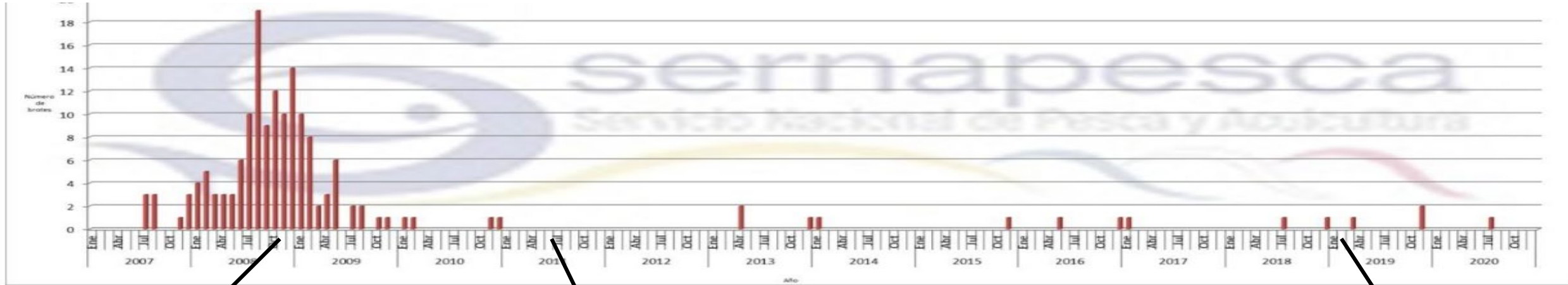


280 outbreaks





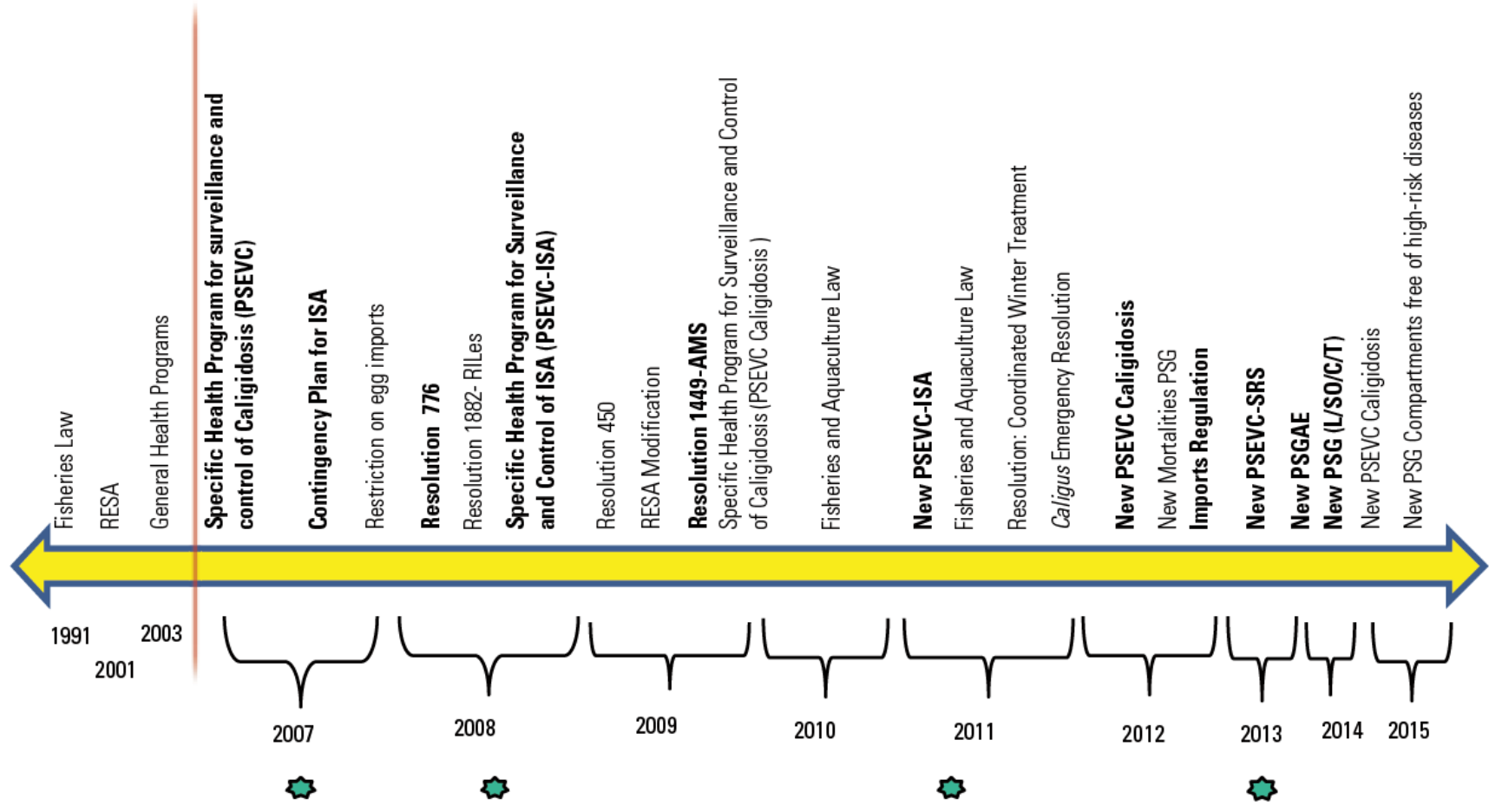
CERES
B C V
SERVICIOS DE BIOSEGURIDAD
Y CALIDAD ALIMENTARIA



RES. 2638/2008

RES. 1577/2011

RES. 3610/2019



AMS: health management areas
ISA: infectious salmon anaemia

PSEVC: Specific Health Surveillance and Control Program
PSG: General Health Program

PSGAE: General Sanitary Program of Influent and Effluents
RESA: Sanitary regulations

RILes: liquid industrial waste

Sorce: A. Gallardo Lagno*, M. Lara, A. Gaete & K. Montecinos (2019)

PHASE	REGULATION	YEAR	REGULATION	TYPE OF PROGRAM
PRE-ISA	D.S. 319/2001	2001	Measures of protection, control and eradication of high risk diseases	General
	RES.EX. 61/2003	2003	Approves Active Surveillance Program for High-Risk Diseases (EAR) in Farmed Fish	General
	RES. 65/2003	2003	Salmon eggs Disinfection General Health Program	General
	RES. 72/2003	2003	Cleaning and Disinfection General Health Program	General
OUTBREAK	RES. 2638/2008	2008	Establish the Specific Sanitary Program for the Surveillance and Control of Infectious Salmon Anemia (PSEC-ISA)	Specific
RESOLUTION	RES.EX. 1577/2011	2011	Establishes the Specific Health Program for Surveillance and Control of Infectious Salmon Anemia (PSEVC-ISA) and replace previous regulation	Specific
	RES.EX. 3610/2019	2019	Modify RES.EX. 61/2003, 1577/2011, 3174/2012 and 13/2015 (EAR, ISA, SRS, caligidosis), all of SERNAPESCA	Specific

OBJECTIVE

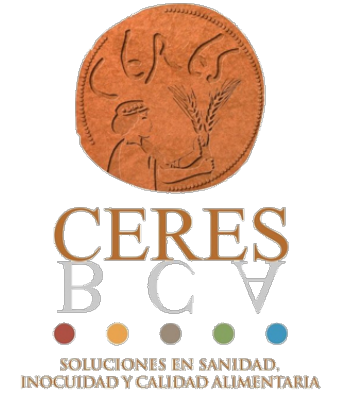
Evaluate the economic impact of the Specific Health Program for the Surveillance and Control of ISA in Chile

PARTNERS

SERNAPESCA
CERES BCA
GBADs
University of Liverpool

DURATION

PHASE 1: One year



GBADs

METHODOLOGY

- ❖ Identification and evaluation of:
 - Losses
 - Public and Private expenditure
 - Wider impacts (Exports, environment, labour)
 - Costs of disease prevention
- ❖ Sources of Information:
 - SERNAPESCA's SIFA database → Collaboration Agreement
 - Interviews for producers

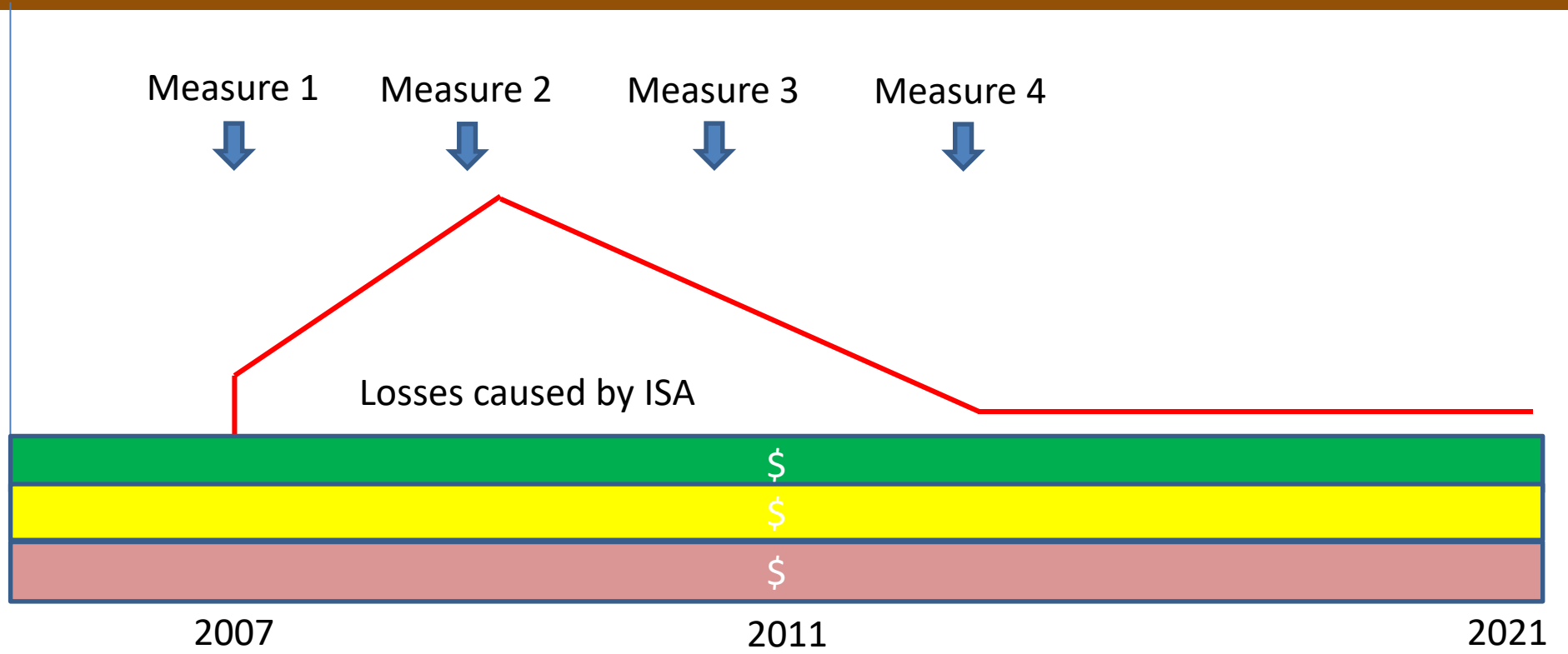
POPULATION

All Atlantic Salmon production sea sites at national level, from **2004 (at least) to 2021.**

PROGRAMS IN EVALUATION

- Specific Health Program for the Surveillance and Control of ISA (RES. 2638/2008 & RES.EX. 1577/2011)
- General Programs for prevention and control of diseases





Wider Impacts



Pre-ISA (3 years, 2004-2007)

Outbreak peak and first
measures (2007-2011)

Resolution (2011-2021)

Sea Site Model (With
and Without ISA)

Sea Site Model (With
and Without ISA)

Sea Site Model (With
and Without ISA)

Population at risk

Mortality (General, Diseases and ISA)
Cycle duration
Other parameters

Expenditures in ISA prevention
and costs

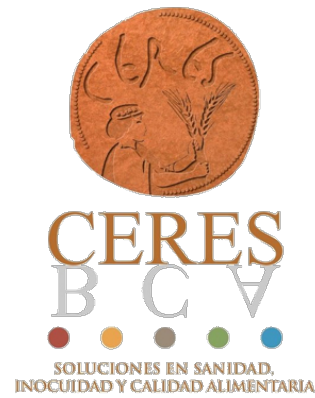
Public
Data

Private
data

Public Expenditures

Some challenges

1. “Re-create” the past
2. Disaggregate the costs and losses attributed to ISA
 1. → Classification of mortalities → misleading causes
3. Disaggregate the costs of prevention from costs of control
4. Access to private information of sanitary costs and costs of production
5. Capacity building at Veterinary Service
6. Be useful for decision making process



Team:

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