Access2Sea: New Opportunities for More Competitive and Sustainable Blue Growth in the Atlantic Zone

Dr. Sara Barrento
Swansea University
Centre for Sustainable Aquatic Research

Application of Sensors in Precision Aquaculture

25 May 2021

Access2Sea aims

to improve the availability of the Atlantic shore for aquaculture SMEs

Partners

UNITED KINGDOM

- **Swansea University|Centre for Sustainable Aquatic Research**

IRELAND

- **Udarás na Gaeltachta (Agencia de Desarrollo)**
- **WestBIC**

SPAIN

- **CEEI Bahía de Cádiz (Lead Partner)**
- **CTAQUA**

PORTUGAL

- **CIIMAR – Marine and Enviromental Research**
- **Centre of the University of Porto**
- **Universidad de Algarve**

FRANCE

- **Investir en Finistère**
- **Technopole Quimper - Cornuaille**

Access2Sea Products

An opportunities map for aquaculture in the "Access2Sea" Atlantic Coastal Region.

SPATIAL PLANNING

SOCIAL ACCEPTABILITY

A Strategy to improve the acceptability of aquaculture

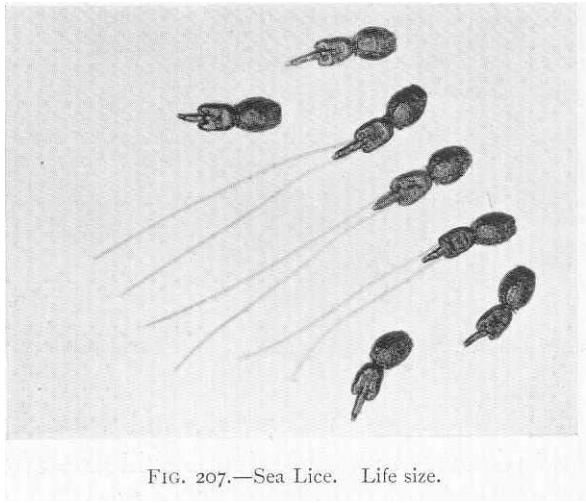
Business Model Guides and roadmap

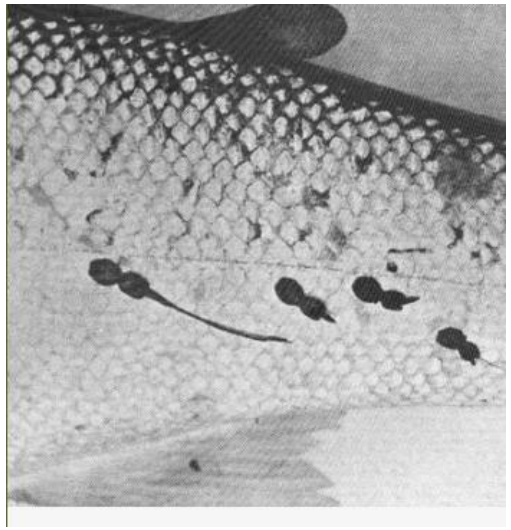
BUSINESS MODELS

PILOT PROJECTS

Lumpfish Welfare Tools

Every year the salmon industry needs 50 million lumpfish to clean salmon off sea lice





Sealice are external parasites that feed on the skin and mucus of the Atlantic salmon

Sea lice impact salmon

- **Growth**
- **Health**
- **Welfare**

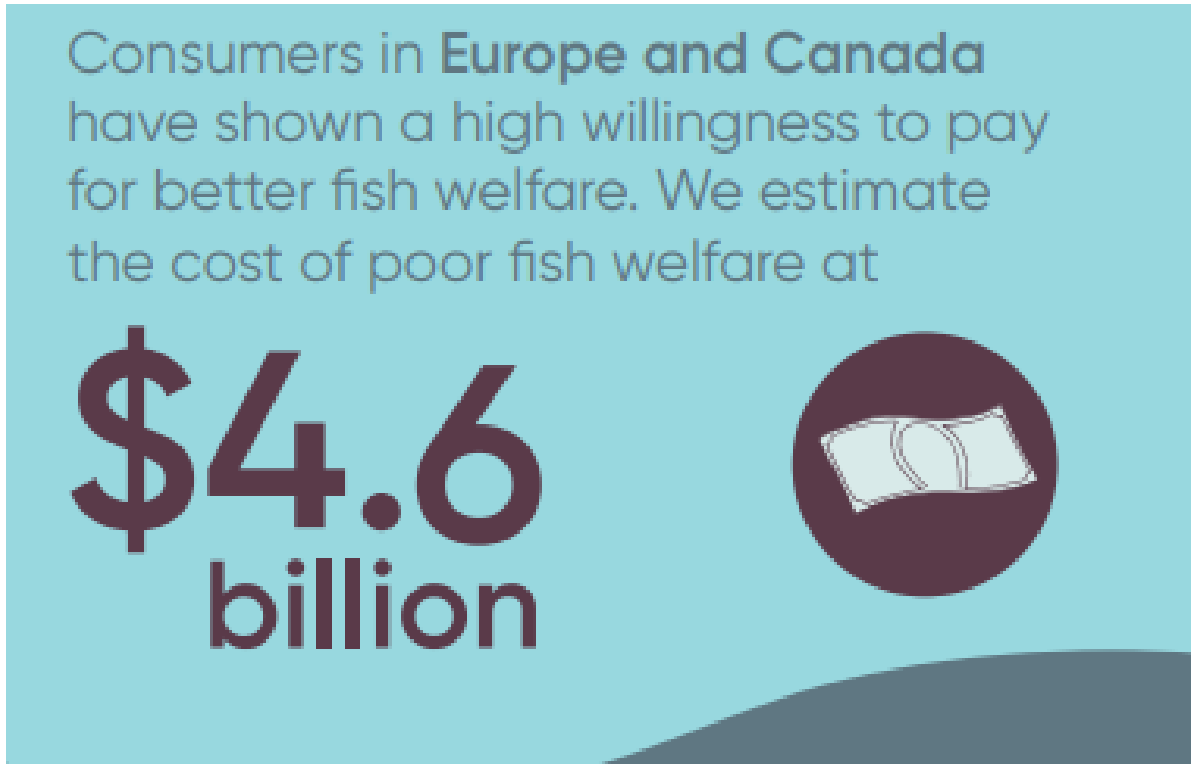
Studies suggest that lumpfish can reduce the use of anti-sea lice drugs by 80%

BUT

The salmon farming industry has been criticized for not doing enough to maintain the welfare of lumpfish.

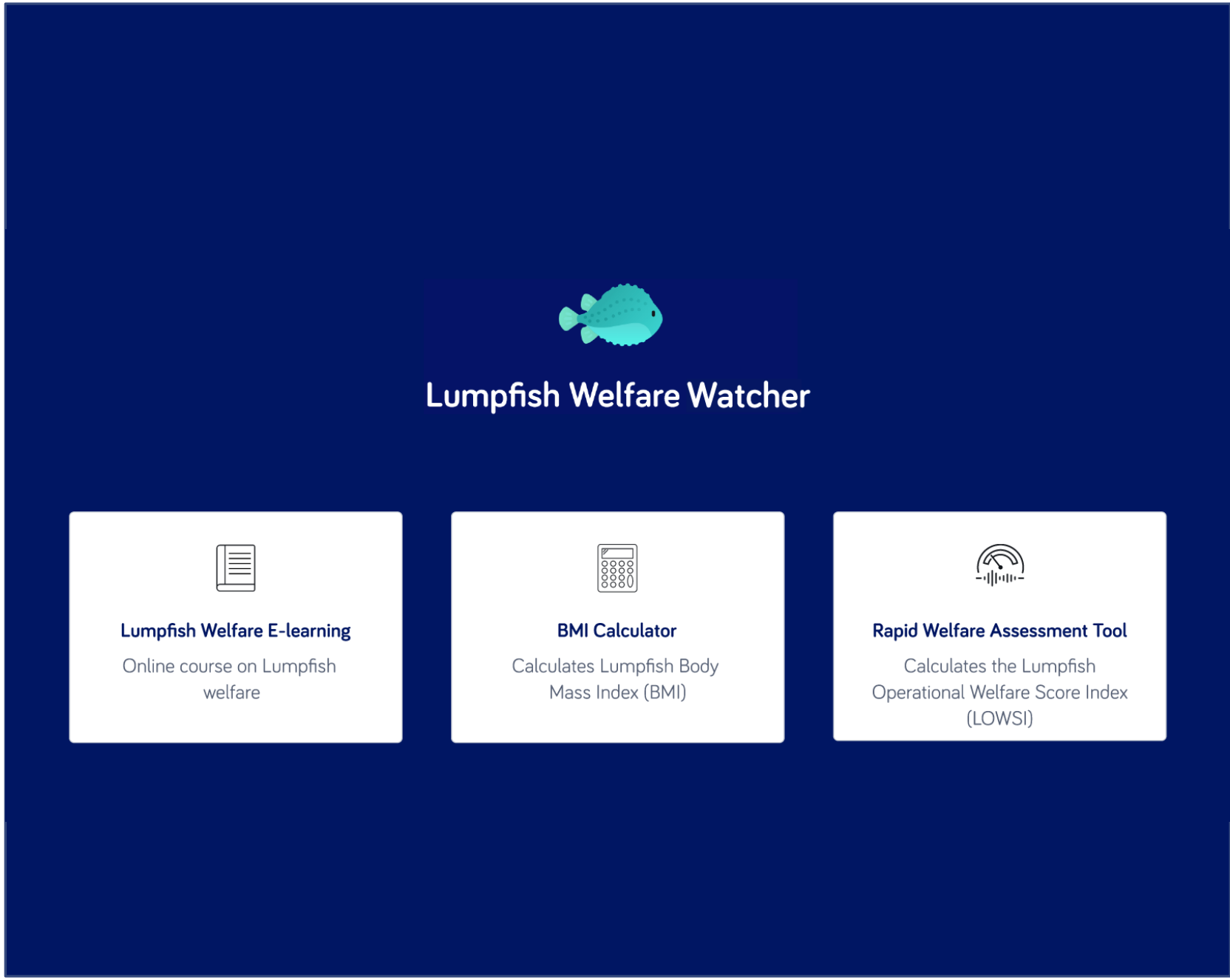
Concern among consumers prompted pressure groups to **discourage the use of cleaner fish until welfare standards are met**.

Lumpfish welfare
driving fish aquaculture social acceptability



Solutions

SU is developing technology to improve welfare practices. Fish farmers will be able to monitor and record the welfare of lumpfish and take remedial actions.



Lumpfish Welfare Tracker

Data analyses and support decision

Data

- BMI
- body height
- weight class
- fineness
- LOWSI

Summary results and welfare plan:

- Proportion of fish that are emaciated, underweight, normal or overfed
- Maximum mesh size that should be used to prevent lumpfish from escaping from sea cages
- Basic statistics descriptors
- Remedial actions

Thank you

Dr Sara Barrento
s.i.barrento@swansea.ac.uk