



Global Conference on Aquaculture 2010

Farming the waters for People and Food

22-25 September 2010, Phuket, Thailand

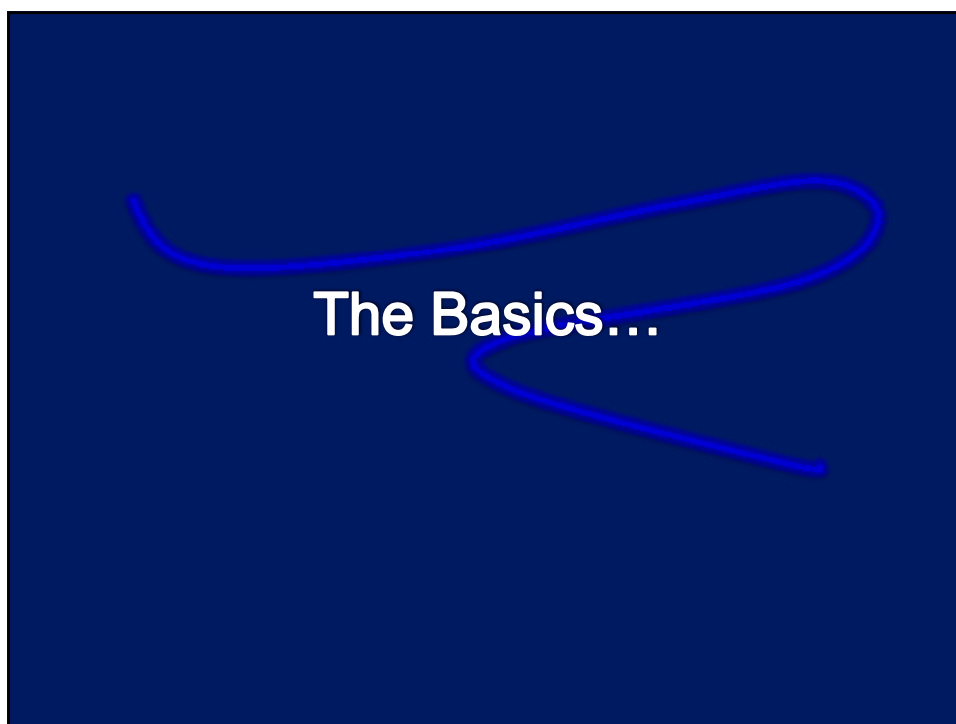
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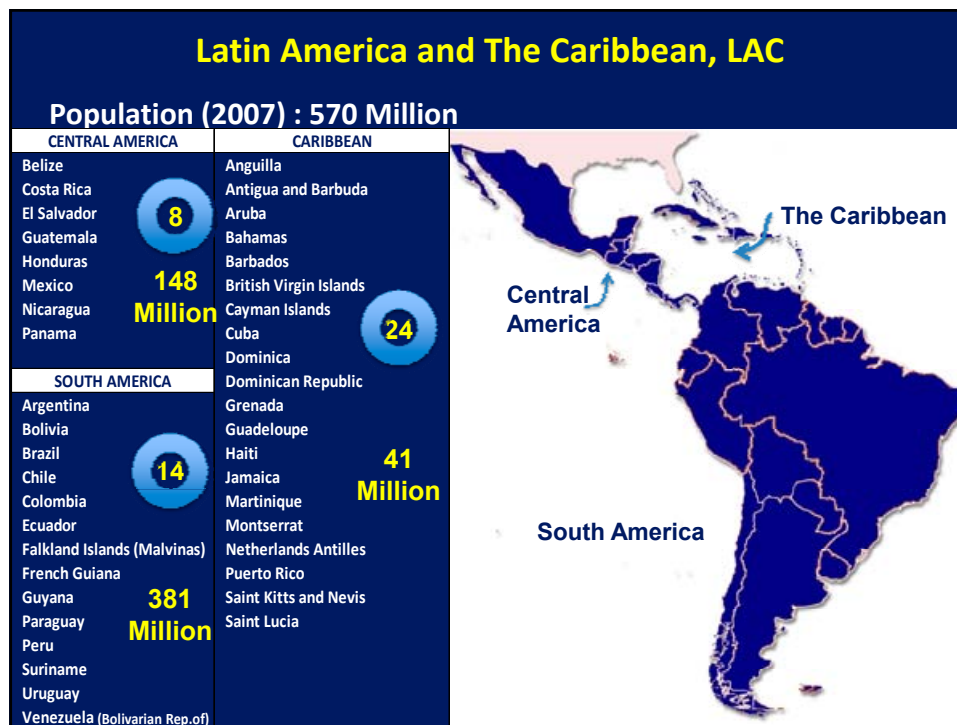
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Latin America & Caribbean(LAC) and the World

- Apparent per caput human consumption of fishery products, 2007
 - World 16.5 Kilograms/per year
 - LAC countries 9.0 Kilograms/per year
- Exports of all fishery products (avg. annual values, 2005-2007)
 - World 69 704 Million U\$ of 2006
 - LAC countries 10 509 Million U\$ of 2006
 - LAC / World (%) 15.1 %
- Imports of all fishery products (avg. annual values, 2005/2007)
 - World 90 924 Million U\$ of 2006
 - LAC countries 2 037 Million U\$ of 2006
 - LAC / World (%) 2.2 %

Aquaculture , LAC Region

Aquaculture production 2006-2008

- Volumes 1.73 Million tonnes/ year
- Value 7 175 Million U\$ of 2006/year

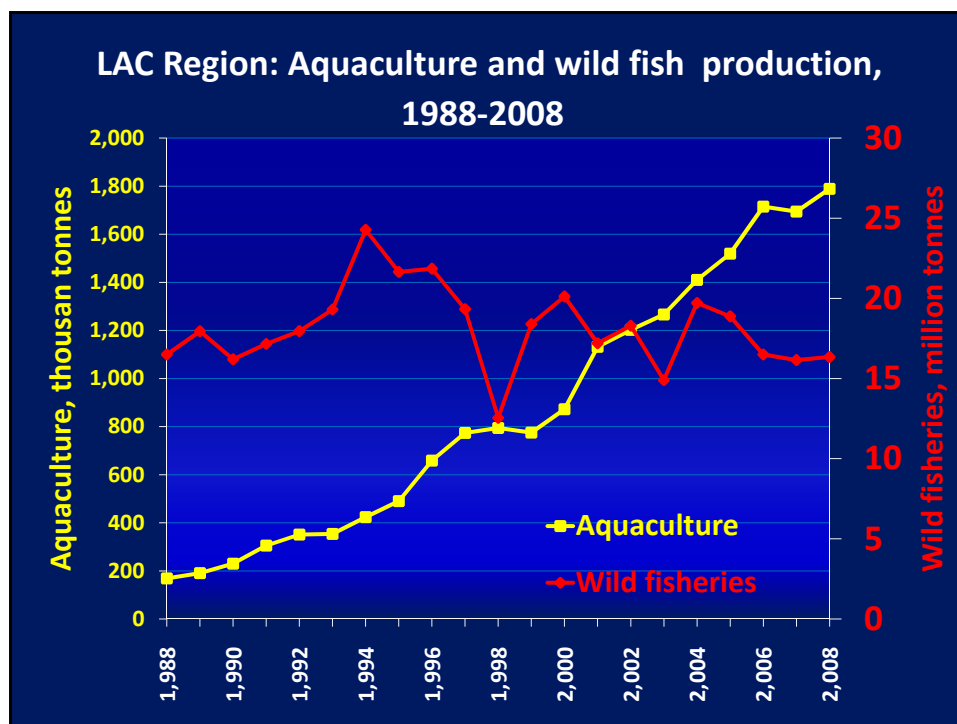
Growth rates of aquaculture production 1976-76 / 2006-08

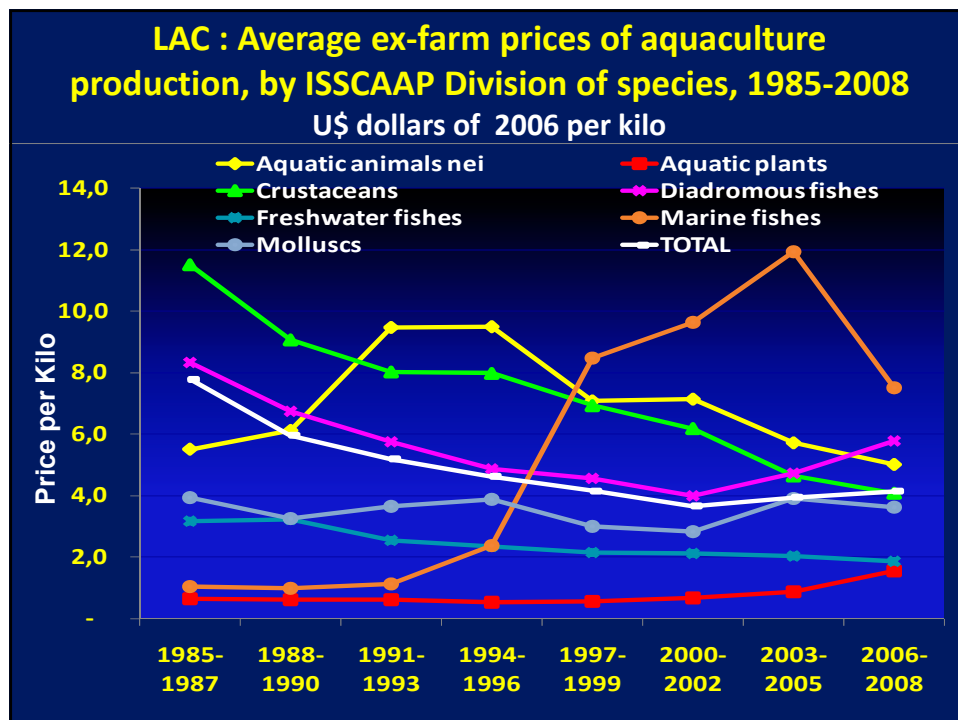
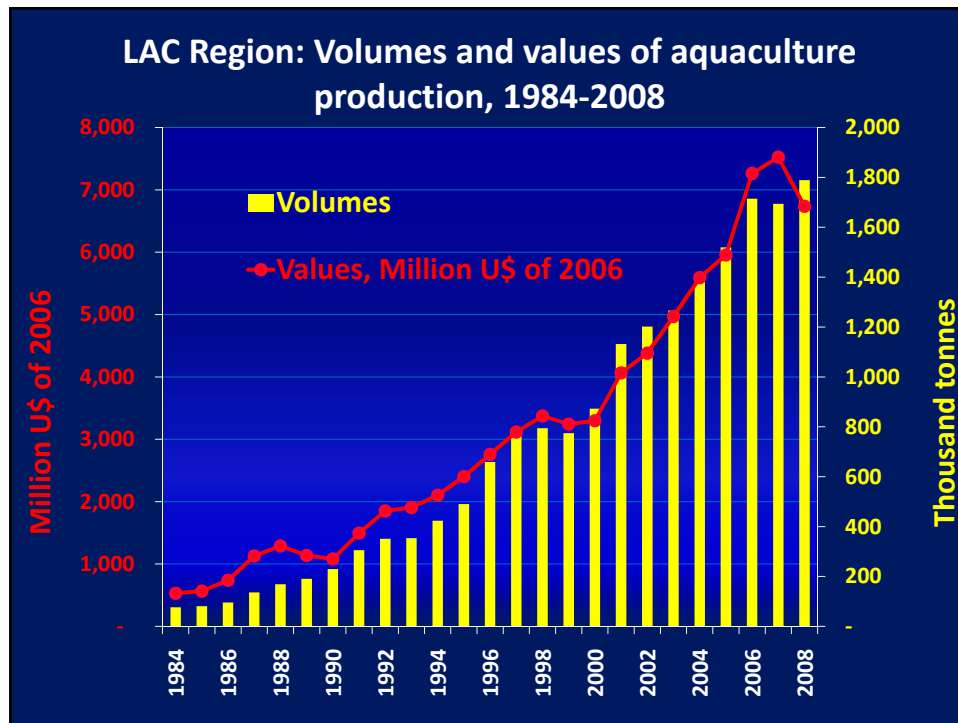
- LAC Region 18.5% per year, compound
- World 8.5% per year, compound

Aquaculture's share in total LAC fish production

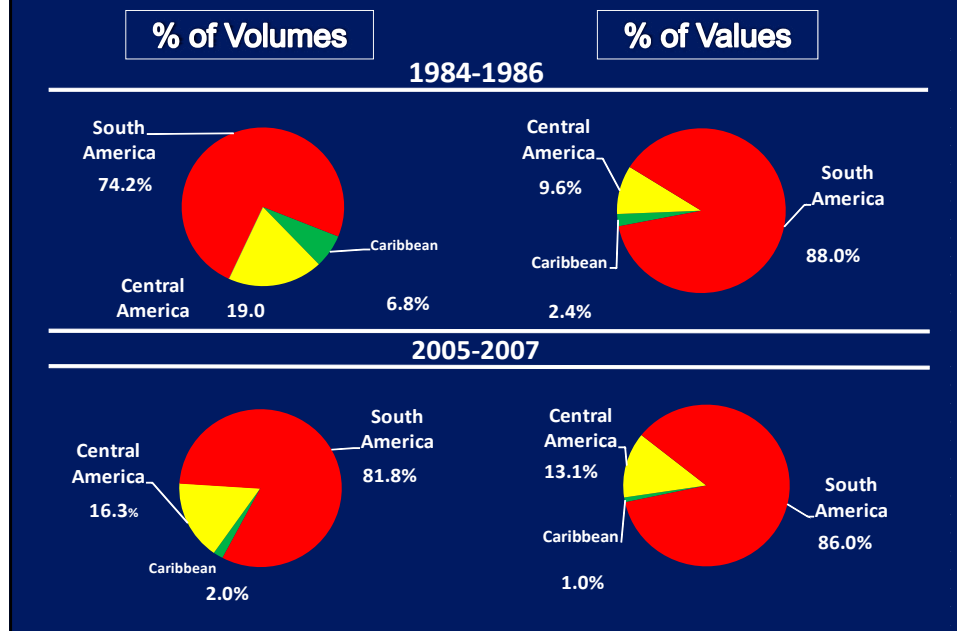
- 1976-1978 0.1% of totals
- 1996-1998 4.0% of totals
- 2006-2008 9.6% of totals

The Structure...





LAC : Geographic distribution of aquaculture production



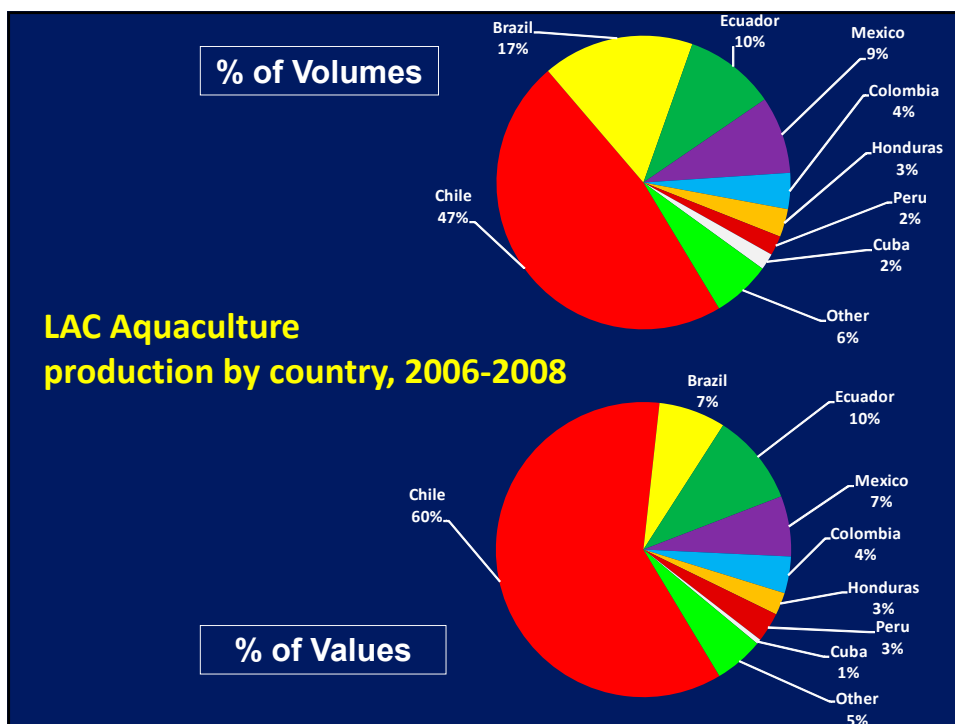
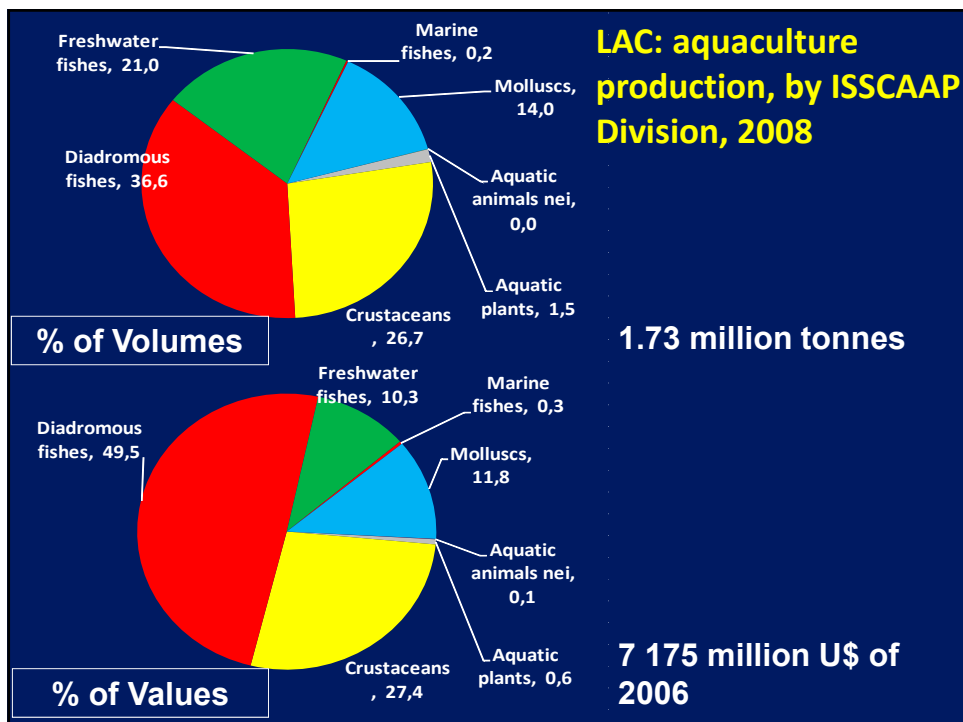
LAC Aquaculture production is HIGHLY concentrated...

— **FOUR** species mean **81.9%** of volumes and **86.9%** of values farmed in 2006-2008

- Salmon/trout
- Shrimp
- Tilapia
- Mussels

— **THREE** countries account for **74.1%** of the volumes and **77.7%** of values farmed in 2006-2008

- Chile
- Brazil
- Ecuador



LAC : Aquaculture share in total landings, 1999-2007, %

Aquaculture over 5%			2005-2007	
Country	1999-2001	2005-2007	Between 1% and 5%	
Honduras	43.7	77.5	Venezuela	
Belize	8.0	63.5	Panama	
Costa Rica	23.1	51.4	Guyana	
Cuba	34.9	44.7	Martinique	
Guatemala	13.4	43.3	Less than 1%	
Colombia	29.6	38.7	Suriname / French Guiana	
Jamaica	27.3	28.9	US Virgin Islands	
Ecuador	12.7	27.9	Peru	
Brazil	20.6	26.2	Guadeloupe	
Nicaragua	19.8	26.0	Argentina	
Chile	8.9	15.3	Bahamas	
Mexico	4.2	9.9	Saint Lucia / Turks and Caicos Is	
Paraguay	0.9	9.4	Uruguay ,	
Puerto Rico	6.0	9.0	Falkland Is (Malvinas)	
Dominican Republic	14.5	7.2	No production	
Bolivia	5.8	7.2	Dominica / Grenada	
El Salvador	2.4	6.3	Netherlands Antilles	
			Saint Kitts and Nevis	
			Trinidad and Tobago	

LAC : distribution of species and countries by volumes farmed

In 2005-2007

- **74%** of all **species farmed** in LAC countries are produced in quantities **below 10 000 tonnes per year**
- **63%** of all **LAC countries** show aquaculture production figures **below 10 000 tonnes per year**
- A very similar situation occurs in previous periods (2002-2004 and 1999-2001)

Further concepts, challenges and opportunities...

LAC Aquaculture: Production structure

1950s-1970s

- **Small scale projects** for rural communities, based on governmental support.
- Production based on **fresh water fish and molluscs**.
- Harvest intended for **local/self consumption**
- Non sustainable without **government support**
- Assistance mainly **focused on technical matters**

1980s and onwards

- **Export-oriented** medium to large scale projects, with no official support.
- Self sustainable. **Globally competitive**.
- **Concentrated** on few species and countries only.

Challenges and opportunities

Opportunities:

- Region well endowed with **varied environments and climates**
- **Farming sites** (water resources) plentifully available
- Fair to good **physical infrastructure**
- Good and improving **human resources**
- **Varied native species** with interesting farming prospects
- Several countries with **good domestic market potential**
- Open **market opportunities for exports**
- Fair to good availability of **raw materials to produce fish feeds**
- Need to develop new work opportunities for **small scale fishermen** in several countries

Challenges and opportunities

Important challenges:

- Small scale farming limited by poor organizational and technical standards
 - **Highly dependent** on wild seed and/or juveniles **from 3rd parties** .
 - Limited technical and marketing capabilities: **mainly concentrated on primary production**
 - Unable to cope **with existing rules and regulations**
 - **In need of Governmental support : poor results of past assistance (paternalistic) schemes**

Challenges and opportunities

Important challenges (continuation):

- Lack of ichthyologists, sanitary control and disease related services
- Lack of **an ecosystem perspective** on aquaculture production
- Fish producers still **mainly concentrated on production related problems**, paying less attention to **other important links of the integrated production and marketing cycle**
- Poor R&D records on production-oriented issues
 - **Limited availability of techniques to farm most native species**
 - **Little done developing local engineering, equipment, etc.**

Challenges and opportunities

Important challenges (continuation):

- Governance : inadequate rules and administrative regulations, in general
 - **Ill prepared Governments with regard to velocity of development process**
 - **Lack of 'guidance' and 'leadership' by Government/ Producers' organizations**
 - **Poor control services and systems to enforce regulations**
 - **Tendency to 'overburden' systems with regulations**

The future

- **Small scale farming** will continue needing official support to become self-sustaining.
- Continued emphasis in farming **salmonids, tilapia, shrimp and mussels**, as main species
- Growing emphasis on **native species and farming of marine species**
- More **joint-ventures** with developed nations.
- **More diversified** : further countries and species involved.

The future

- **More and new technology** at use: offshore farming, recirculation , biotechnology, genetics, etc.
- LAC's farmed production will continue to grow at good rates, better than world averages
 - **The region should become far more relevant in world aquaculture**
- Domestic **fish consumption/demand** is expected to grow moderately in main local markets

LAC Region: Fish consumption and comparisons, 1995-2030

Region	Per caput consumption (Kg/p.a)			Total demand Million tonnes			Demand variation Million tonnes		
	1995	Forecasted		1 995	2 015	2 030	2015- 1995	2030- 2015	2030- 1995
		2015	2030						
Latin America	9.5	10.7	14.2	4.6	6.8	10.3	2.2	3.5	5.7
Central America	8.3	15.5	25.8	1.0	2.6	5.0	1.6	2.4	3.9
South America	10.1	10.2	11.1	3.3	4.3	5.4	1.1	1.0	2.1
North America	21.6	30.0	35.5	6.5	10.8	14.2	4.4	3.4	7.7
Oceania	19.5	27.5	33.2	0.6	1.0	1.4	0.5	0.4	0.9
World	15.6	18.7	22.5	90.5	136.5	186.2	45.9	49.7	95.6

Source: Ye, Yemin, 1999 (First 6 columns)

The future

- Better and more **production oriented R&D** activities are expected.
- **Better equipped and trained Governmental structures** are expected, with improved leadership capabilities
- Strong need for **better and more consistent public relations** activities by local industry
- **More and better assistance schemes** among LAC countries are expected

THE BIG CHALLENGES AHEAD

- Better Governance: Rules, regulations, bureaucracy and control systems all across this industry.
- Political stability and the ability to sustain aquaculture development policies and strategies beyond the limits of any one Governmental period
- The ability to promote CONJUNCTLY small , medium and large scale aquaculture, without making them to 'compete' for adequate political support
- Conflicts with other users of water and land resources
- The ability of producers to get organized and work on a sustainable and socially friendly manner
- To lower the perceived risks of aquaculture, to facilitate further investment

Thank you...
Muchas gracias...
Muito obrigado...



Picture taken from PRODUÇÃO PESQUEIRA E AQUÍCOLA - 2008 e 2009, MPA, Brazil, 2010