

Marine Harvest

Biological drivers to succeed
Oslo 9 June 2011



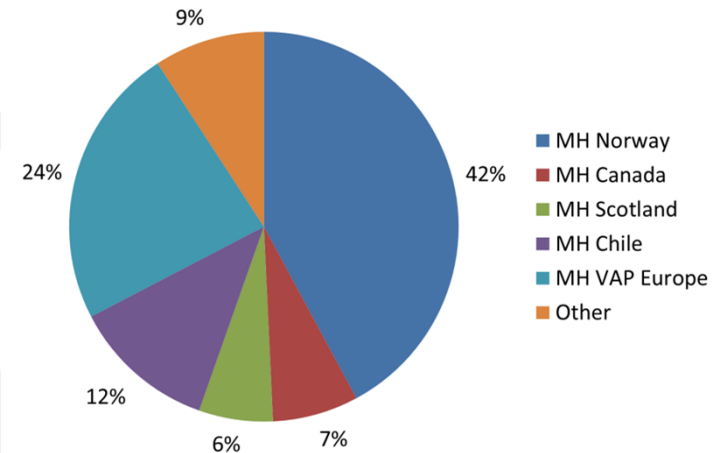
marineharvest
excellence in seafood



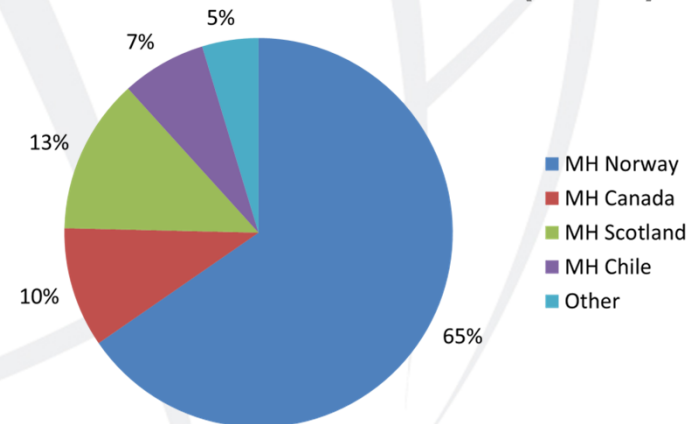
Marine Harvest at a glance

- Turnover NOK 15.2bn
- Salmon volume 296' tonnes (HOG)
- 5 000 employees
- Presence in 21 countries
- Global market share of ~25%
 - Farmed Atlantic Salmon
- Leading producer in:
 - Norway
 - Canada (West Coast)
 - Scotland
 - Chile
- Extensive value adding processing of convenient, healthy, natural and fresh salmon and other species
 - Europe (MH VAP)
 - USA , Chile
 - Japan

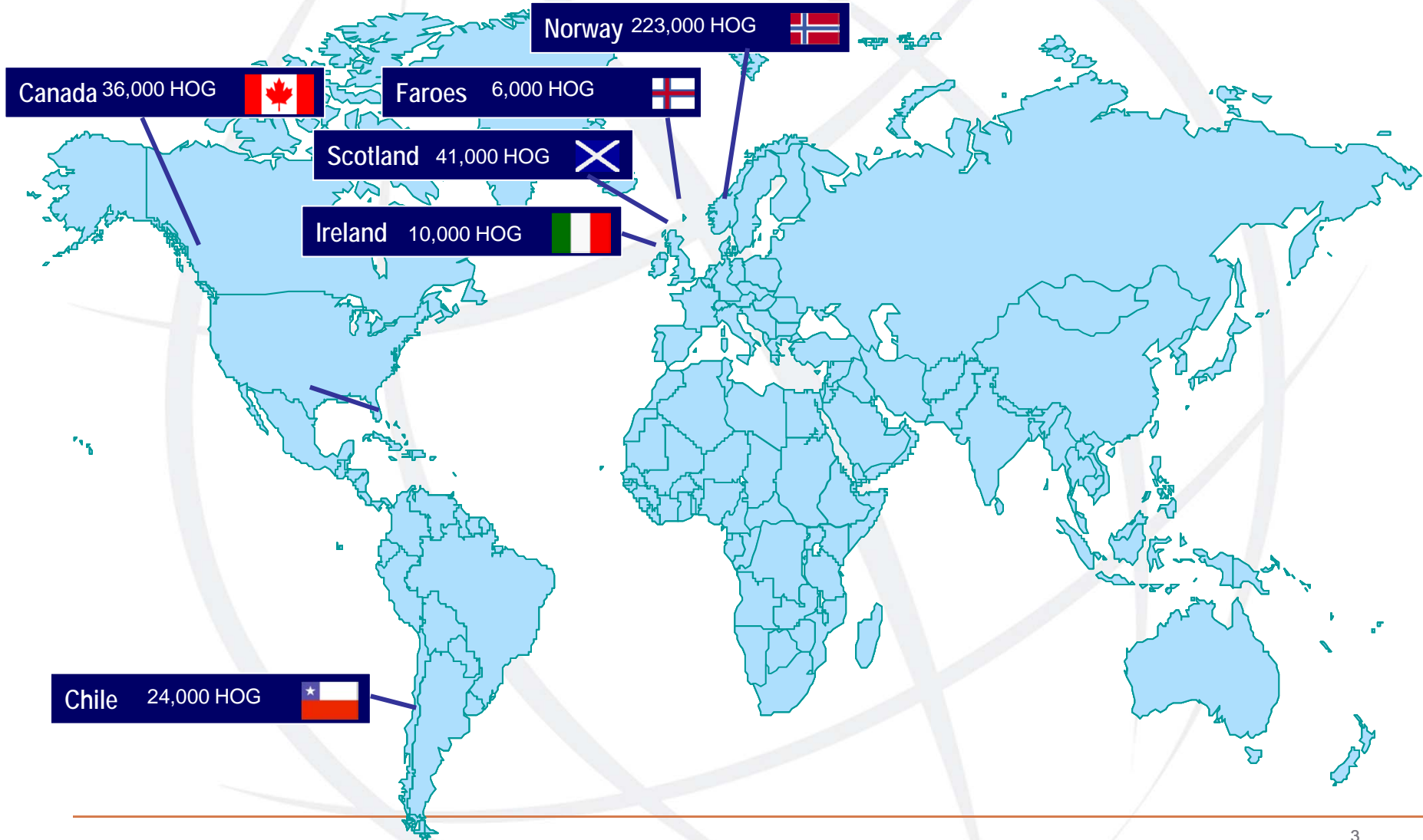
2010 Sales breakdown



Harvest volume 2011E (HOG)

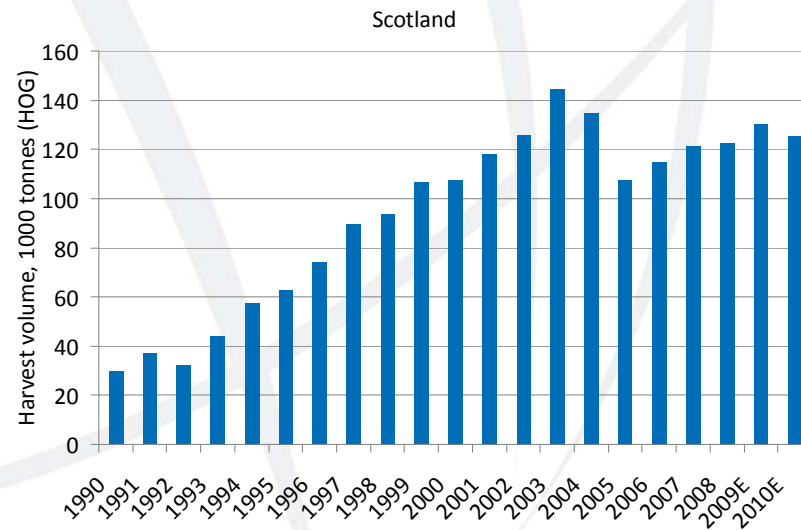
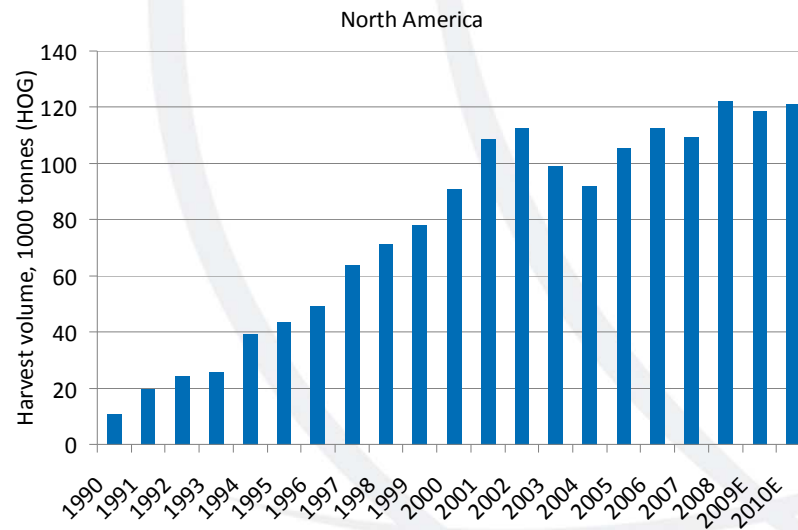
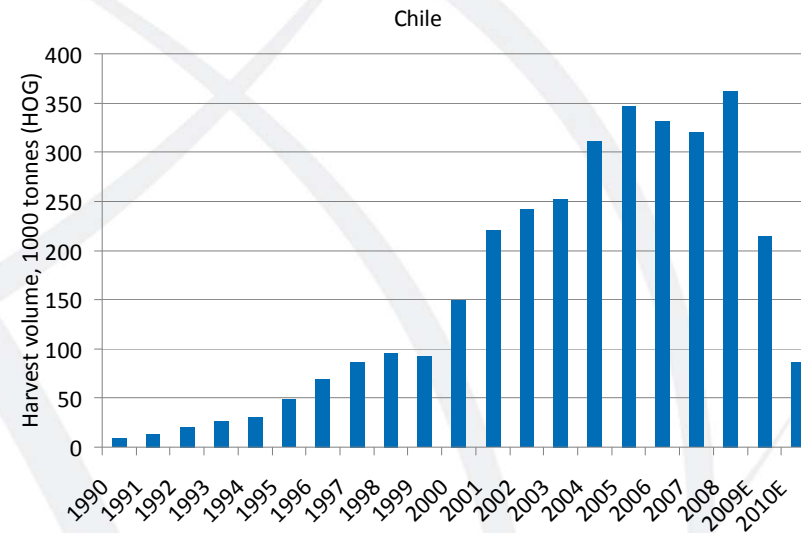
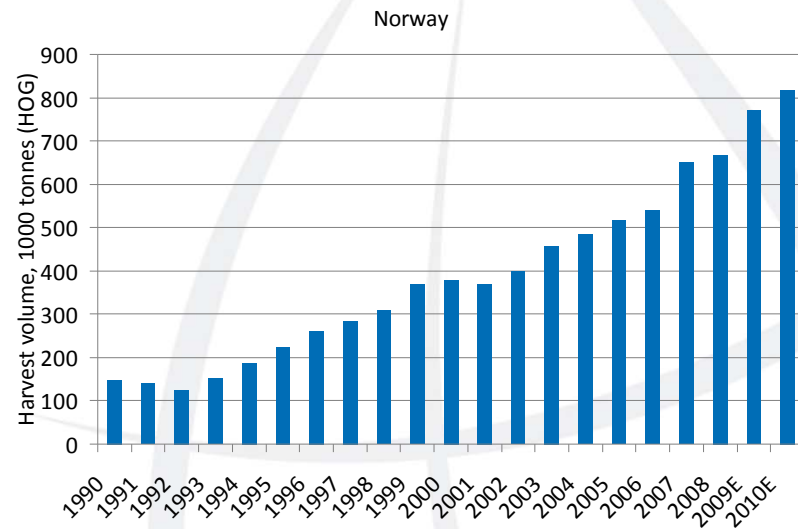


Marine Harvest - Global farming network 2011



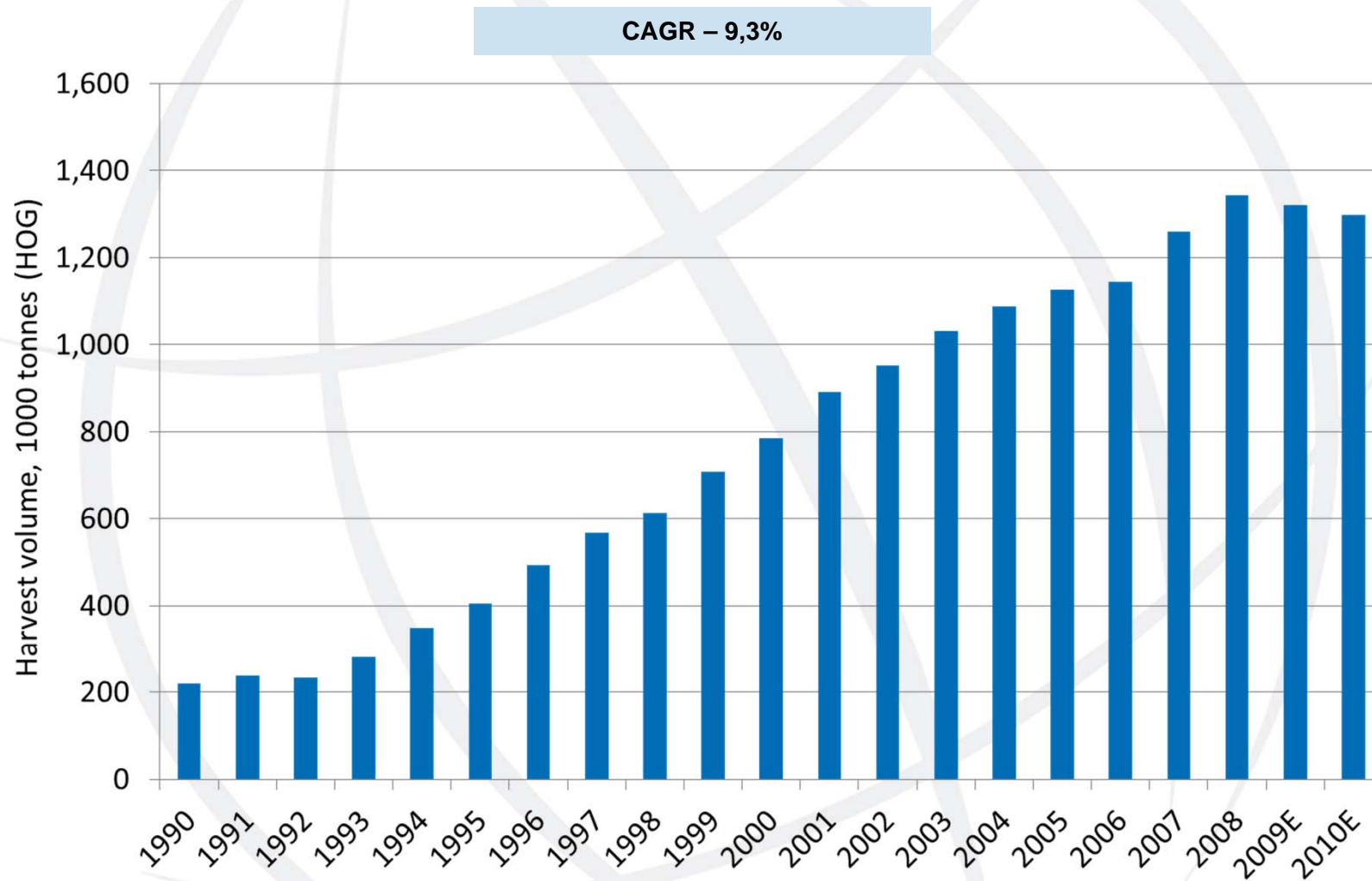


Development in industry volumes



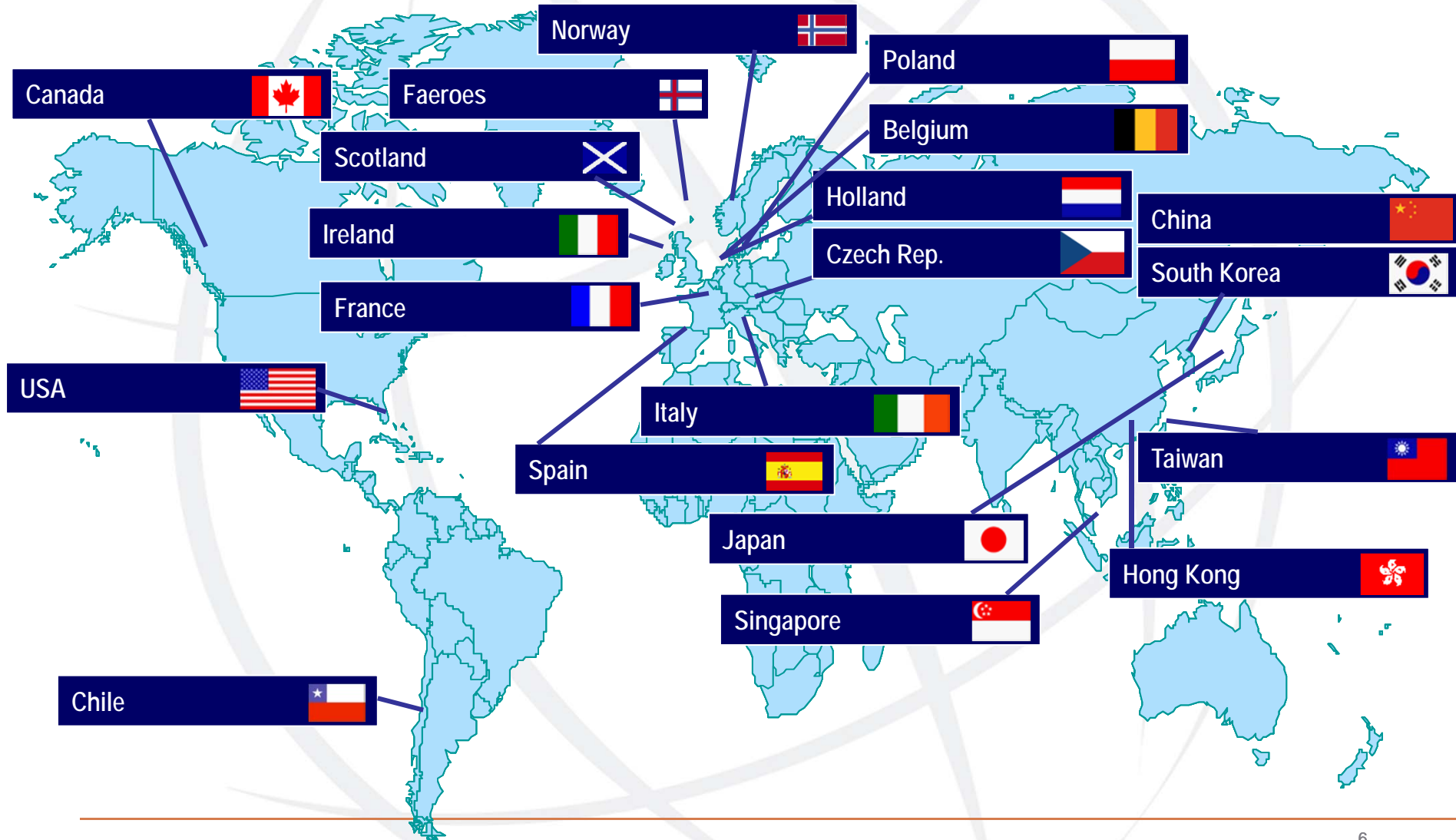


Strong industry growth since 1990



Note: Development in harvested volumes Source: Kontali Analyse

Marine Harvest - Global sales network





Global industry volumes by market

Markets	Estimated volumes		Compared to Q1 2010		12 months comparison	
	Q1 2011	Q1 2010	Volume	%	Volume	%
EU	146,300	152,200	-5,900 ↓	-3.9%	-27,900 ↓	-4.1%
USA	53,600	59,300	-5,700 ↓	-9.6%	-16,000 ↓	-6.6%
Russia	20,700	18,900	1,800 ↑	9.5%	16,200 ↑	21.5%
Japan	8,700	7,700	1,000 ↑	13.0%	-1,600 ↓	-4.9%
Brasil	7,500	9,300	-1,800 ↓	-19.4%	-12,300 ↓	-29.7%
China / Hong Kong	9,000	8,600	400 ↑	4.7%	200 ↑	0.5%
South Korea/Taiwan	6,700	5,000	1,700 ↑	34.0%	1,900 ↑	10.2%
Ukraina	4,000	3,700	300 ↑	8.1%	-1,100 ↓	-7.0%
Sum main markets	256,500	264,700	-8,200 ↓	-3.1%	-40,600 ↓	-3.5%
Other markets	46,400	41,500	4,900 ↑	11.8%	5,000 ↑	2.8%
Total all markets	302,900	306,200	-3,300 ↓	-1.1%	-35,600 ↓	-2.7%
Inflow to US from Europe	21,200	23,900	-2,700 ↓	-11.3%	62,400 ↑	187.4%
Inflow to EU from Chile	2,000	1,900	100 ↑	5.3%	-16,400 ↓	-63.1%

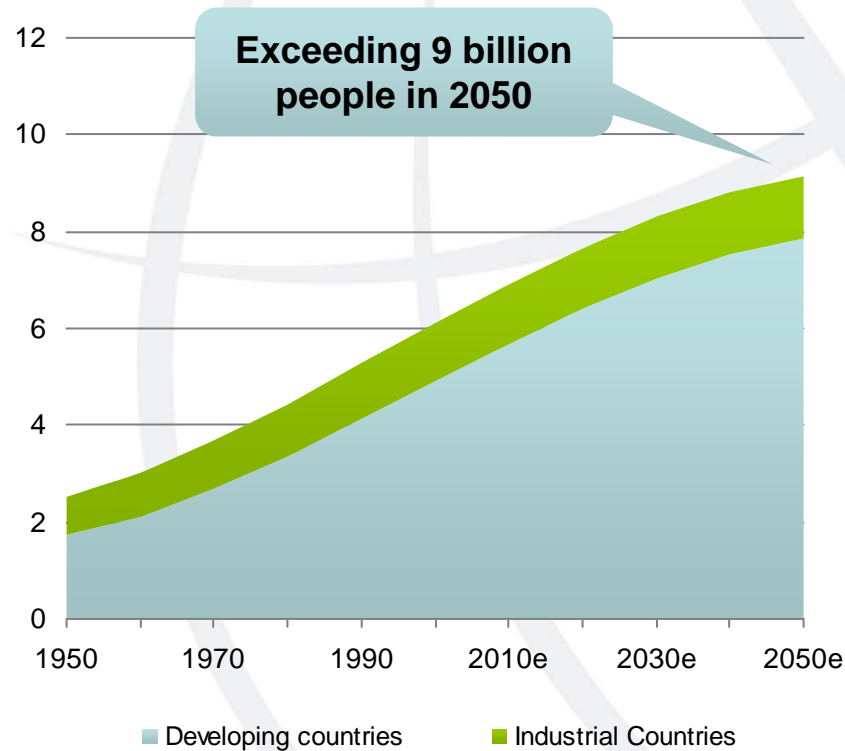
Source: Kontali

- Volume distribution to the markets still heavily impacted by supply situation in Chile
 - Volumes redirected away from the other producing regions' traditional core markets to compensate for Chile's shortfall
- Consumption in the EU reduced by ~4% in Q1 2011 and over the last 12 months
- Supply to the US and Brazilian markets impacted by continued low volumes from Chile
- Other market generally very competitive
 - Russia and Ukraina continues strong trend
 - Positive trend in Asia despite market disruption in China and earthquake related issues in Japan

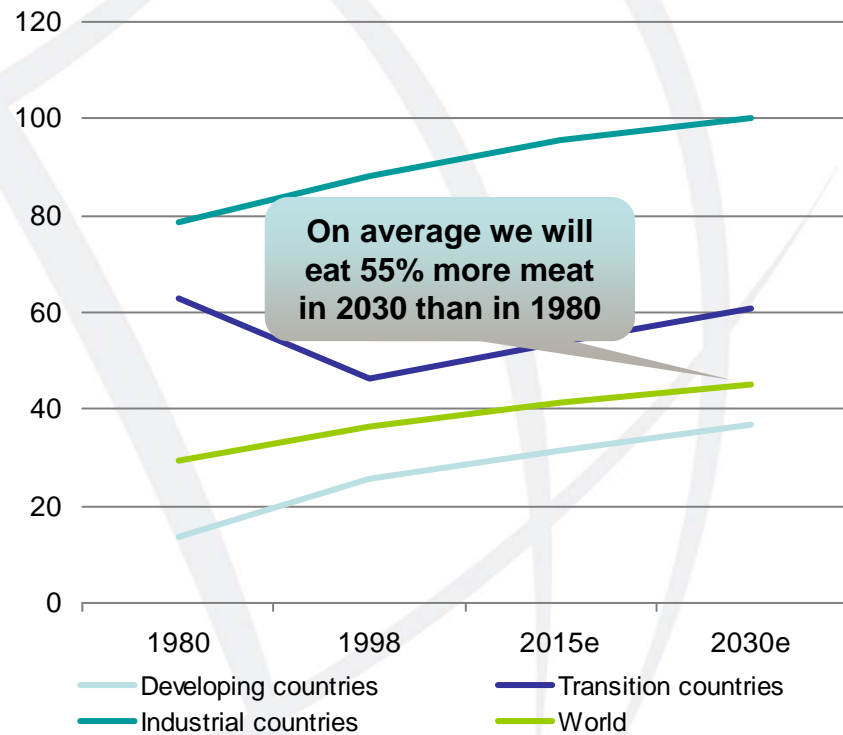
Notes: (1) Atlantic Salmon (HOG tons) (2) Difference between harvested and consumed volume due to changes in inventory

Fundamental global demand drivers

**More people:
World population growth**
In billions



**Everyone eating more protein:
Growth in meat consumption**
Kg per capita per year



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision, <http://esa.un.org/unpp>, Monday, October 05, 2009; 3:52:48 AM.

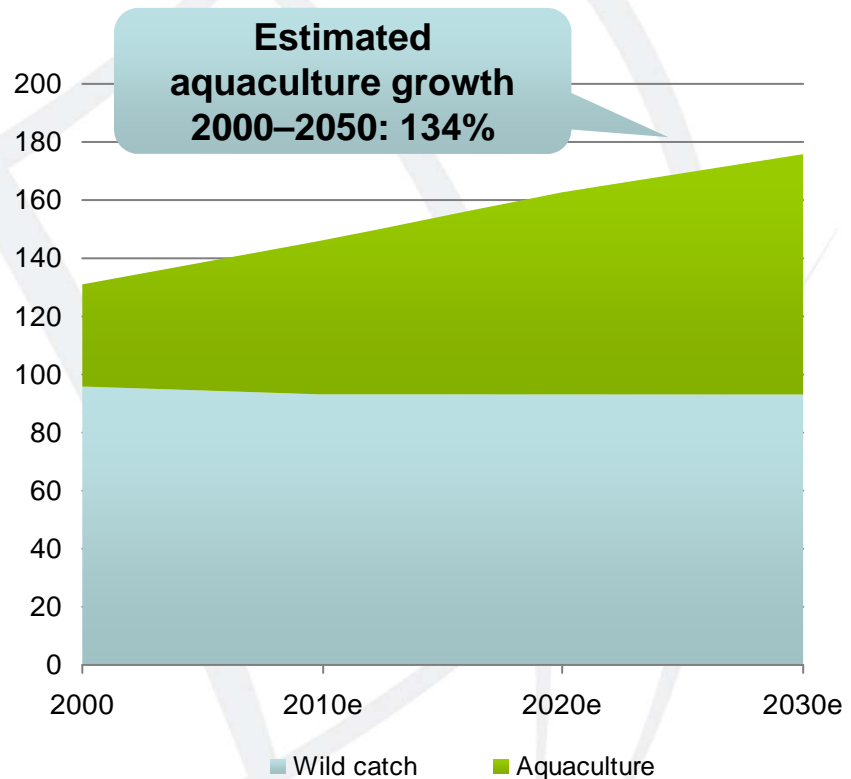
Source: FAO corporate document repository, <http://www.fao.org/docrep/004/y3557e/y3557e16.htm#a4>

And even stronger demand for seafood

"...dietary goals can be met by (...) ensuring a regular intake of fish (one to two times per week)."

World Health Organisation

Total seafood production
in million tonnes



Source: http://www.who.int/nutrition/topics/5_population_nutrient/en/index12.html

Source: <http://www.fao.org/docrep/009/A0699e/A0699E09.htm>

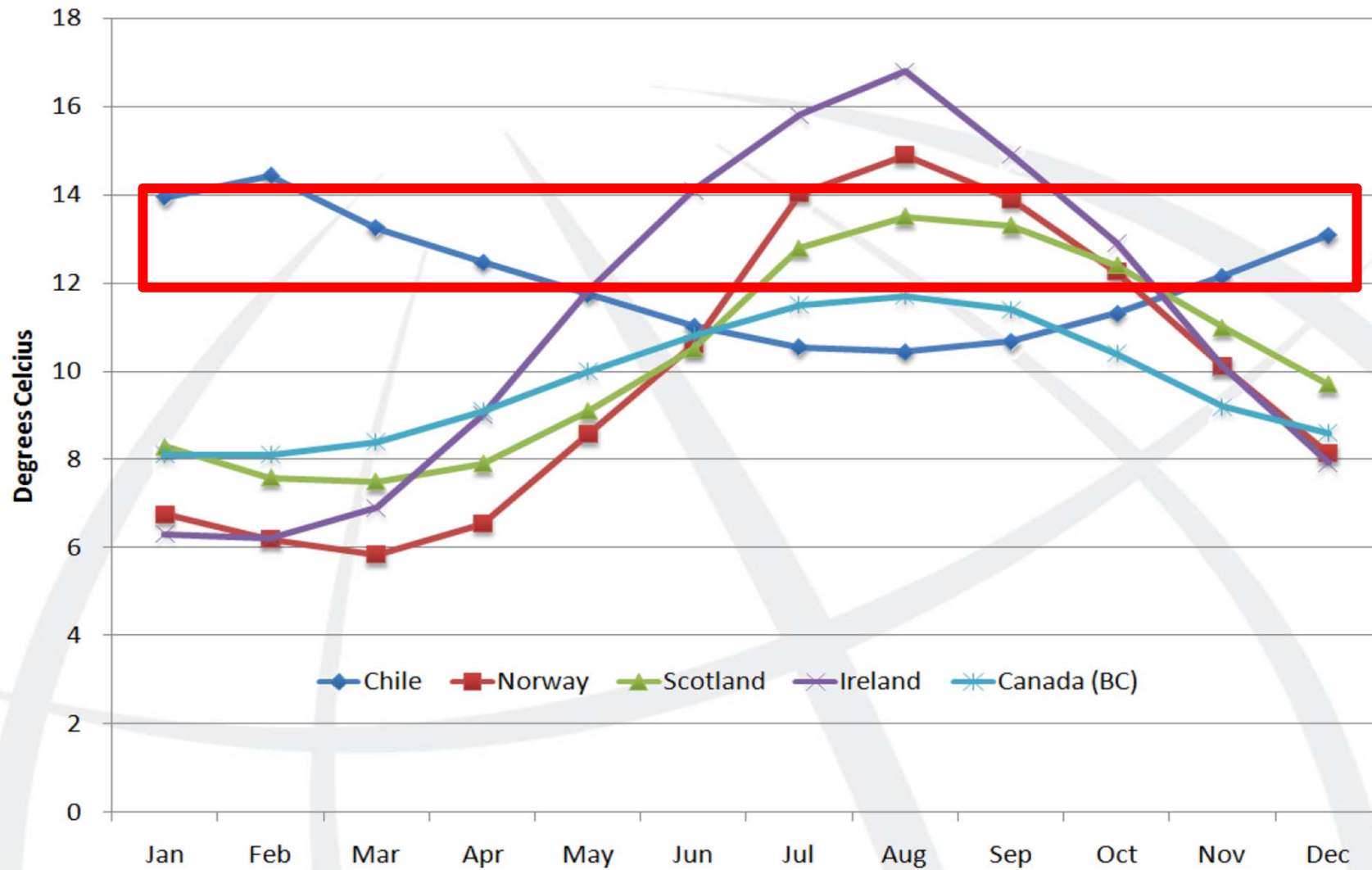
Biological drivers to succeed



Success in biology~financial success

- Dream scenario in salmon farming:
 - Low mortality < 10 percent per generation
 - Predictable growth and harvest volumes
 - Low feed conversion ratio
 - Acceptable environmental impact
- Resulting in a quality product to an increasing group of consumers
- How do we achieve this?

Fundamentals - Temperature



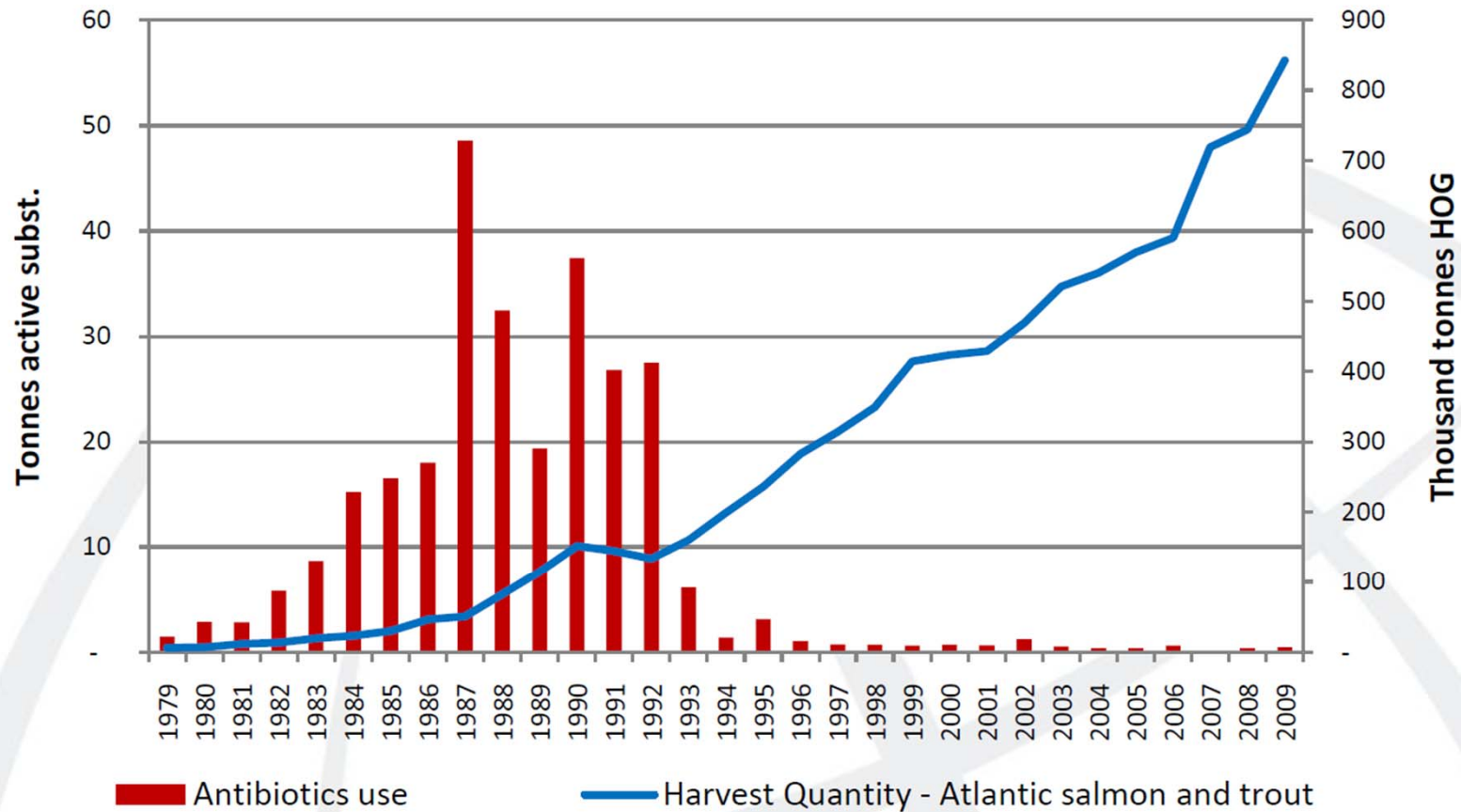
Fish health

- Survival impacted by many factors:
 - Genetic material
 - Smolt quality
 - Biosecurity management
 - Pathogenic pressure within site and between sites
 - Corrective action and equipment to deal with incidents

R&D together with single year class production



Vaccination and use of Antibiotics (Norway)

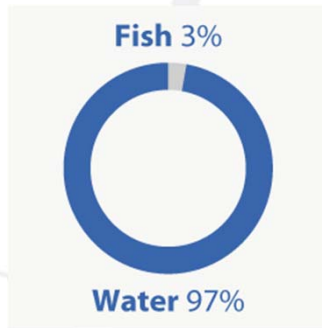


Source: Kontali Analyse, Norsk medisinaldepot, Folkehelseinstituttet



Healthy fish are happy fish

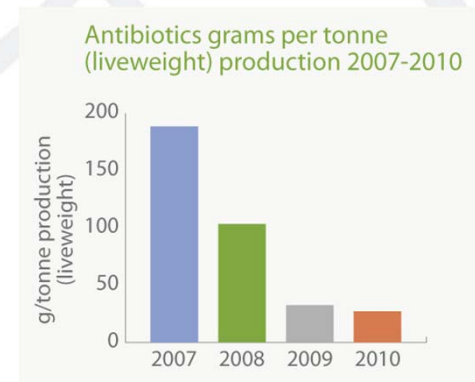
- Low stocking densities



- Optimal farm location



- Vaccination



- From medication to biological control





Growth

- Growth rate
 - Temperature
 - Genetics
 - Adapted smolt, and smolt size
 - Feed quality
 - Environmental condition and stocking densities
 - Fish health status



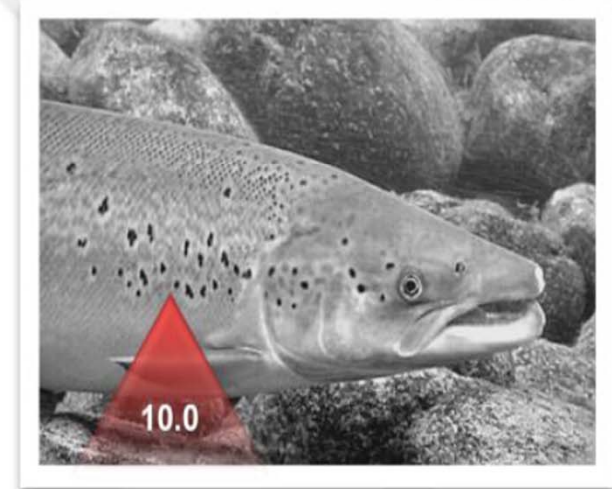
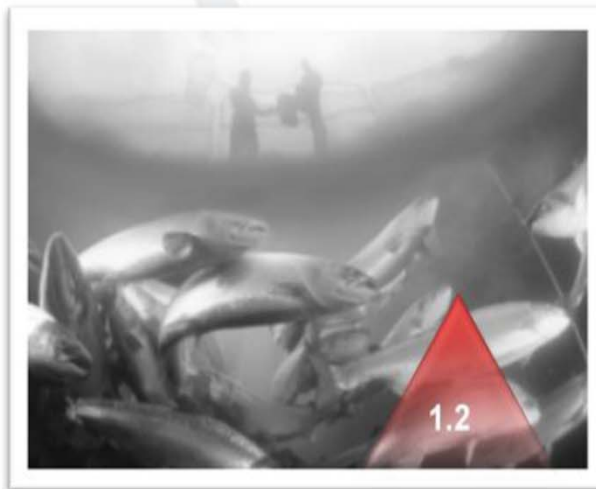
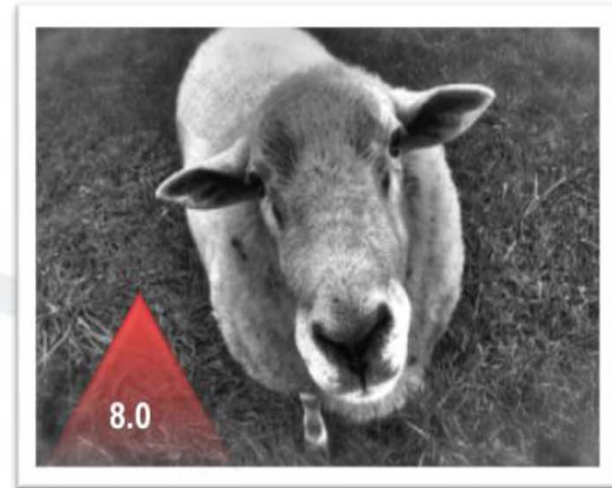
Feed conversion ratio (FCR)

- FCR impacted by
 - Energy content in feed
 - Nutritional composition
 - Genetic potential
 - Smolt quality
 - Feed quality
 - Trained personnel

Salmon farming is hard to beat in regards to FCR



marineharvest
excellence in seafood





Our approach to sustainability





Listen, evaluate and improve



NGOs



Customers



Science



Regulation

EXTERNAL EFFECTS OF MARINE HARVEST ACTIVITIES

Fish farming activities may have negative impacts on the environment and we are determined to reduce these impacts to an acceptable level. By being aware of the negative and positive effects that our activities have on the environment and communities, we have incorporated measures where needed to monitor and manage these in our Qmarine global quality programme.

Activity	Potential environmental impact	Potential community impact
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Fish processing	<ul style="list-style-type: none"> Pollution from water discharge from municipal sewage system or from land drainage, on the surface and in sea water Consumption of energy derived from fossil fuels with associated generation of greenhouse gases Potential of greenhouse gases from landfills of organic and inorganic waste Annoyance from rendering of fish organic waste Use of fossil fuels in packaging - GPS Obstruction from waste treatment Noise and vibration from processing activities Depletion of freshwater supplies 	<ul style="list-style-type: none"> Other activities Changes to health of employees resulting from inadequate health and safety procedures Dangers to health of consumers by contamination from micro-organisms or other undesirable substances in food products Use of land and water management capacity Depletion of freshwater resources
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Distribution	<ul style="list-style-type: none"> Consumption of fossil fuels and generation of greenhouse gases by transport and its production of packaging Potential fish contamination by waste packaging 	<ul style="list-style-type: none"> Noise and traffic congestion Potential health damage to humans from gases resulting from burning of fossil fuel Visual pollution Potential health damage to animals and humans (especially children)
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Fish farming	<ul style="list-style-type: none"> Use of fishmeal and fish oil in feed produced from fisheries classified as over-exploited Impact on the seabed from waste feed, faeces, excretions and antifoul treatment of nets Interaction with marine mammals and birds Overpopulation of fish, disease outbreaks and increased resistance Reduction in biodiversity around fish farms Possible genetic impacts on wild fish from escaped farmed fish Spread of disease and parasites from farmed to wild fish Contamination of seabed and water from feed and bath treatments Pollution from accidental fuel spills Use of non-renewable fuel sources (heat, light, power and refrigeration) Interference with navigation channels Contamination of ground and surface waters from waste disposal Annoyance from rendering of fish organic waste Noise and vibration from feeding boats, feeding systems and acoustic deterrents Potential leaching of lime and water table levels in freshwater farming Contamination of coastal beaches by waste products (plastic, paper/waste, ropes, etc) 	<ul style="list-style-type: none"> Depletion of fish stocks with possible disruption of coastal wild communities Changes to health of employees resulting from inadequate health and safety procedures Possible conflicts with recreational activities/tourism Landscape alteration and visual intrusion affecting tourism Temporary or permanent loss of seabed under other aquatic species Reduction in wild fish stock populations and reduced catches Noise and vibration from feeding boats, feeding systems and acoustic deterrents Potential leaching of lime and water table levels in freshwater farming
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Seafood for a better life

Qmarine



Corporate research, experience and learning

Biological drivers to succeed

- Education and training of personnel
- Resources towards genetics and especially smolt production
- Establish risk management areas (biological barriers) and think risk management
- R&D in regards to vaccines towards viruses
- Develop knowhow in regards to ocean current and effect on diseases
- Be open to new technology
- Study effect of already implemented zones
- Develop national strategies and better regulations based on best practice and R&D to secure future growth and a sustainable production.