“An approach to assuring sustainable aquaculture and its position with the consumer ”

consensus

SUSTAINABLE AQUACULTURE IN EUROPE

"Our farm is 100 hectares and shelters migrating birds and protected animal species". Carp production is one of our activities, but we have others.

Sustainability is about safeguarding our water heritage through management of these ponds, which have been here for 800 years".

Photo courtesy: L. Varadi

Photo courtesy: F. Vidal

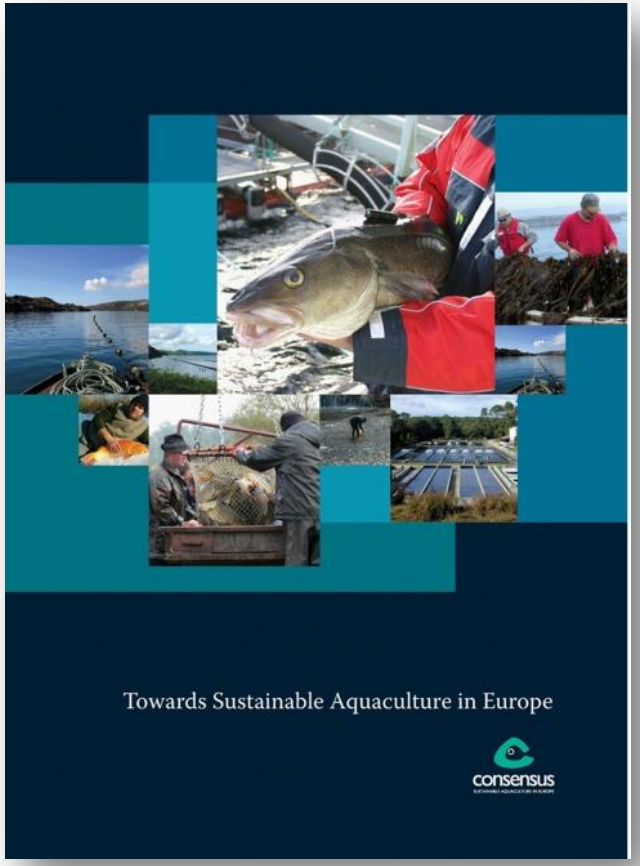
Photo source: Fish Farming Xpert – Oct07

"To me, sustainability is about handing on my business to my son/daughter"

Photo courtesy: V. Vassvik

CONSENSUS strategic objective

« to provide and demonstrate to consumers the benefits of high quality, safe and nutritious farmed fish and shellfish grown in sustainable conditions »



Leading CONSENSUS stakeholders

European Consumers Organisation (BEUC)

TEST ACHATS (Euroconsumers)

European Bureau for Conservation Development (EBCD)

Federation of European Aquaculture Producers (FEAP)

European Mollusc Producers Association (EMPA)

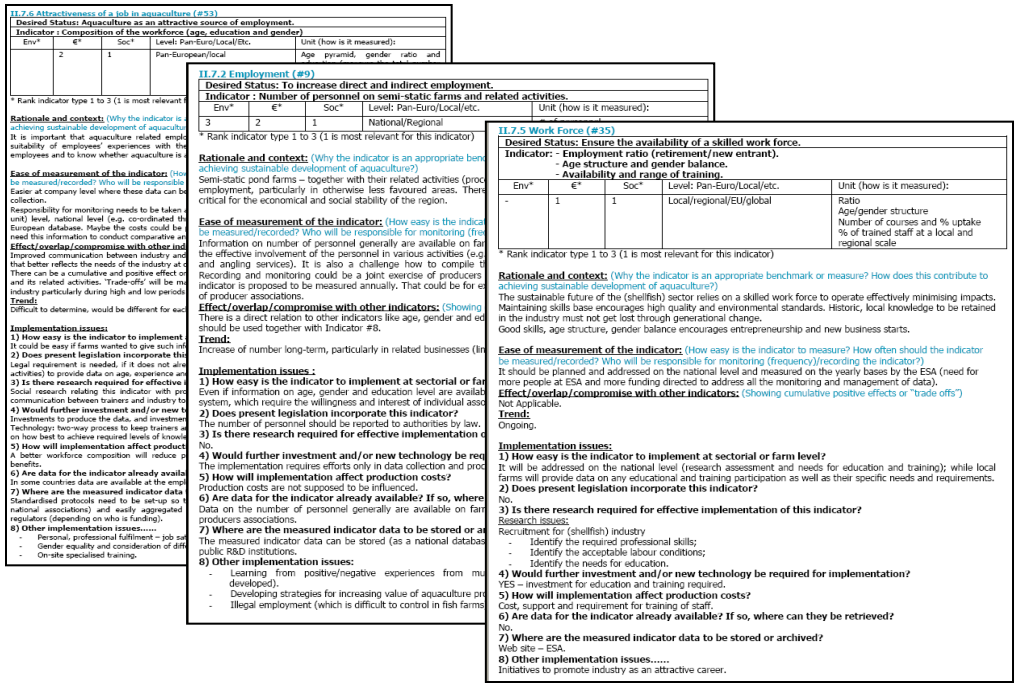
European Feed Manufacturers' Assocation (FEFAC)

Coordinated by the European Aquaculture Society

Main outputs

- **Trends and indicators for sustainable development**
  - **78 supporting indicators** (under 8 themes) agreed by 120 stakeholders from 16 countries;
  - **25 indicators contributing to Codes of Best Practice** at national or species level;
  - **30 indicators for benchmarking** of the sector, with a potential use in European standards;
  - A new, updated **Code of Conduct** for the European Finfish sector
- **Balanced information for consumers**
  - Tested **consumer messages** on aquaculture sustainability;
  - **Information brochure** targeted at the 40 member organisations of the European Consumers' Organisation (BEUC) and the Euroconsumers network;
  - **Website**, specifically for non expert visitors.

Measuring the path towards sustainability by indicators



II.7.6 Attractiveness of a job in aquaculture (#53)

Desired Status: Aquaculture as an attractive source of employment.

Indicator : Composition of the workforce (age, education and gender)

Env*	€*	Soc*	Level: Pan-Euro/Local/Etc.	Unit (how is it measured):
	2	1	Pan-European/local	Age pyramid, gender ratio and

* Rank indicator type 1 to 3 (1 is most relevant f

Rationale and context: (Why the indicator is a achieving sustainable development of aquacultur

It is important that aquaculture related emplo suitability of employees' experiences with the employees and to know whether aquaculture is a

Ease of measurement of the indicator: (Ho be measured/recorded? Who will be responsible

Easier at company level where these data can be collection.

Responsibility for monitoring needs to be taken unit) level, national level (e.g. co-ordinated th European database. Maybe the costs could be need this information to conduct comparative an

Effect/overlap/compromise with other ind

Improved communication between industry and that better reflects the needs of the industry at There can be a cumulative and positive effect on and its related activities. Trade-offs' will be mu industry particularly during high and low periods

Trend:

Difficult to determine, would be different for eac

Implementation issues:

1) How easy is the indicator to implement

It could be easy if farms wanted to give such inf

2) Does present legislation incorporate this

Legal requirement is needed, if it does not alre activities) to provide data on age, experience an

3) Is there research required for effective i

Social research relating this indicator with pro communication between trainers and industry to

4) Would further investment and/or new t

Investments to produce the data, and investmen

Technology: two-way process to keep trainers a on how best to achieve required levels of knowle

5) How will implementation affect product

A better workforce composition will reduce p benefits.

6) Are data for the indicator already availa

In some countries data are available at the empl

7) Where are the measured indicator data

Standardised protocols need to be set-up so t national associations) and easily aggregated regulators (depending on who is funding).

8) Other implementation issues.....

- Personal, professional fulfilment – job sat
- Gender equality and consideration of diff
- On-site specialised training.

II.7.2 Employment (#9)

Desired Status: To increase direct and indirect employment.

Indicator : Number of personnel on semi-static farms and related activities.

Env*	€*	Soc*	Level: Pan-Euro/Local/etc.	Unit (how is it measured):
3	2	1	National/Regional	

* Rank indicator type 1 to 3 (1 is most relevant for this indicator)

Rationale and context: (Why the indicator is an appropriate benc achieving sustainable development of aquaculture?)

Semi-static pond farms – together with their related activities (proc employment, particularly in otherwise less favoured areas. There critical for the economical and social stability of the region.

Ease of measurement of the indicator: (How easy is the indicat be measured/recorded? Who will be responsible for monitoring (fre

Information on number of personnel generally are available on far the effective involvement of the personnel in various activities (e.g and angling services). It is also a challenge how to compile t Recording and monitoring could be a joint exercise of producers indicator is proposed to be measured annually. That could be for e of producer association.

Effect/overlap/compromise with other indicators: (Showing There is a direct relation to other indicators like age, gender and ed should be used together with Indicator #8.

Trend:

Increase of number long-term, particularly in related businesses (lin

Implementation issues :

1) How easy is the indicator to implement at sectorial or far

Even if information on age, gender and education level are availab system, which require the willingness and interest of individual asso

2) Does present legislation incorporate this indicator?

The number of personnel should be reported to authorities by law.

3) Is there research required for effective implementation o

No.

4) Would further investment and/or new technology be req

The implementation requires efforts only in data collection and proc

5) How will implementation affect production costs?

Production costs are not supposed to be influenced.

6) Are data for the indicator already available? If so, where

Data on the number of personnel generally are available on far producers associations.

7) Where are the measured indicator data to be stored or a

The measured indicator data can be stored (as a national databas public R&D institutions.

8) Other implementation issues:

- Learning from positive/negative experiences from mu developed).
- Developing strategies for increasing value of aquaculture pr
- Illegal employment (which is difficult to control in fish farms

II.7.5 Work Force (#35)

Desired Status: Ensure the availability of a skilled work force.

Indicator: - Employment ratio (retirement/new entrant).
- Age structure and gender balance.
- Availability and range of training.

Env*	€*	Soc*	Level: Pan-Euro/Local/etc.	Unit (how is it measured):
-	1	1	Local/regional/EU/global	Ratio Age/gender structure Number of courses and % uptake % of trained staff at a local and regional scale

* Rank indicator type 1 to 3 (1 is most relevant for this indicator)

Rationale and context: (Why the indicator is an appropriate benchmark or measure? How does this contribute to achieving sustainable development of aquaculture?)

The sustainable future of the (shellfish) sector relies on a skilled work force to operate effectively minimising impacts. Maintaining skills base encourages high quality and environmental standards. Historic, local knowledge to be retained in the industry must not get lost through generational change.

Good skills, age structure, gender balance encourages entrepreneurship and new business starts.

Ease of measurement of the indicator: (How easy is the indicator to measure? How often should the indicator be measured/recorded? Who will be responsible for monitoring (frequency)/recording the indicator?)

It should be planned and addressed on the national level and measured on the yearly bases by the ESA (need for more people at ESA and more funding directed to address all the monitoring and management of data).

Effect/overlap/compromise with other indicators: (Showing cumulative positive effects or "trade offs")

Not Applicable.

Trend:

Ongoing.

Implementation issues:

1) How easy is the indicator to implement at sectorial or farm level?

It will be addressed on the national level (research assessment and needs for education and training); while local farms will provide data on any educational and training participation as well as their specific needs and requirements.

2) Does present legislation incorporate this indicator?

No.

3) Is there research required for effective implementation of this indicator?

Research issues:

Recruitment for (shellfish) industry

- Identify the required professional skills;
- Identify the acceptable labour conditions;
- Identify the needs for education.

4) Would further investment and/or new technology be required for implementation?

YES – investment for education and training required.

5) How will implementation affect production costs?

Cost, support and requirement for training of staff.

6) Are data for the indicator already available? If so, where can they be retrieved?

No.

7) Where are the measured indicator data to be stored or archived?

Web site – ESA.

8) Other implementation issues.....

Initiatives to promote industry as an attractive career.

LAND-BASED			MARINE	
				
SEMI-STATIC SYSTEM	**FLOW-THROUGH SYSTEMS**	**RECIRCULATING SYSTEMS**	**COASTAL SHELLFISH SYSTEMS**	**COASTAL FINFISH SYSTEMS**
Carp culture in Central and Eastern European countries. Culture of other freshwater species in extensive systems Wetland resource management and water use *Valliculture* in Italy	Trout culture in most European countries Other freshwater species in intensive systems (catfish, pike-perch, sturgeon). Freshwater and marine hatcheries. Land-based culture of marine species – turbot.	Freshwater and Marine hatcheries. Land-based culture of freshwater species – catfish, eel. Land-based culture of marine species – turbot, sole.	Mussel farming (Bottom culture, stake culture, suspended culture). Oyster farming (suspended culture, coastal lagoons Clam culture Seaweed farming	Cage culture of salmonids (salmon and trout). Cage culture of marine species, including sea bass, sea bream, cod and tuna.
INTEGRATED AQUACULTURE				

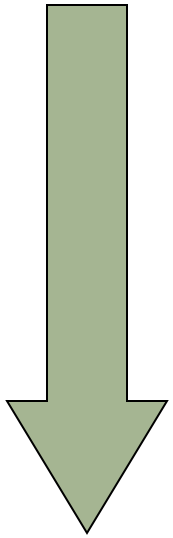
Special CONSENSUS groups

- Post-harvest operations
- Consumers

« stakeholder involvement is based upon the belief that expertise does not lie solely with professionals ».

Source: Davis et al. 2002. University of California, Davis

Involvement by tasks



CONCEPTION, education, information

FEEDBACK & views

DISCUSSION with two-way dialogue

ENGAGEMENT on (complex) issues

PARTICIPATION in implementation

Source: Health Canada (2000)

Involvement by levels

Within the CONSENSUS consortium:

- Platform Steering Committee
- Protocol Drafting Committee
- Industry Committee
- NGO Consultation Group
- Working Groups

Partners' networks

Who's missing?

- Who didn't we invite?
- Who couldn't come?
- Who wanted to come, but didn't get invited?
- Who got invited, but didn't want to come?

How do we get them involved?

Non-participation

Selected (identified) stakeholders

- It's not my subject
- I'm not sufficiently informed to participate
- I don't want to look like a fool

Non-selected (identified) stakeholders

- I wasn't asked
- How can I have my say?
- This initiative is flawed

CONSENSUS workshops

consensus
SUSTAINABLE AQUACULTURE IN EUROPE

Pre-workshop position papers, briefings, daily objectives, group work, monitoring, panel discussions and wrap-up sessions

desired trends – then indicators

- **Economic viability**
  - Continuous product supply
  - Decrease the proportion of production costs in total operating cost
- **Resource use**
  - Ensure the availability of good quality water
  - Sustainable supply of juveniles
- **Health management**
  - Improve health status of farms
  - Optimise fish welfare
- **Biodiversity**
  - Increased biodiversity around/on farms
  - Minimise the negative impact of aquaculture on wild fish populations

Implementation aspects

- Easy of measurement
- Frequency of measurement
- Responsibility for monitoring/recording

Farm level – as 'normal practice'
Farm level – new needs
Local or regional level
National level
European level

- Data recording
- Data storage
- Data availability and access

- Current tools/legislation
- New tools/legislation
- New research
- New technology

‘master list’ of indicators

Number of Indicators			
	FISH	**SHELLFISH**	**Total**
Economic viability	12	3	15
Public image	12	3	15
Resource Use	8	2	10
Health management	9	0	9
Environmental standards	5	3	8
Human resources	6	1	7
Sectoral issues	2	4	6
Biodiversity	4	1	5
Packaging & transport	2	1	3
Total	**60**	**18**	**78**

consultation

- **Through industry**
  - Finfish producers (FEAP) - preparation of CoC
  - Shellfish producers (EMPA)
  - Feed manufacturers (FEFAC)
  - Broader aquaculture sector (meetings & events)
- **Through the public**
  - Environmental and conservation NGOs (EBCD)
  - European Parliament hearings
  - Consumer organisations (TEST ACHATS/Euroconsumers)
  - The wider public – “Have your say”

Indicators for Best Practice

- Where the indicator would be **measured** (on farm, local or national and European levels)
- Whether the indicator is an **existing legal requirement**
- Whether the indicator represents **personal/confidential** information
- Whether the indicator can be considered **integral to good practice**

Indicator reduction (25)

Point of Measure

27 indicators on-farm; 1 local; 26 National and 14 European.

Existing legal requirement

11 required legally; 5 partially required and 52 not required.

Personal or Confidential Information

7 indicators – each related to financial considerations

Integral to Good Practice

43 indicators reflect good practice

Reduced to 25 when overlapping indicators were consolidated

On-farm measured good practice related to 17 indicators

Indicators for benchmarks

- Which indicators reflect **effective components of a European standard for the measurement of actions** relevant to responsibility/sustainability within European fish farming?

- How are selected indicators measured, **on a repetitive and a comparative basis**, and transformation of these into protocols for adoption?

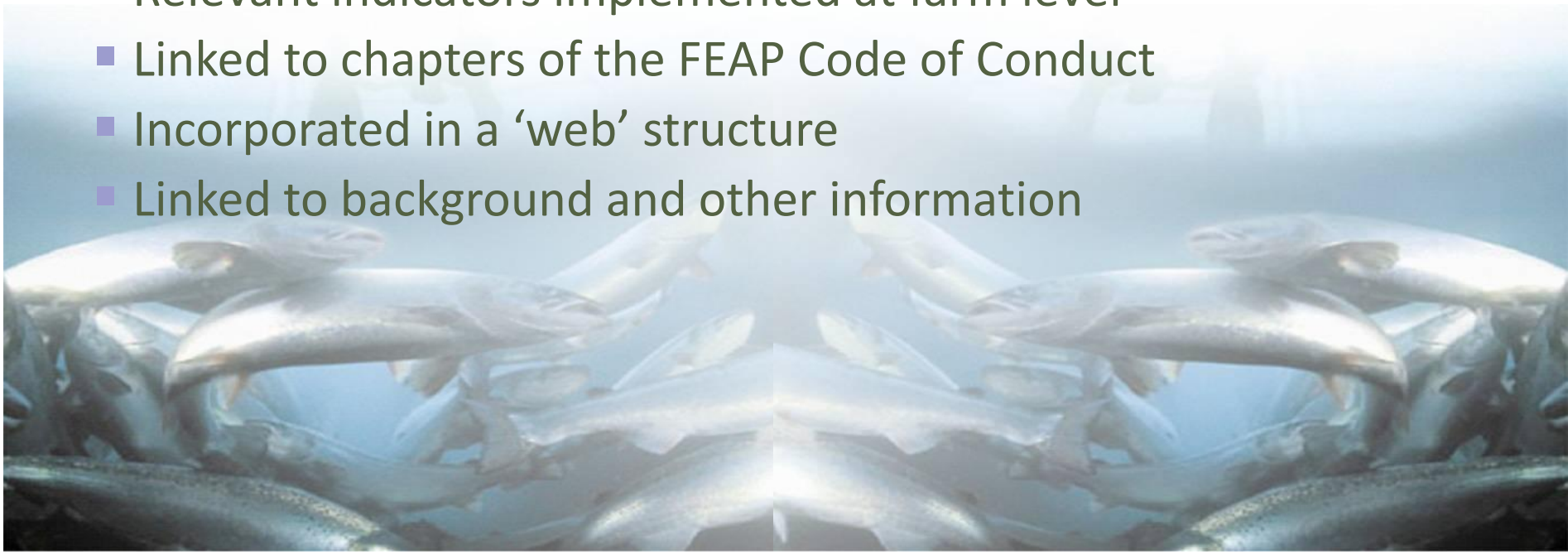
- What are the **measurable benchmark positions** from which certifying agencies are able to make unequivocal judgement?

indicator reduction (30)

- Biodiversity (3)
  - species index, polyculture, escapes
- Economic viability (5)
  - diversification, investments
- Environmental standards (2)
  - site selection, monitoring
- Governance (3)
  - BEP, best use of sites
- Sectoral issues (1)
  - reliable sector data
- Health & welfare (4)
  - fish welfare index
- Human resources (3)
  - age, gender, education, training
- Public image (5)
  - promotion, visitors, certification progammes, demand
- Resource use (4)
  - feeds, energy, juvenile supply

FEAP Code of Conduct

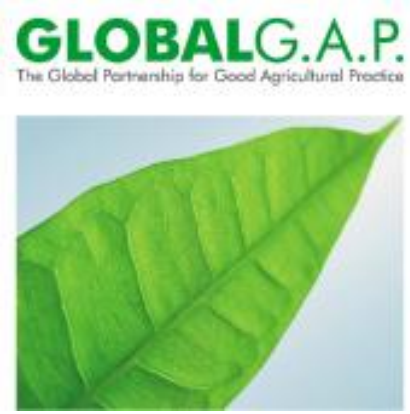
- Relevant indicators implemented at farm level
- Linked to chapters of the FEAP Code of Conduct
- Incorporated in a ‘web’ structure
- Linked to background and other information



See www.euraquaculture.info

Sharing…

Guidelines for Aquaculture Certification



Integrated Farm Assurance Standard

Aquaculture Dialogues

consumer partners

European Consumers Organisation (BEUC)

www.beuc.eu

Test Achats (Euroconsumers)

Euroconsumers

www.test-achats.be

to deliver balanced messages about aquaculture

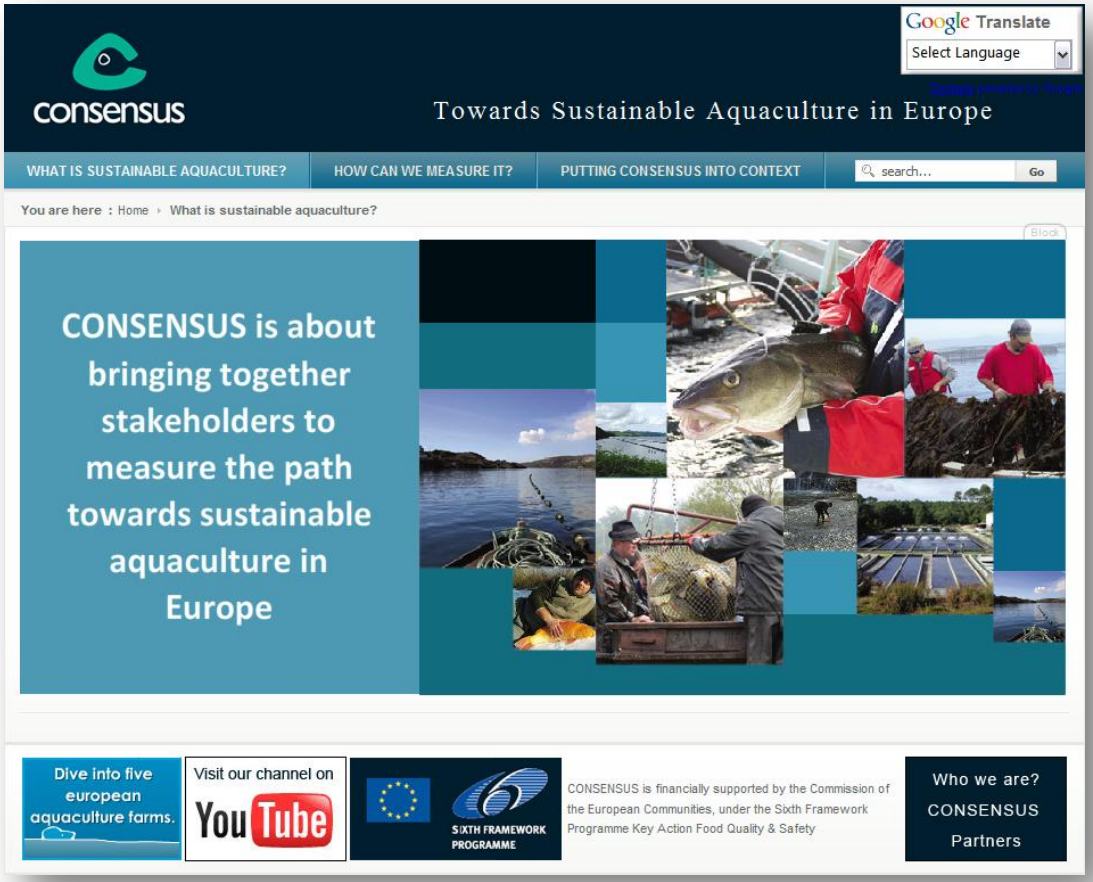
consumer articles

- Implementation of the EC Labelling Directive;
- Contaminants in farmed fish products;
- Food claims regarding Omega-3;
- The (lack of) differences between wild and cultured fish.

CORE messages

- We are all faced with a conundrum: health experts tell us to eat *more* seafood; environmentalists tell us to eat *less*.
- Aquaculture provides fresh, healthy *and* sustainable seafood.
- Aquaculture can bridge the gap by demonstrating its sustainability.
- Research shows that the sector has already come a long way.

consensus



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