Economic Implications and the Role of US Aquaculture in Future US Seafood Supply

GLOBAL TRENDS IN SEAFOOD DEMAND, SUPPLY, TRADE AND PRICES

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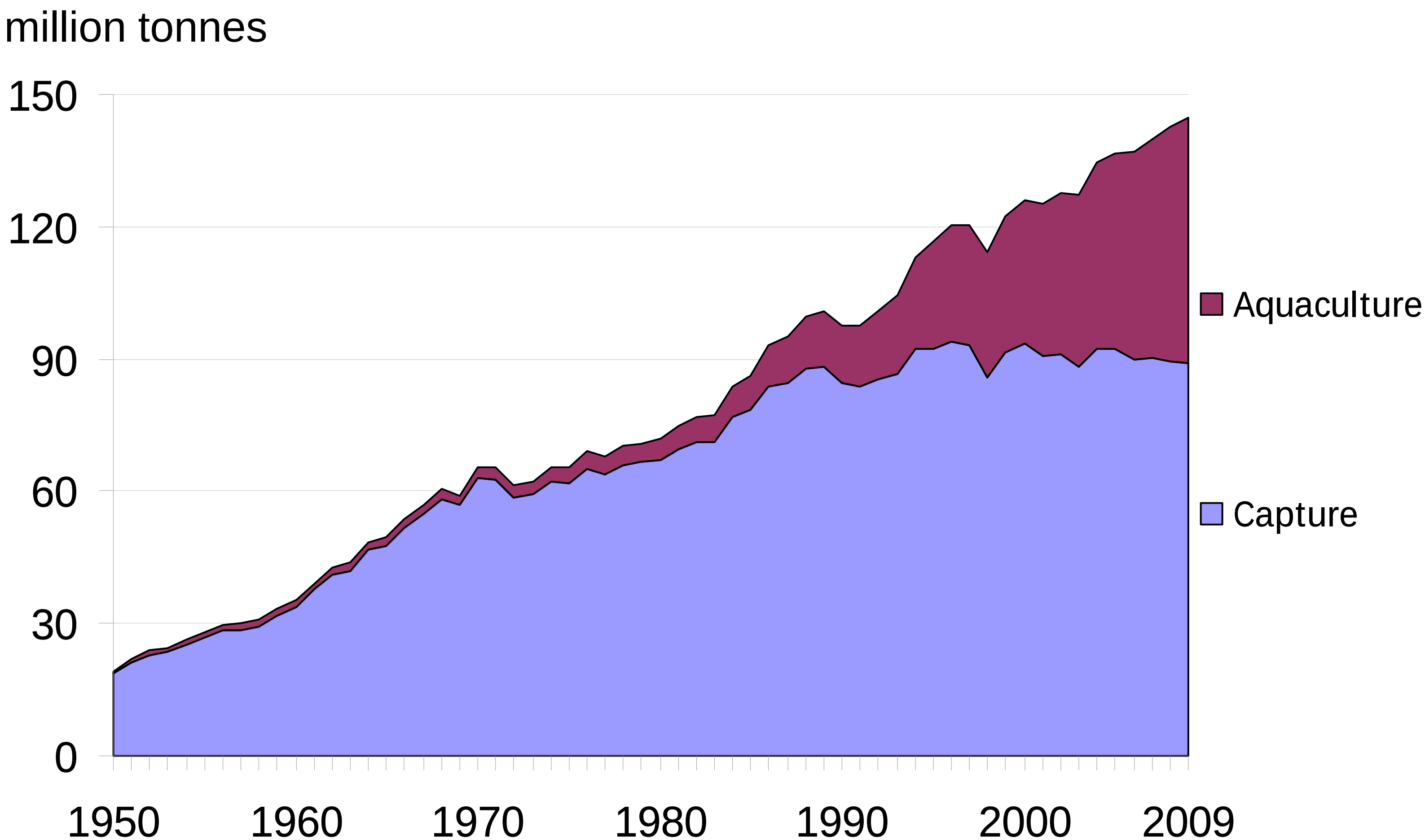
Outline

- Overview
- Production
- Utilization
- Consumption
- Trade
- Prices
- Outlook

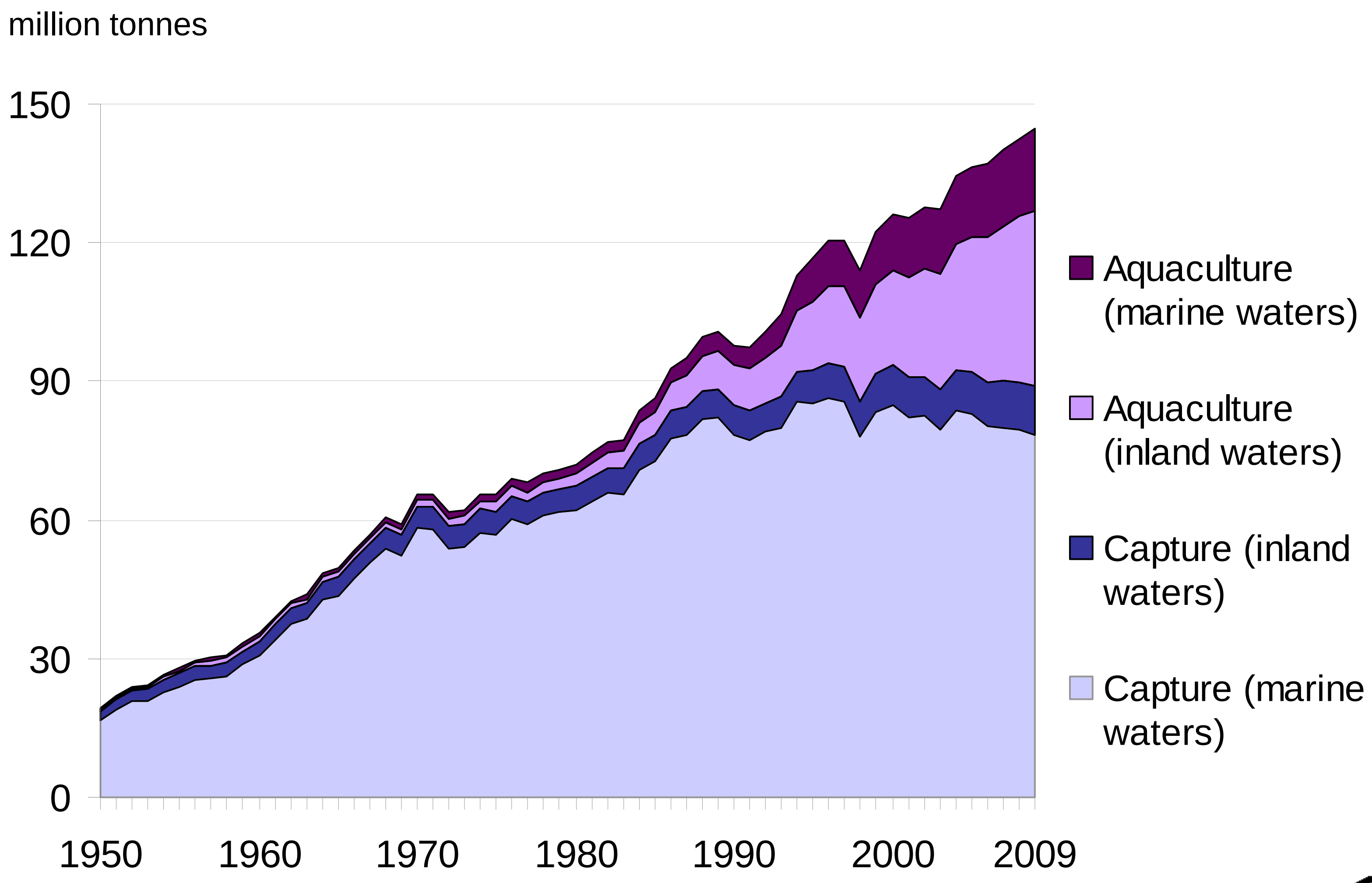
Overview: last two decade

- Increase in global aquaculture production
- Rising demand for fish and fishery products
- Growth in world trade of fish and fishery products
- Global call for responsible management

World fishery production



World fishery production



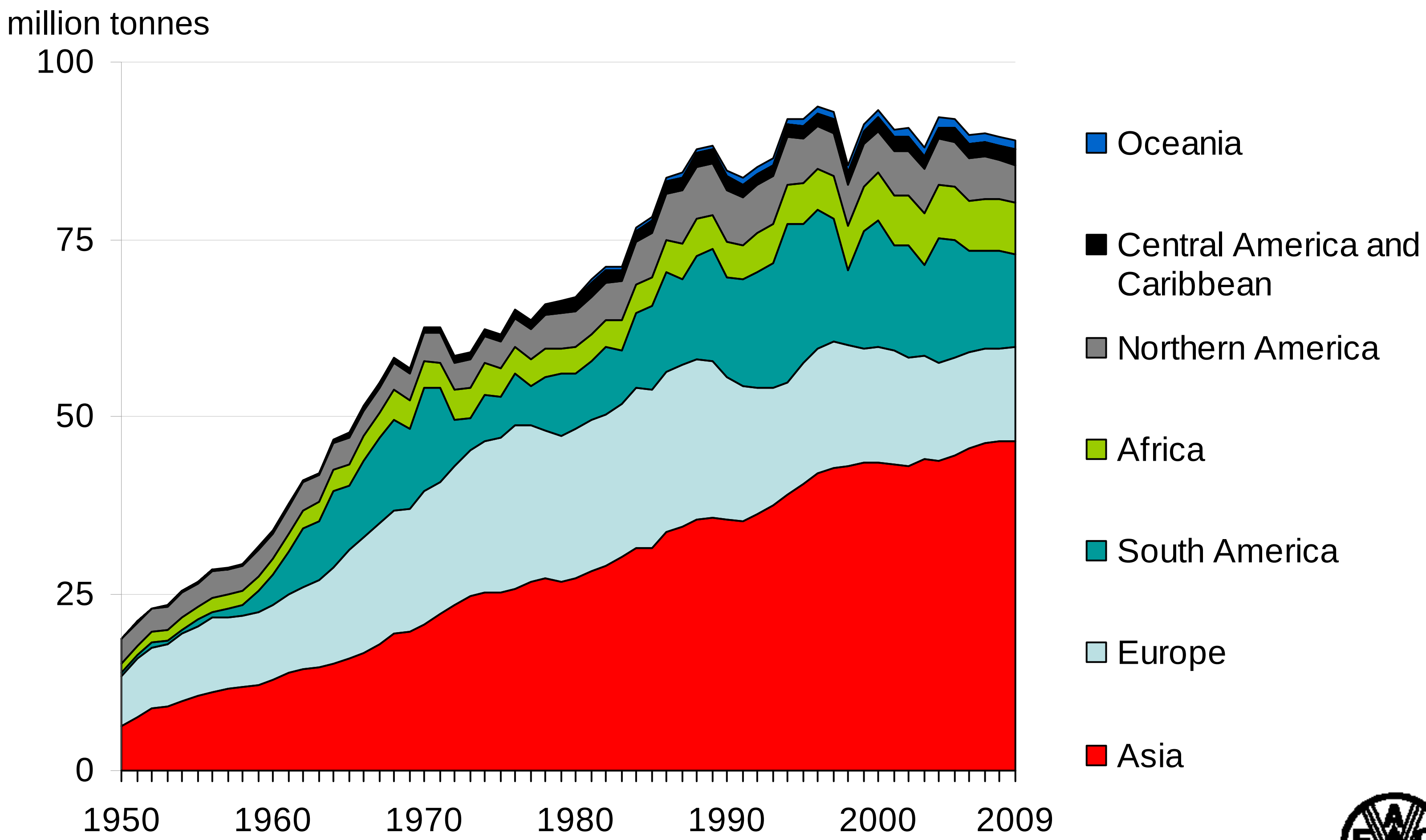
World fishery production

million tonnes

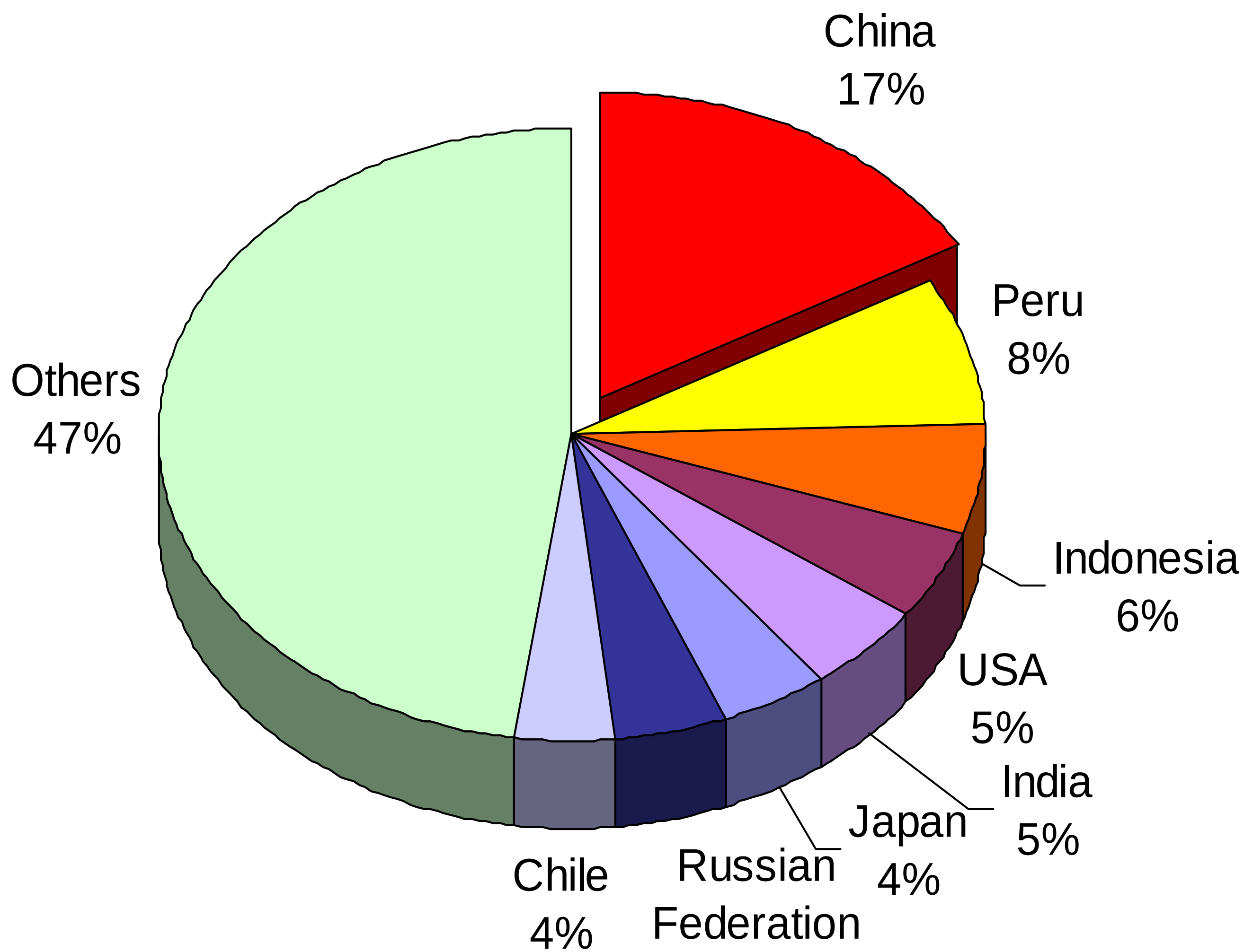
	2009	2010 e	2011f	2011/ 2010
Production	**144.6**	**145.1**	**149.0**	**2.7%**
Capture	88.9	87.0	88.5	1.8%
Aquaculture	55.7	58.1	60.4	4.0%

e: estimation; f: forecast

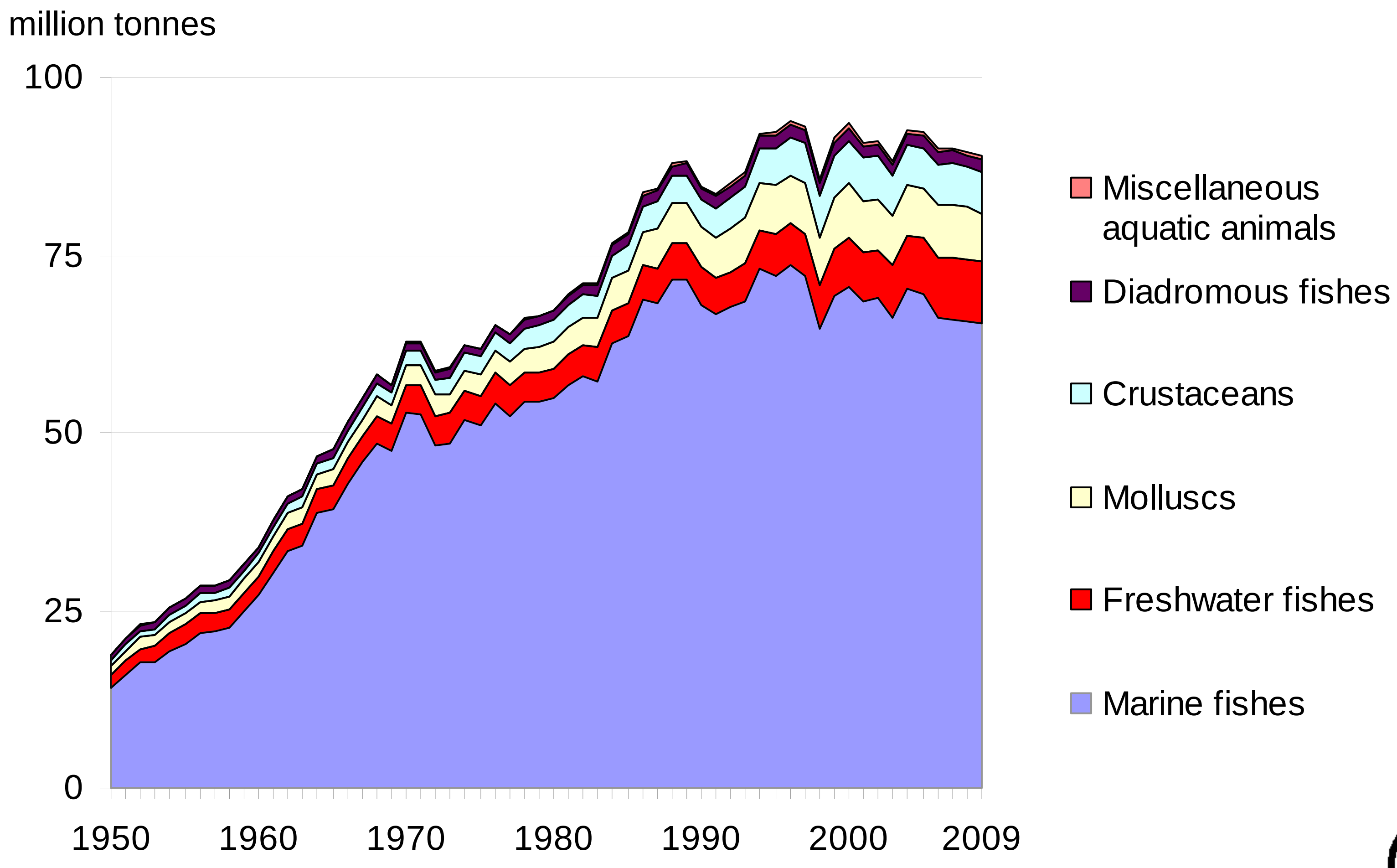
Capture fishery production by continent/region



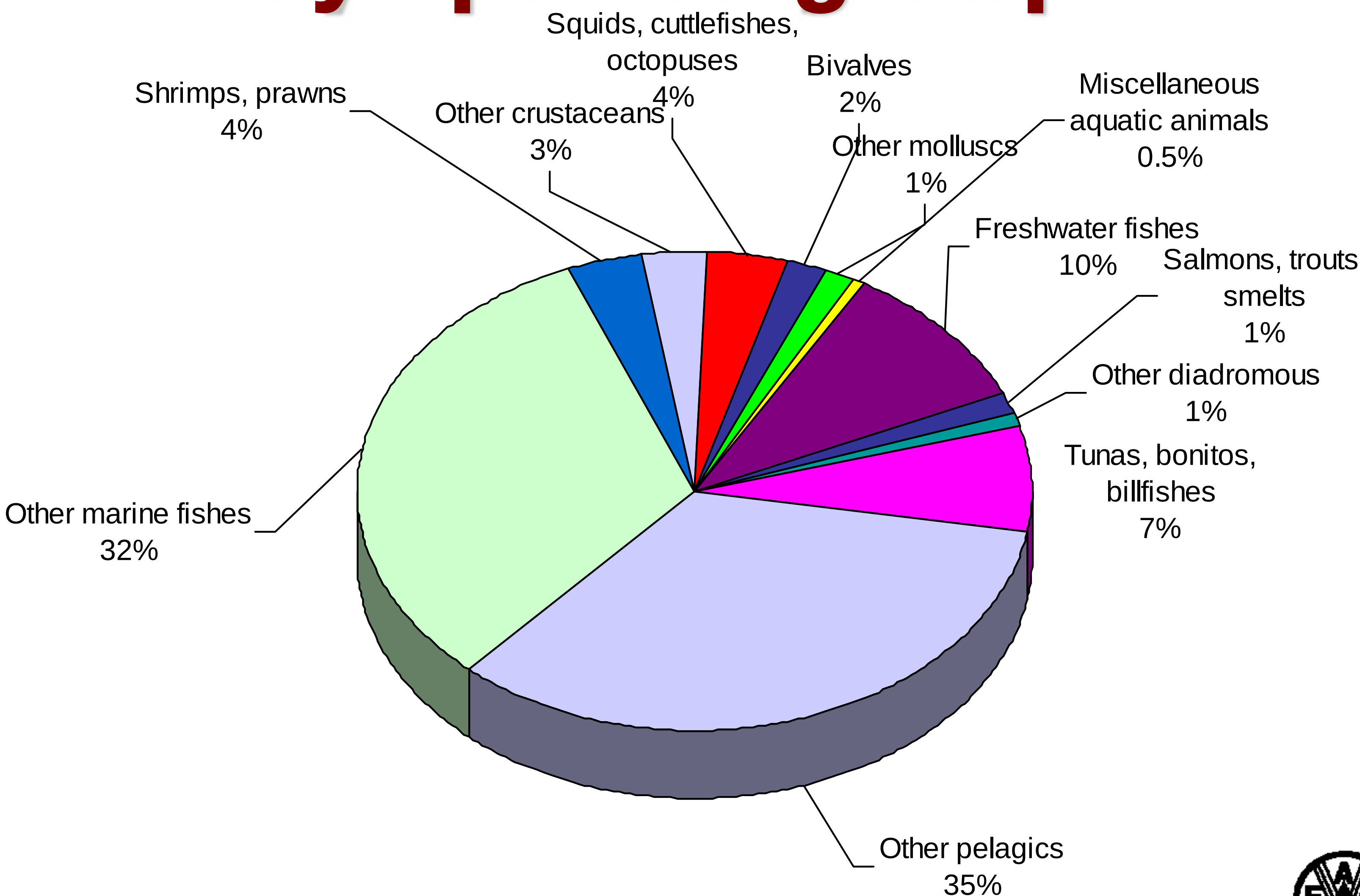
2009 Capture: top producers



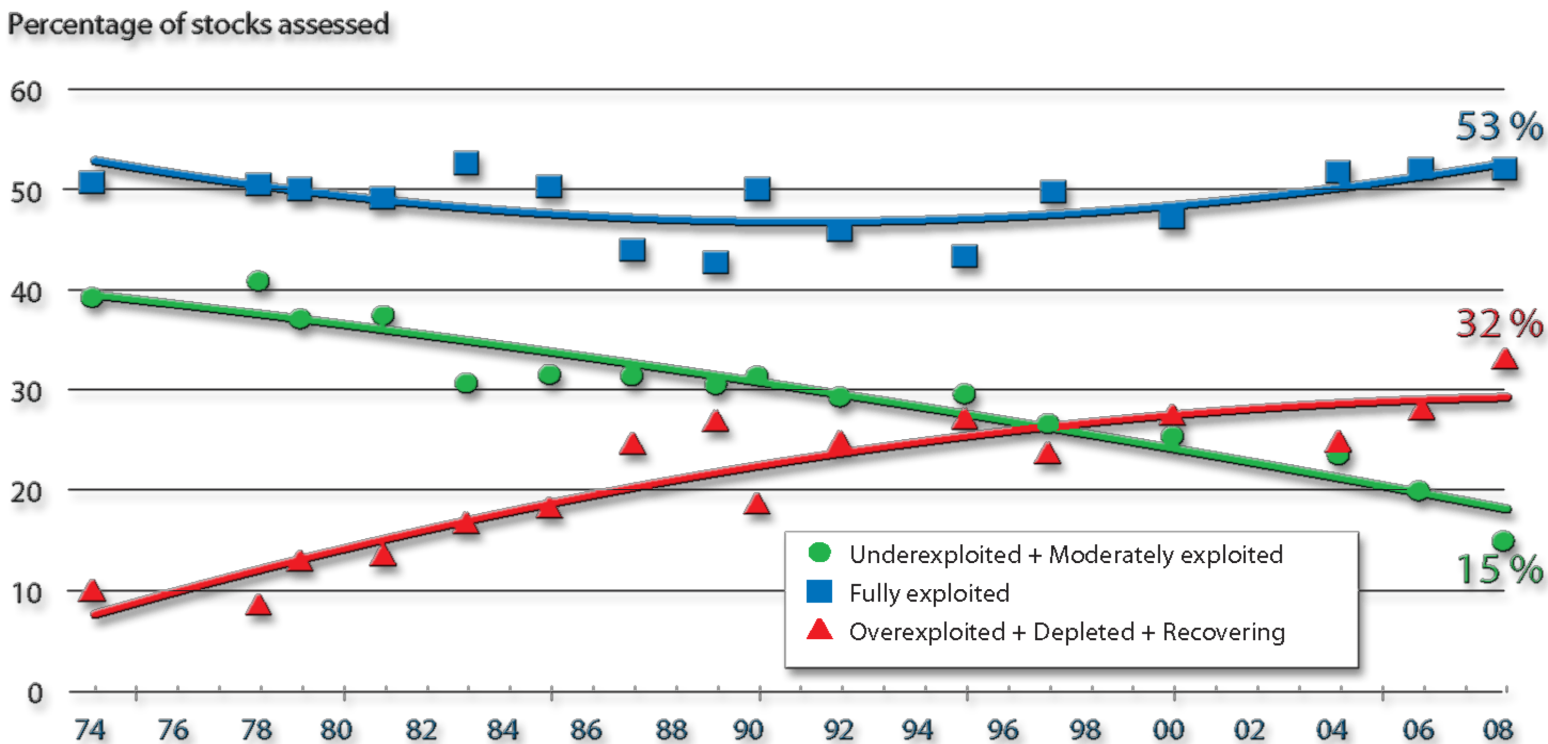
Capture fishery production by ISSCAAP division



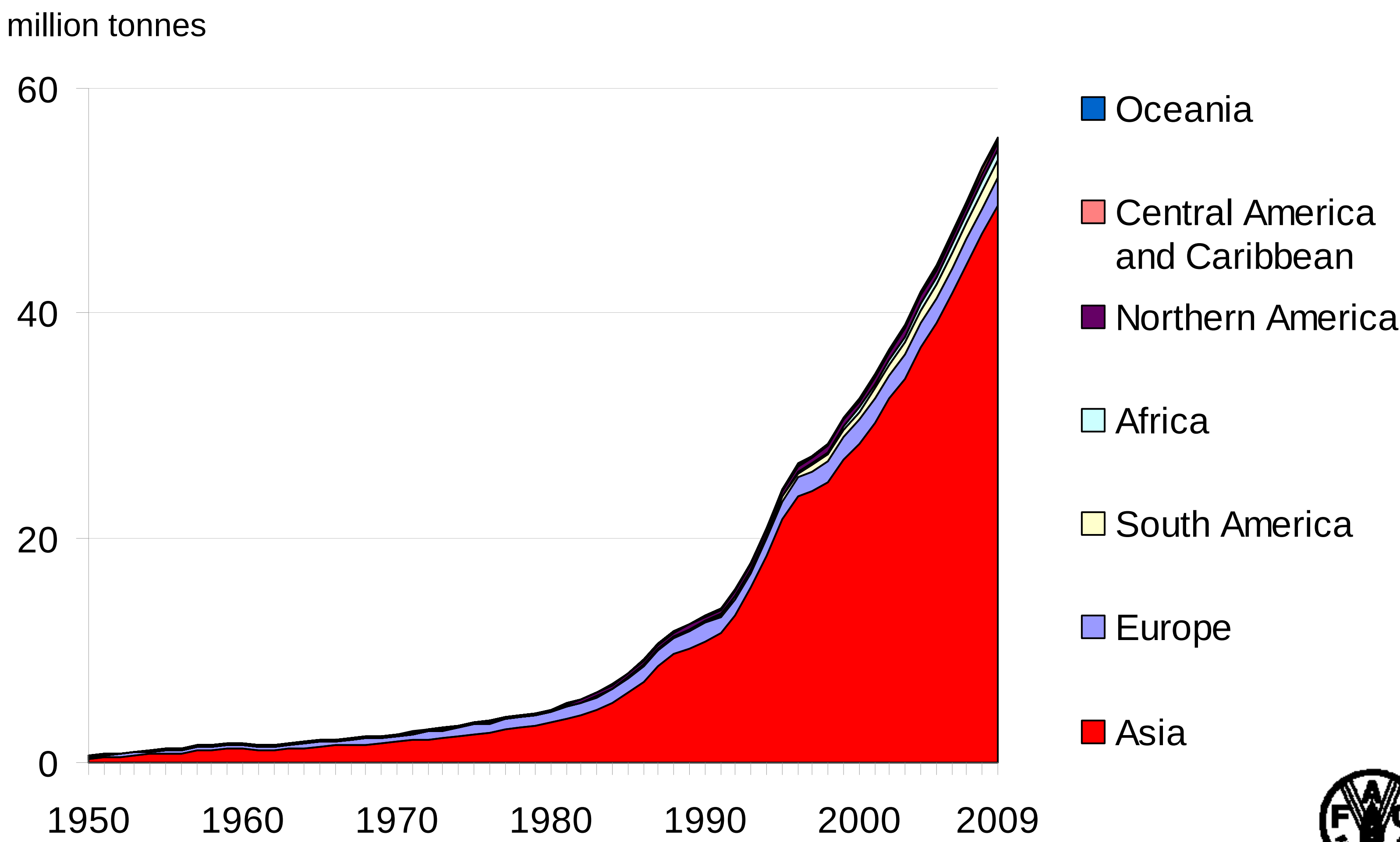
2009 Capture by species groups



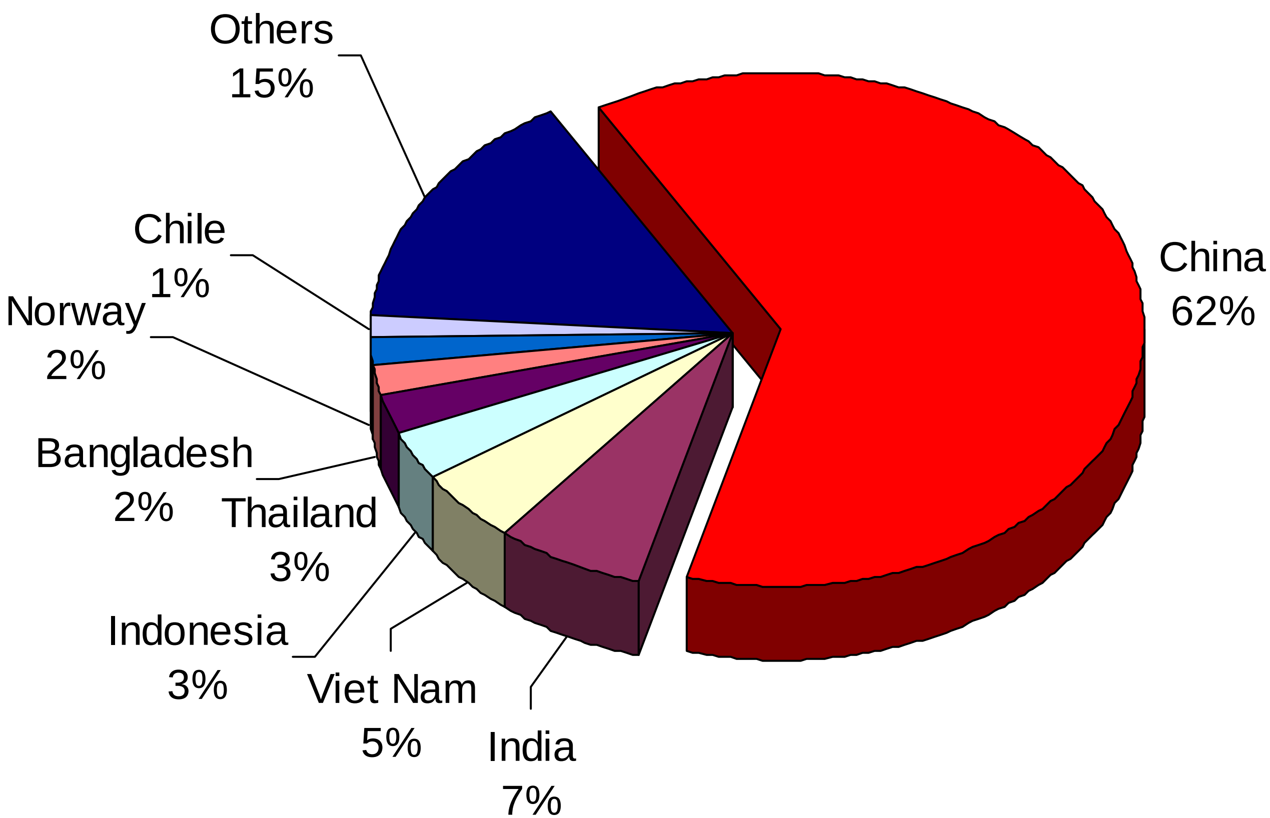
Global trends in the status of marine stocks



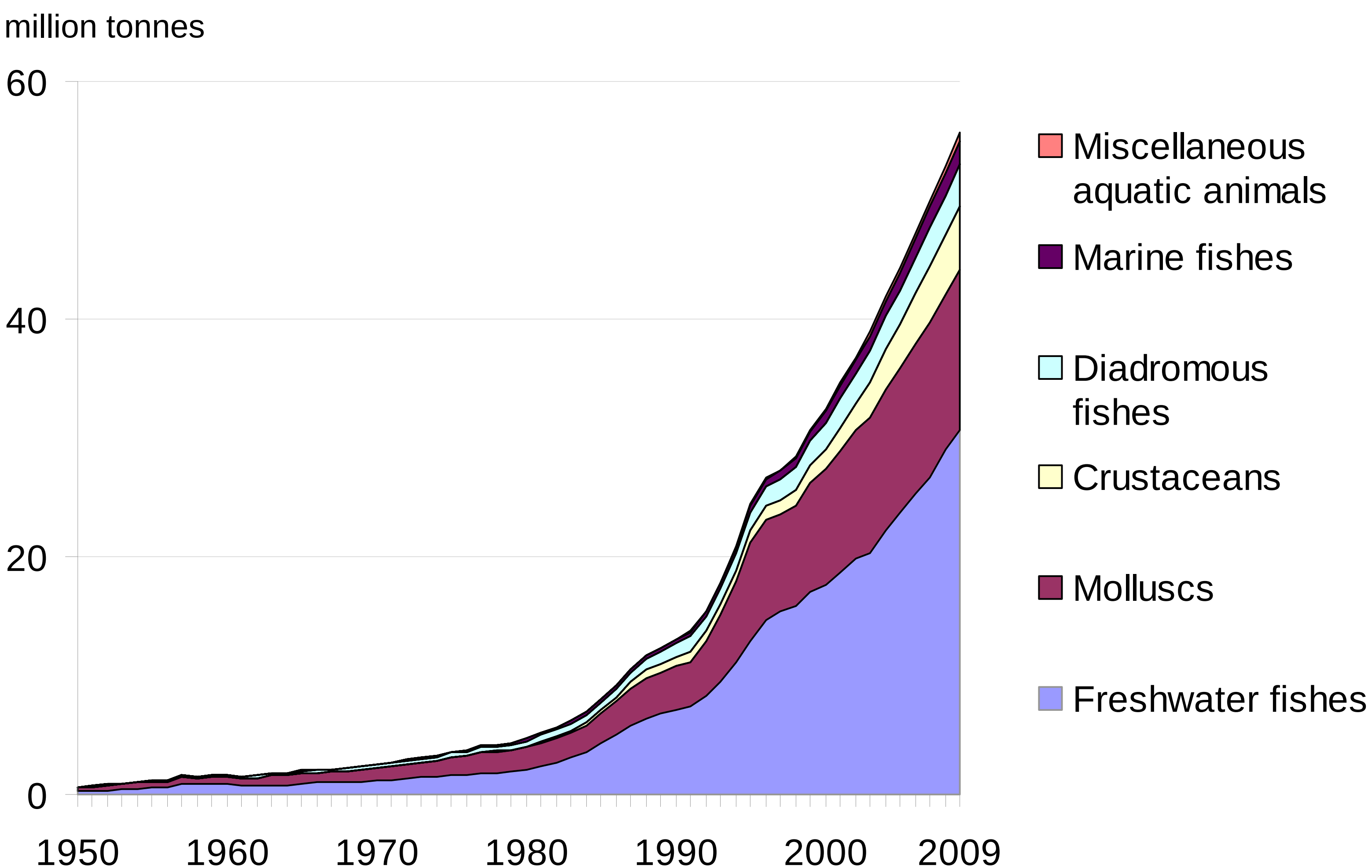
Aquaculture production by continent/region



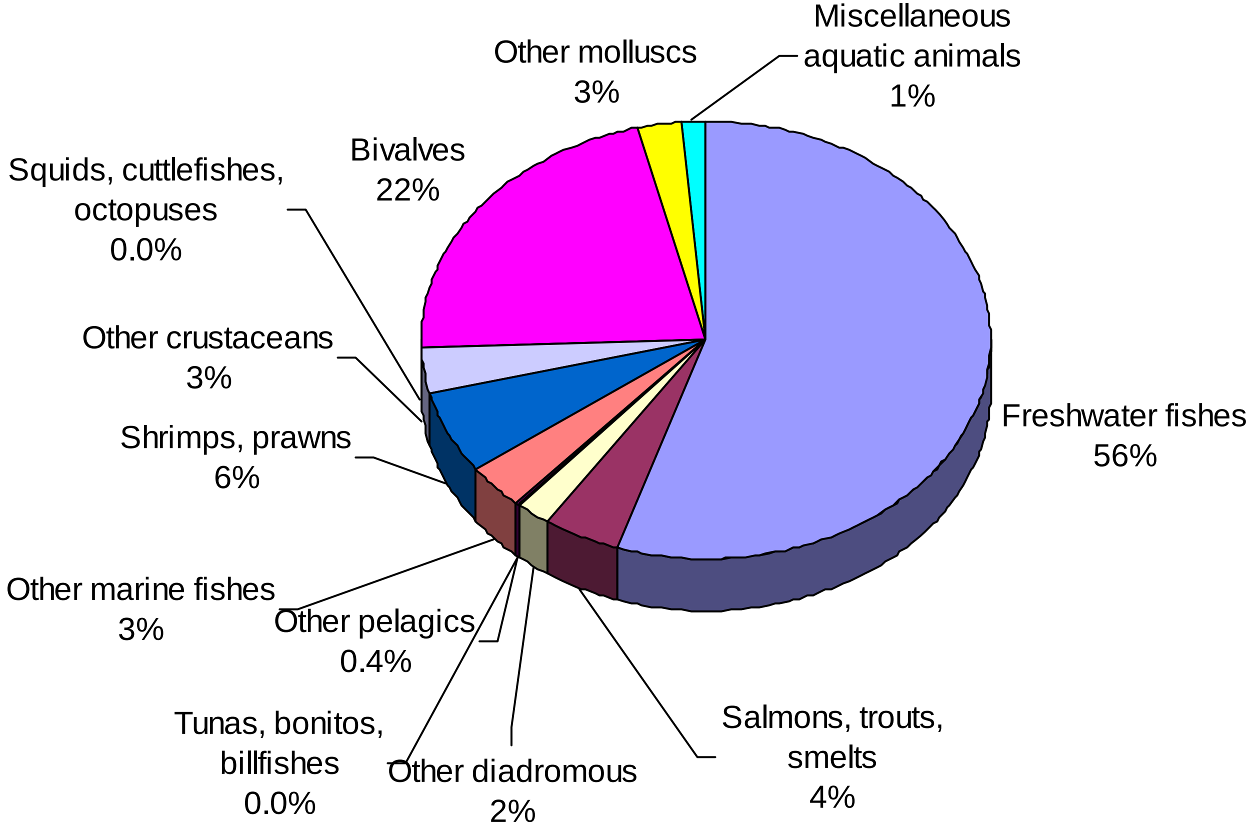
2009 Aquaculture: top producers



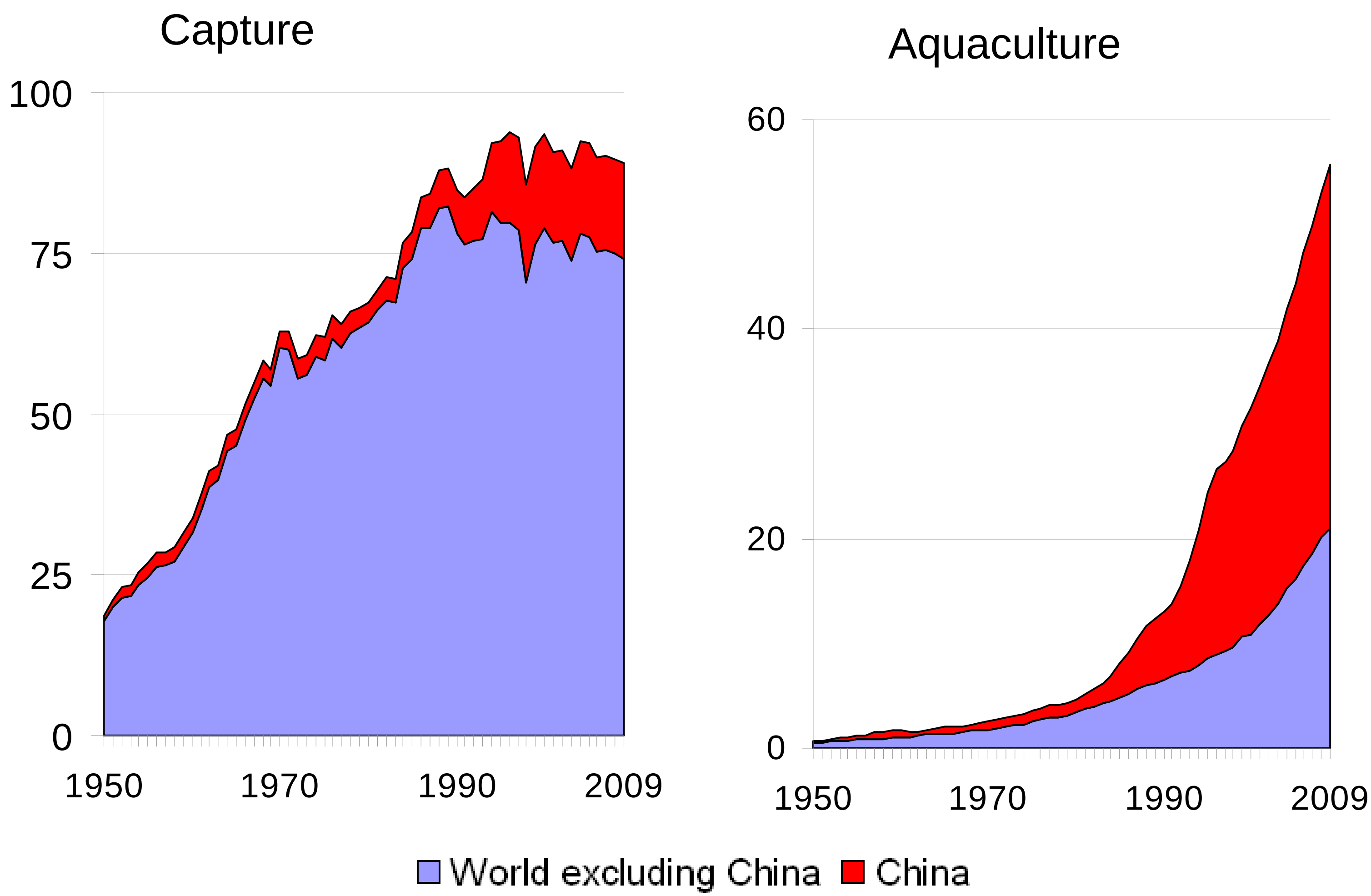
Aquaculture production by ISSCAAP division



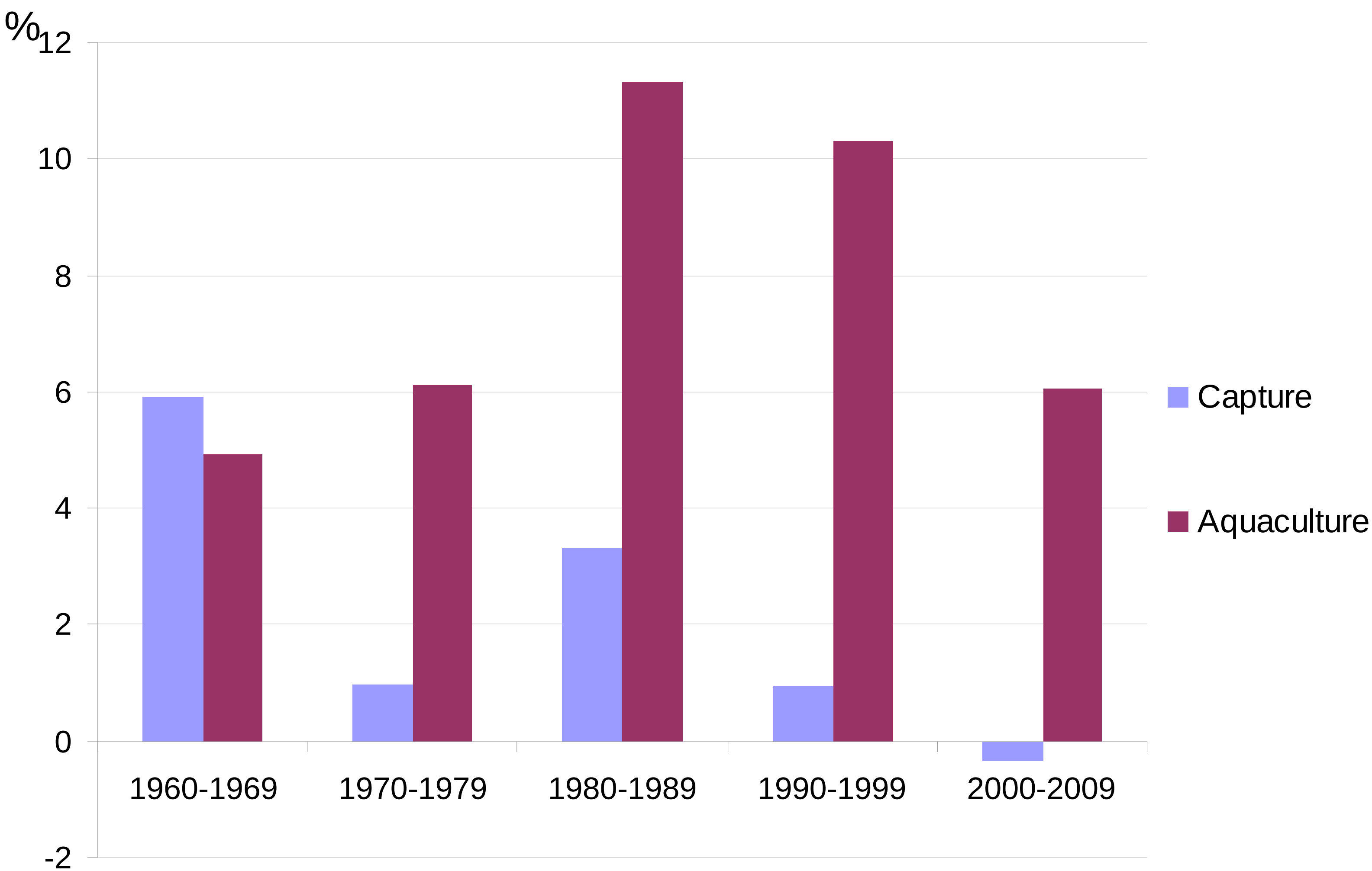
2009 Aquaculture by species groups



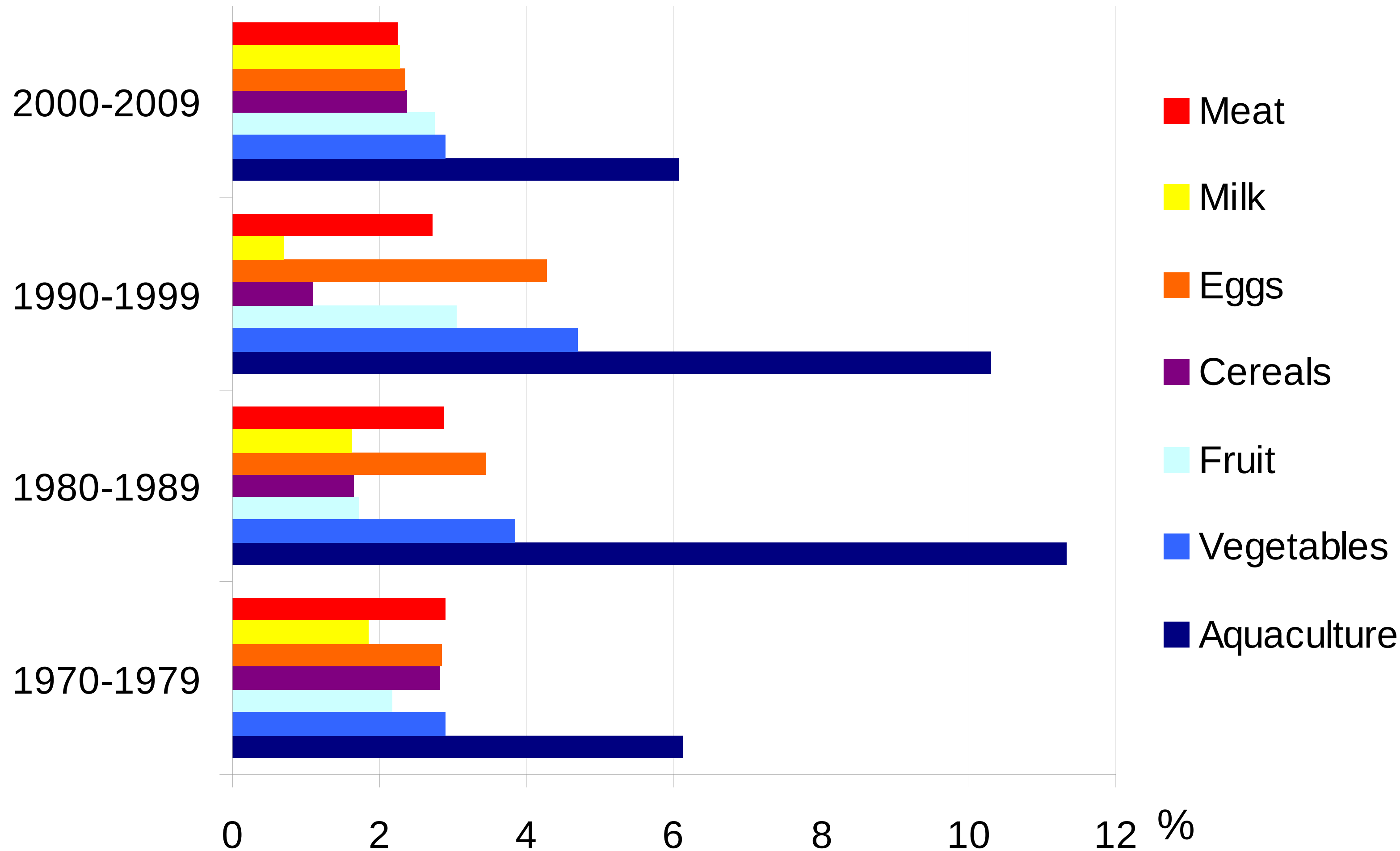
China


Capture
100
75
50
25
0
1950
1970
1990
2009
Aquaculture
60
40
20
0
1950
1970
1990
2009
World excluding China
China

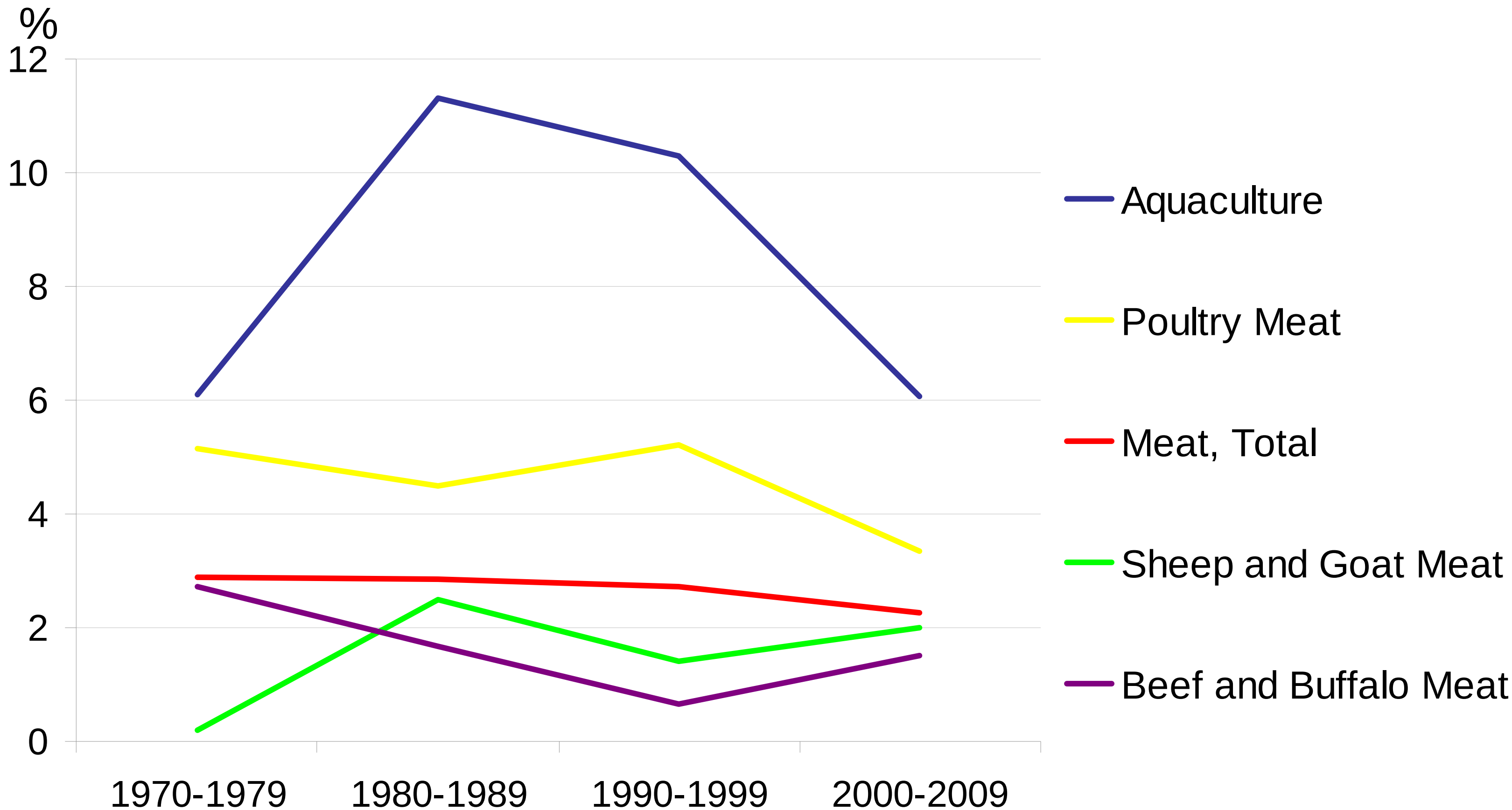
Annual growth rate



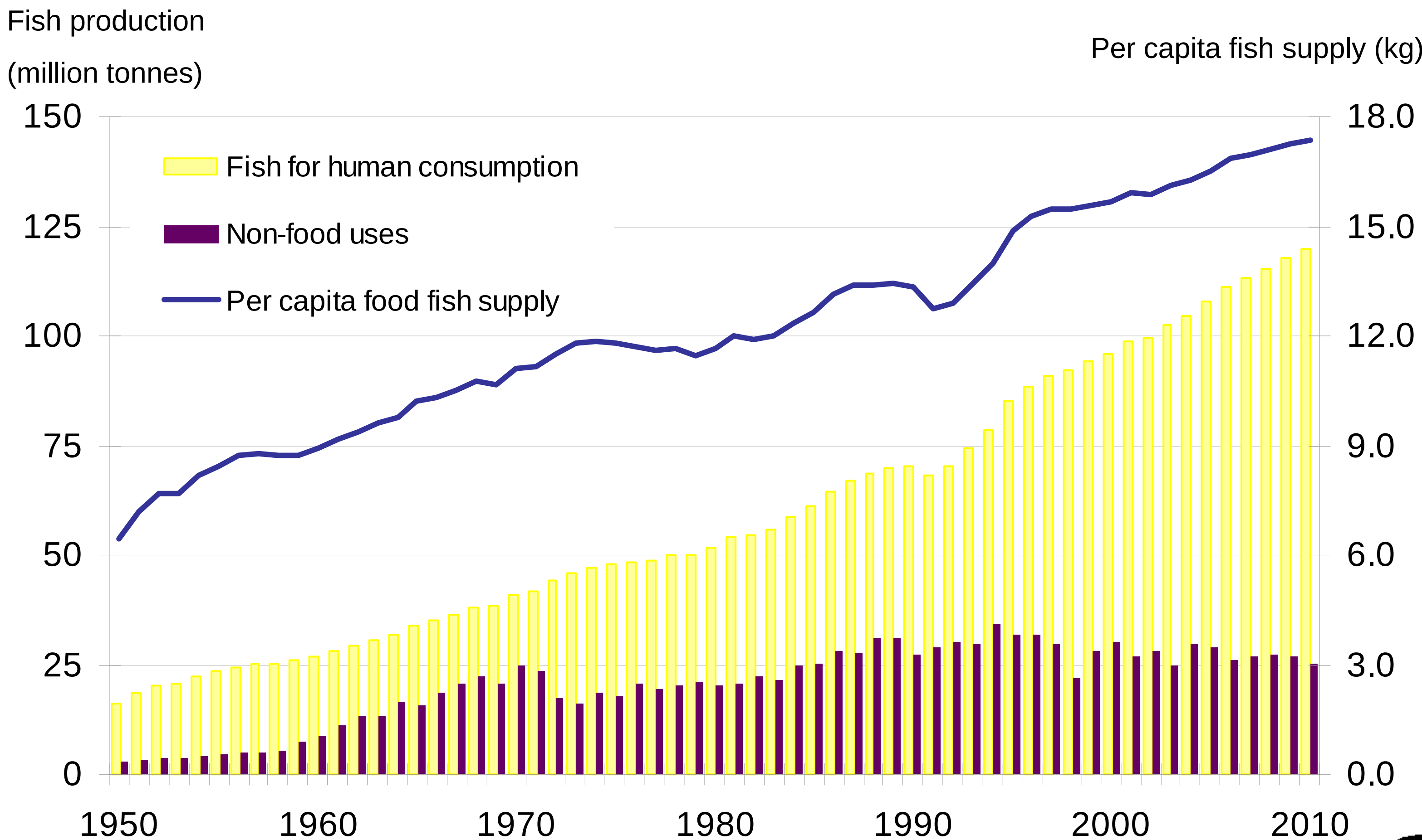
Annual growth rate
Aquaculture vs agriculture



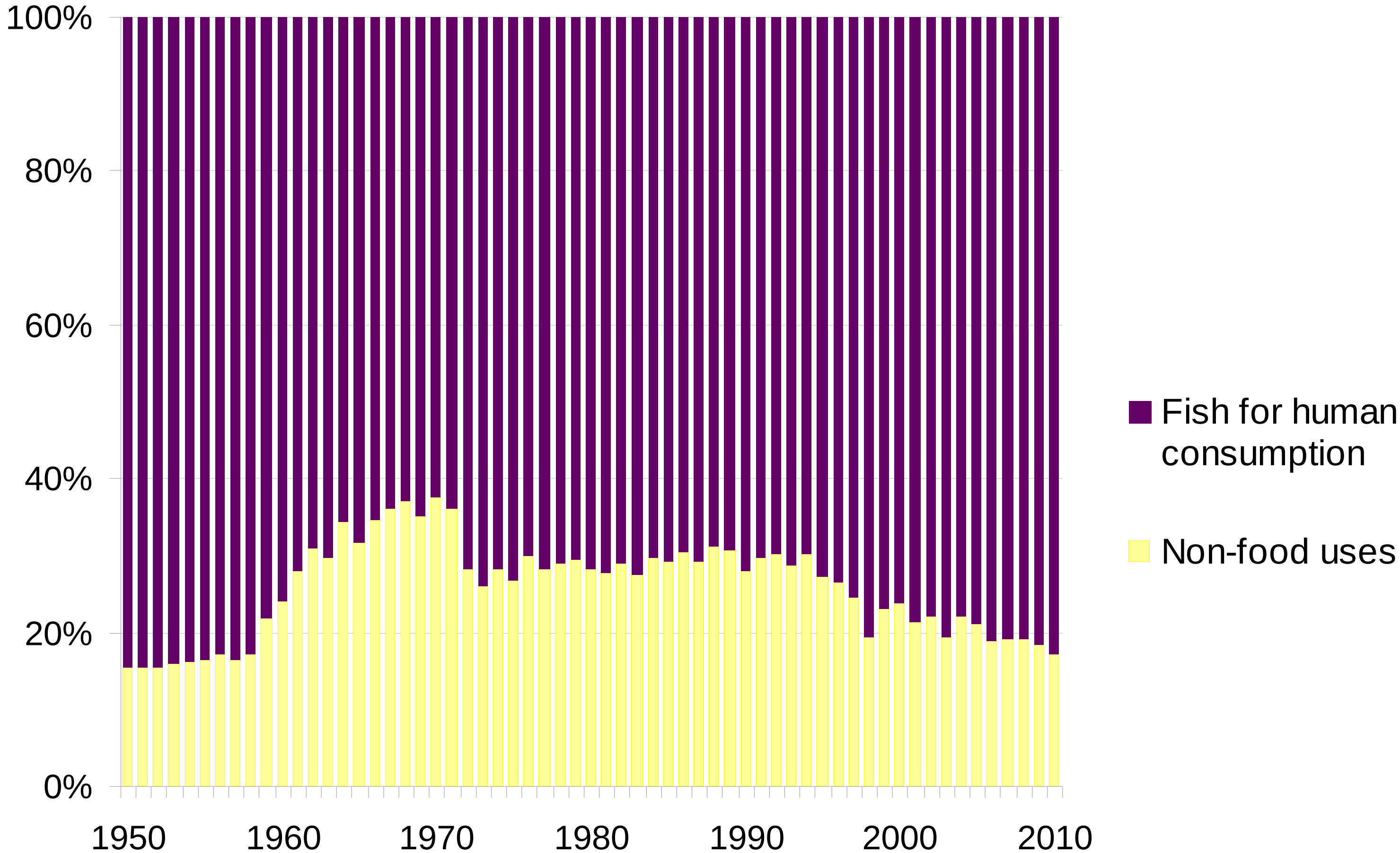
Annual growth rate Aquaculture vs meat



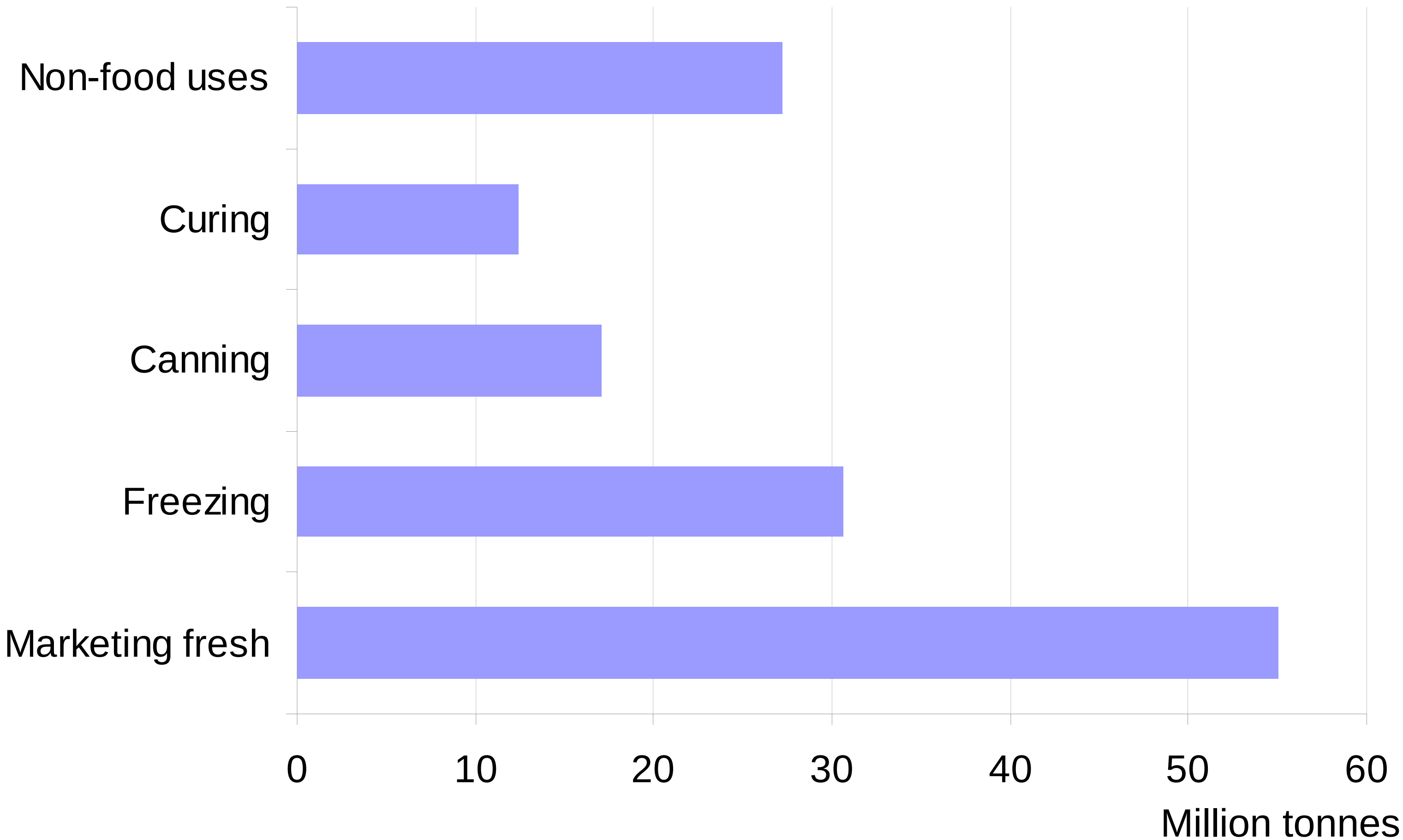
Utilization of fish production and per capita fish supply



Share of utilization of fish production



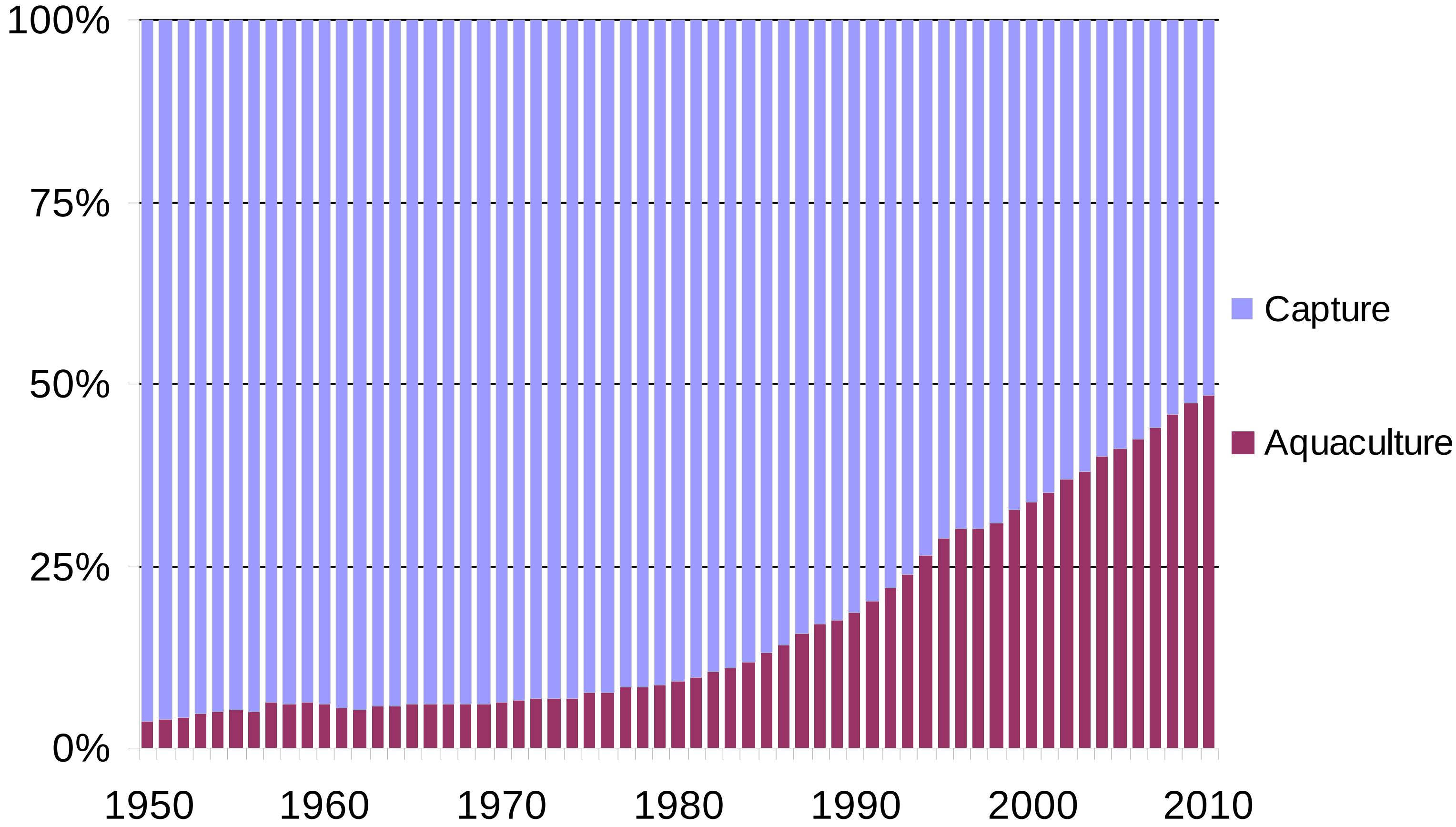
Utilization of fish production breakdown by quantity



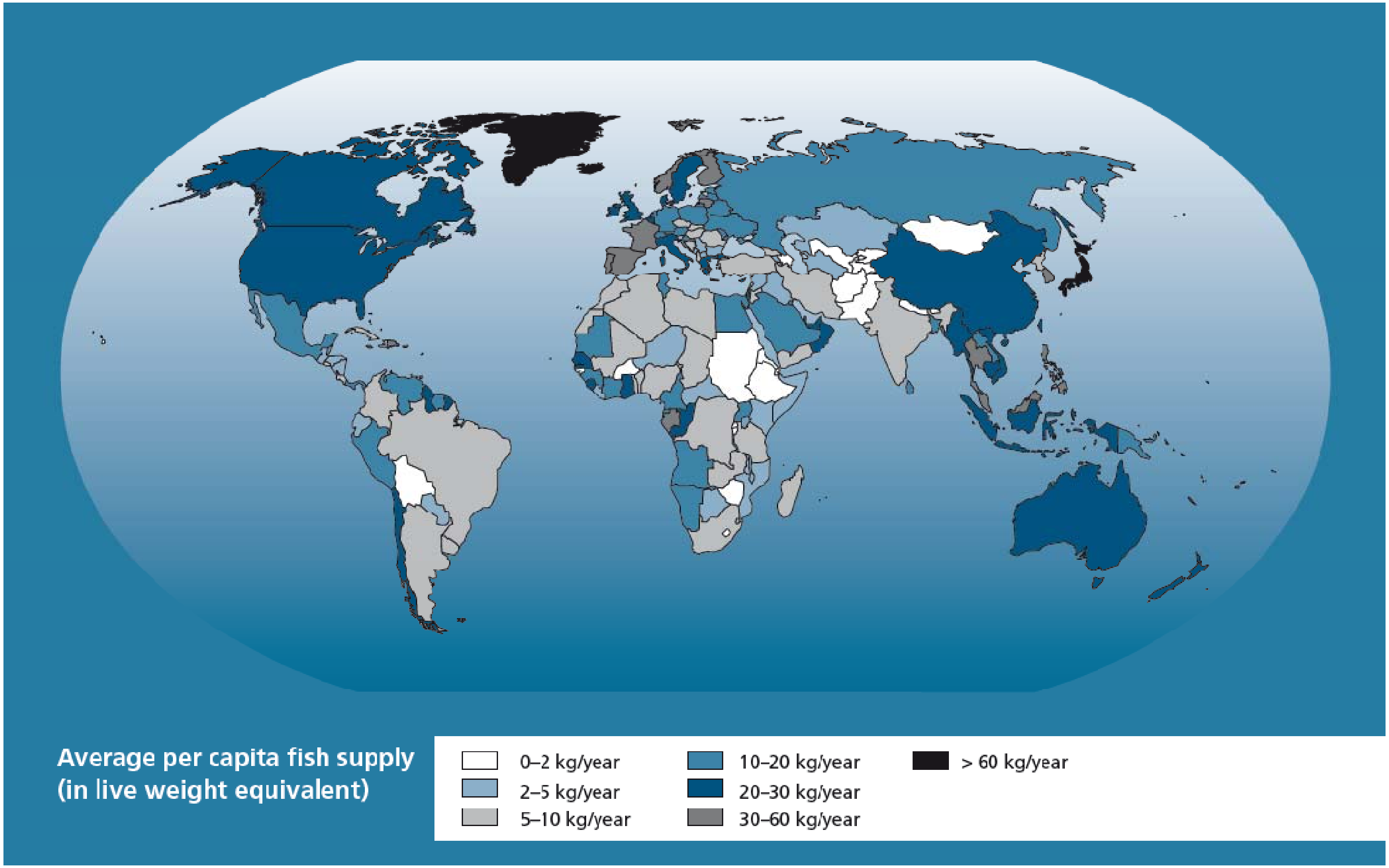
Fish as food

- Important role in food security
- Source of proteins, minerals, micronutrients and essential fatty acids
- 118 million tonnes
- 17.2 kg/capita
- 47% from aquaculture

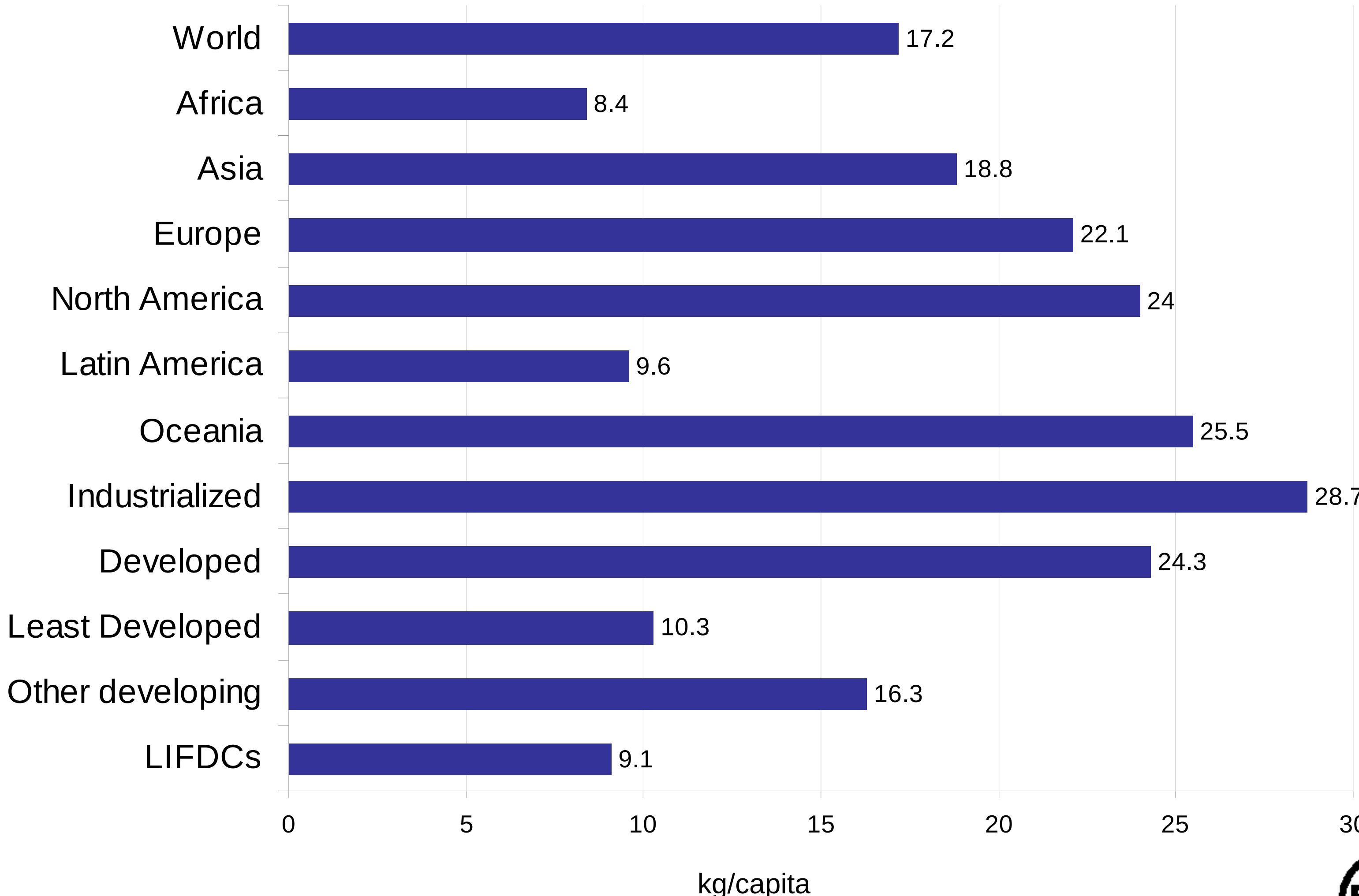
Per capita fish supply: contribution of capture and aquaculture



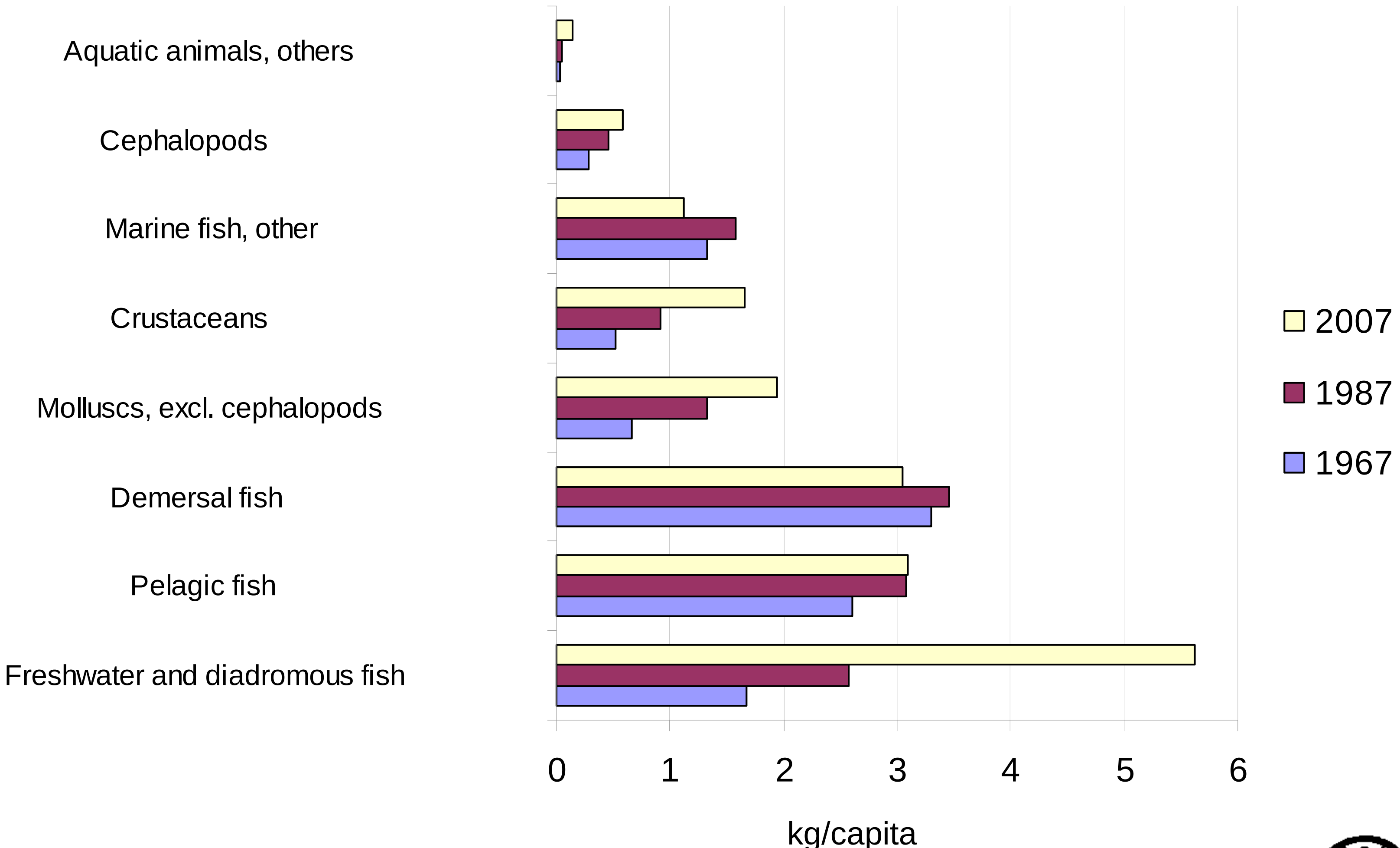
Per capita fish supply



Per capita fish supply



Per capita fish supply by groups of species



Nutritional standards

- Increase of the per capita food consumption
- Improvement of nutritional standards since 1970
- Change in global dietary patterns
- Increase in the average global calorie supply
- Growth of the quantity of proteins, in particular for emerging economies

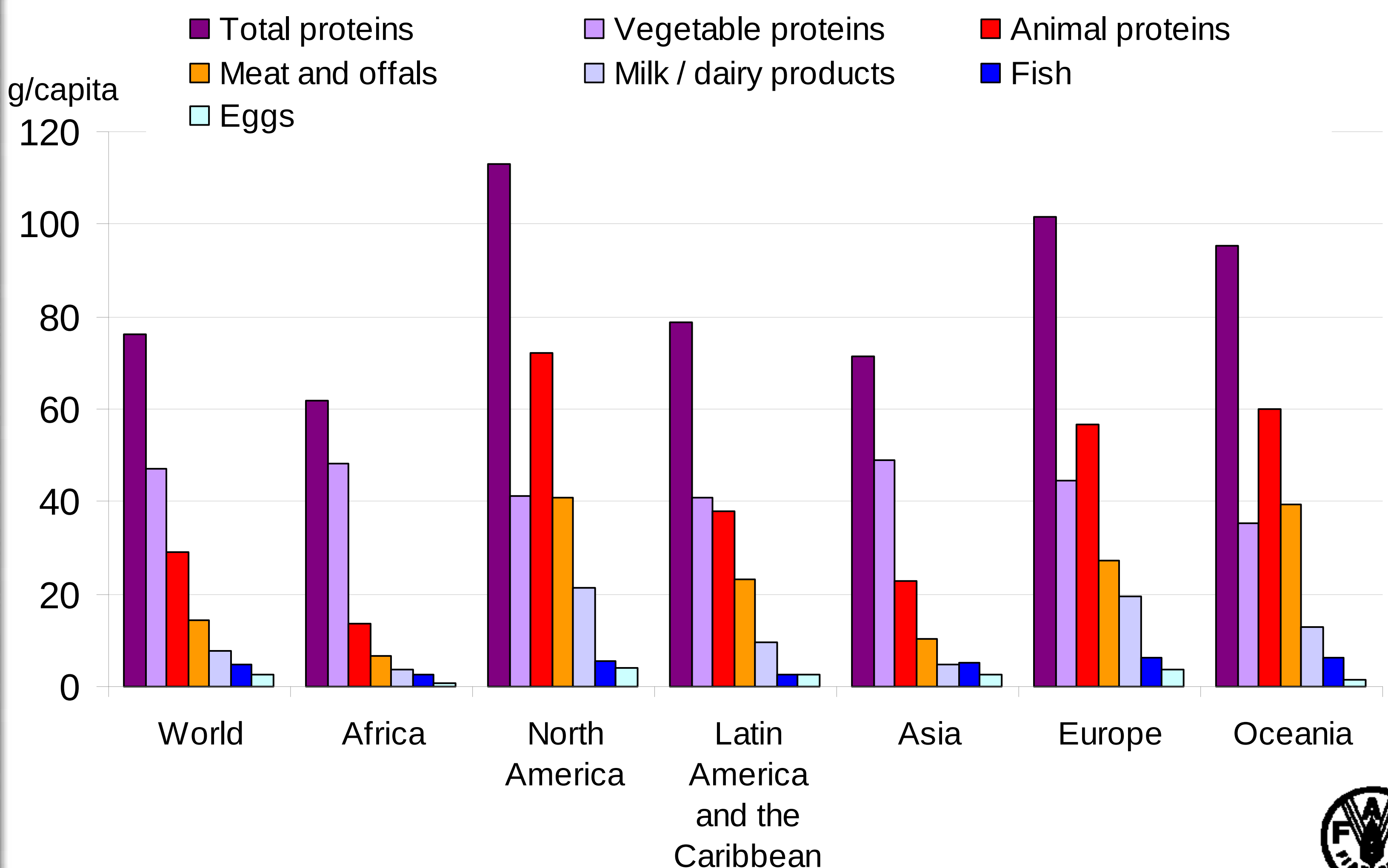
Food consumption

- Rising living standards
- Population growth
- Rapid urbanization
- Increased trade
- Transformation in food distribution, transportation, marketing
- Improvement in food science, technology
- Value-added products
- More developed economies less reactive to income growth compared to low-income countries

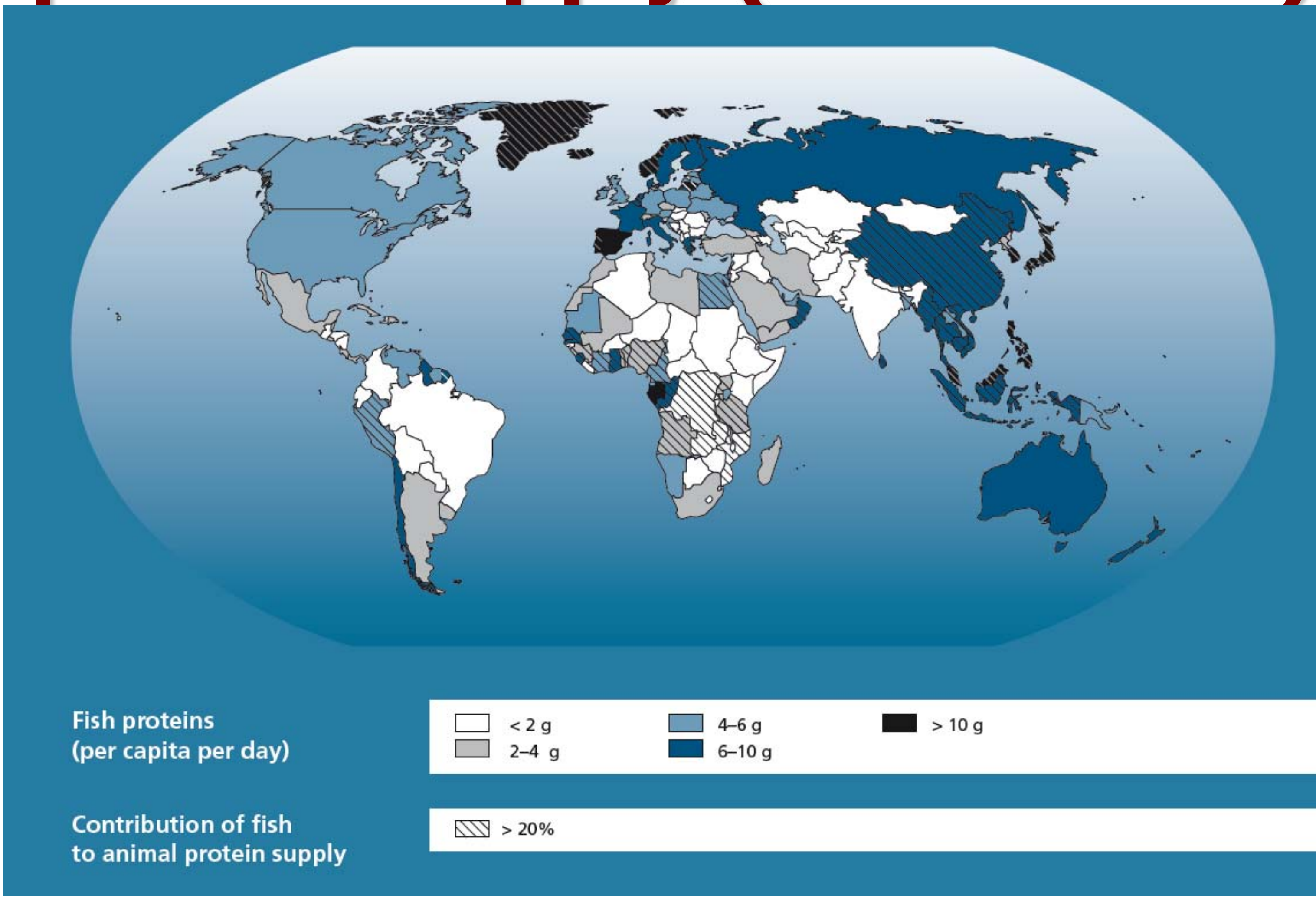
Fish consumption in industrialized countries

- Diversification in the diets
- Health and diet conscious
- Value addition
- Ready-to-cook, ready-to-eat
- More fish in fresh form

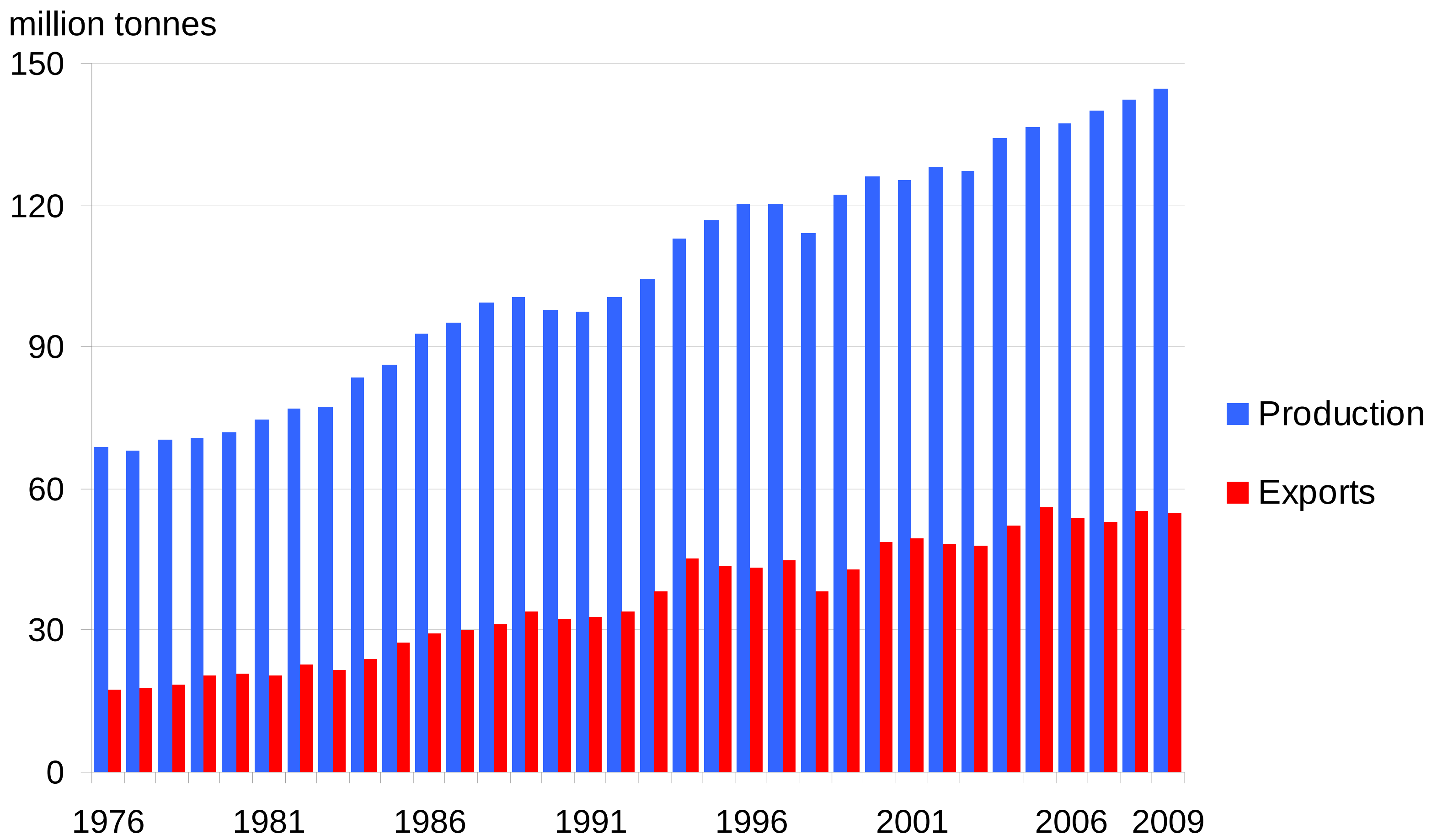
Protein supply



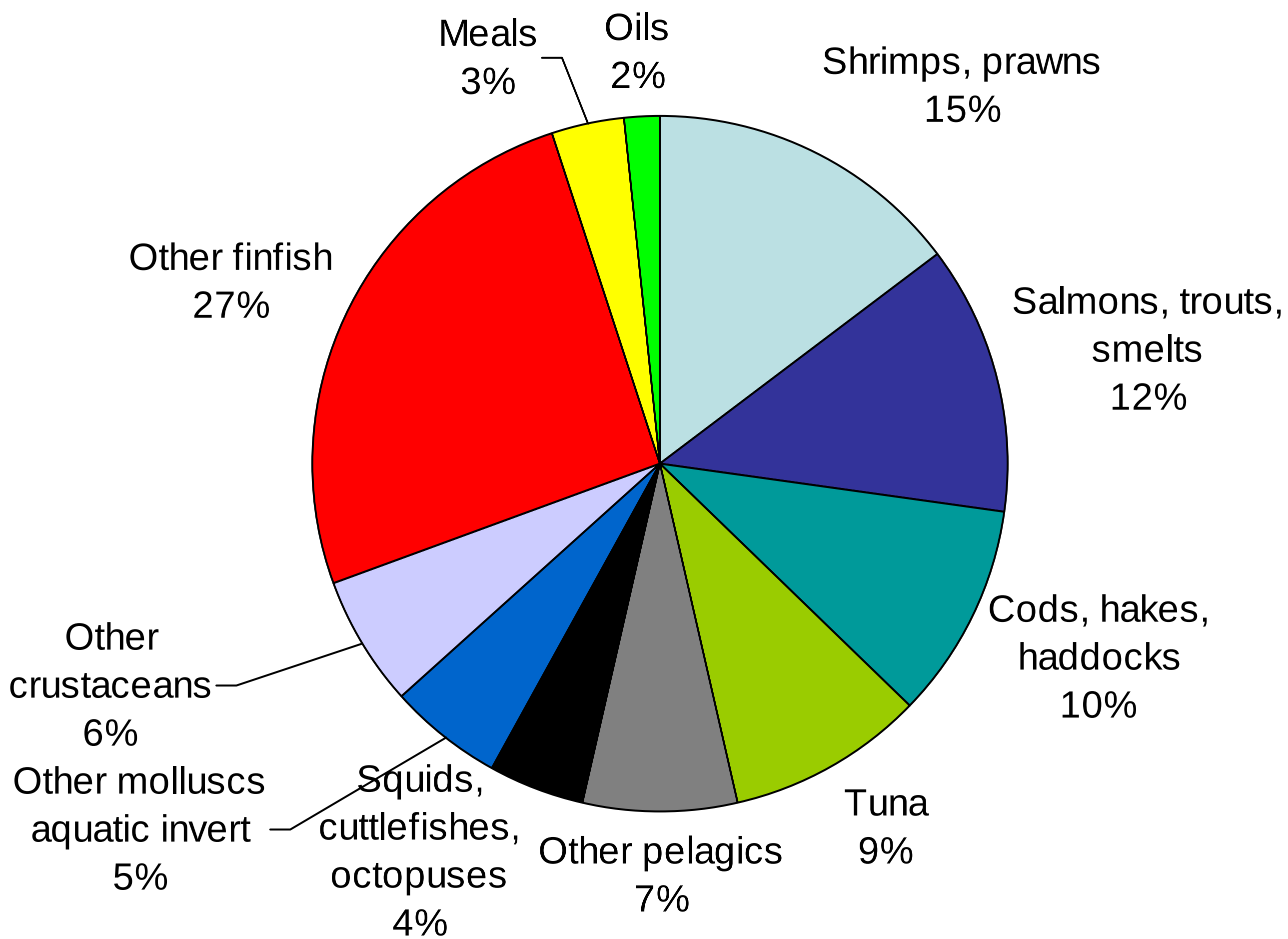
Fish contribution to animal protein supply (2005-2007)



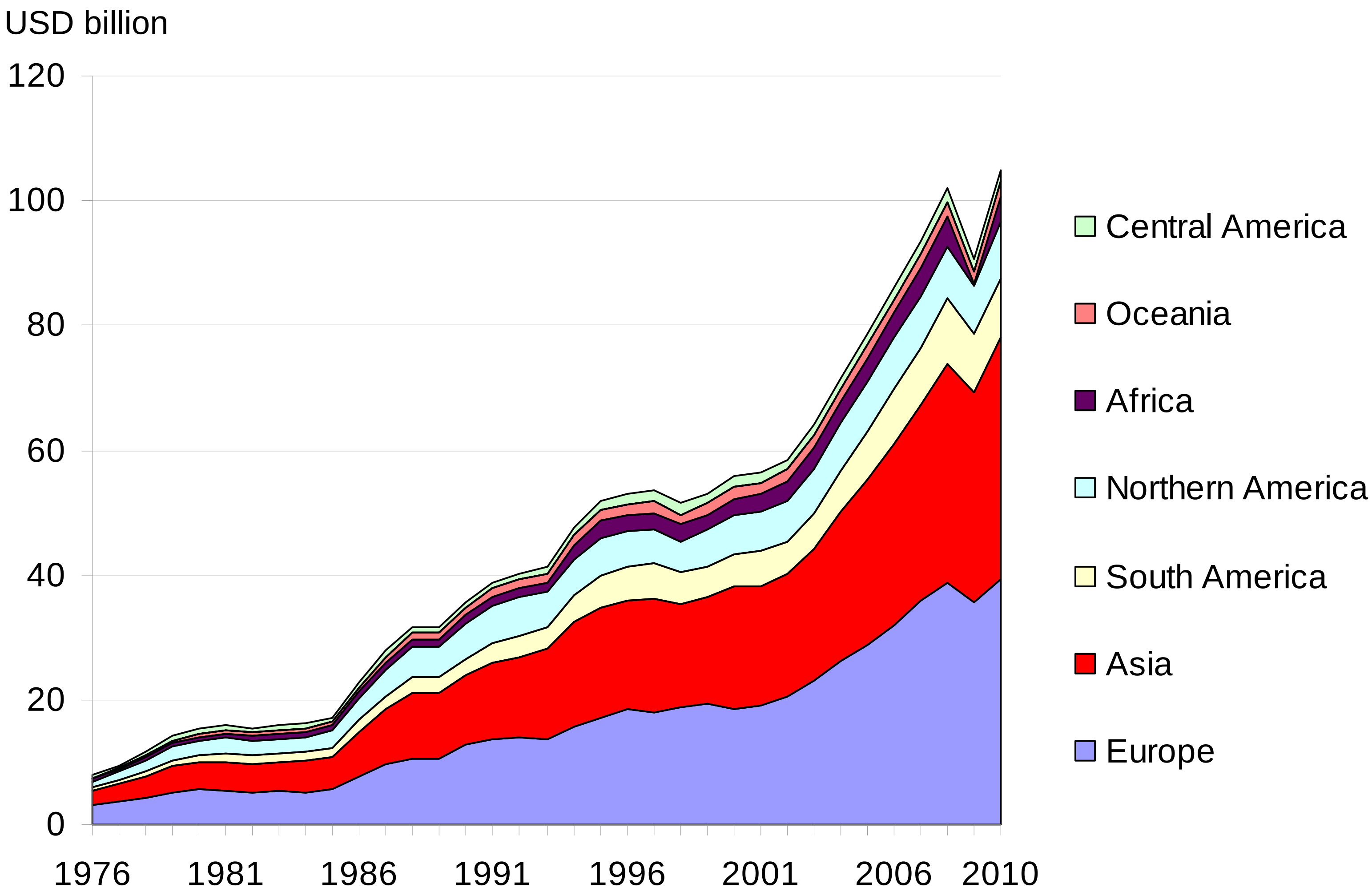
Share of production traded



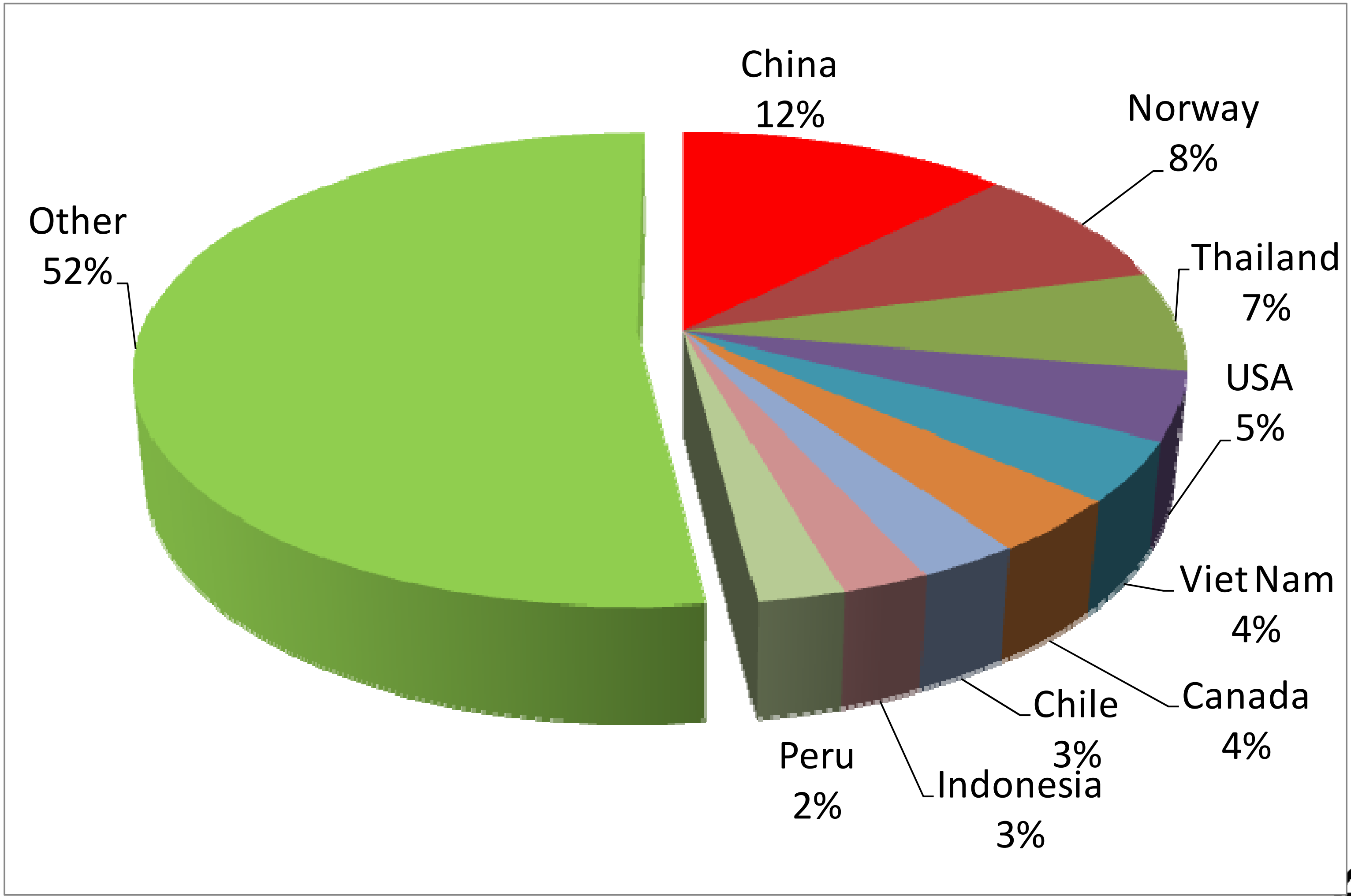
Trade by groups of species (value)



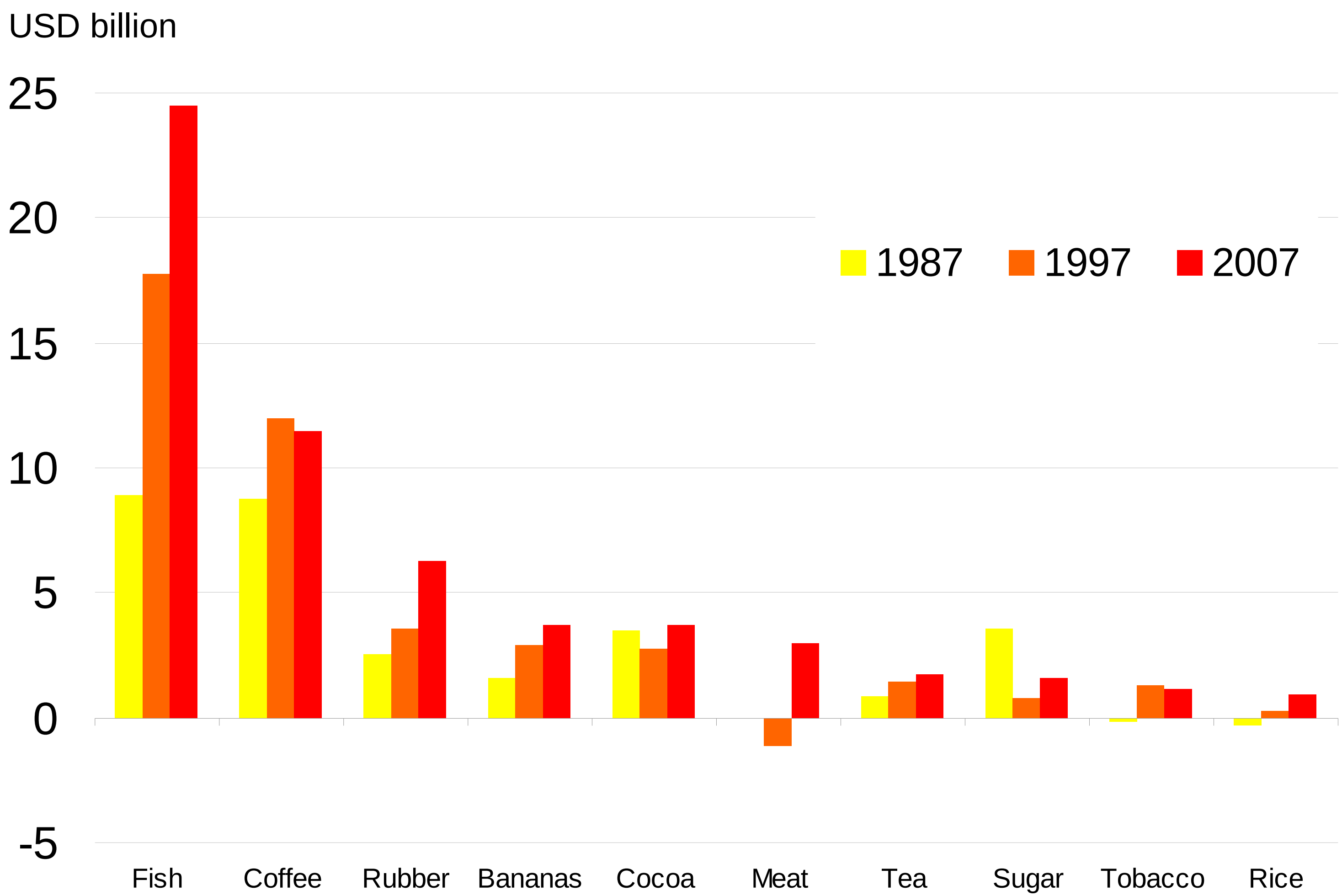
Fish exports



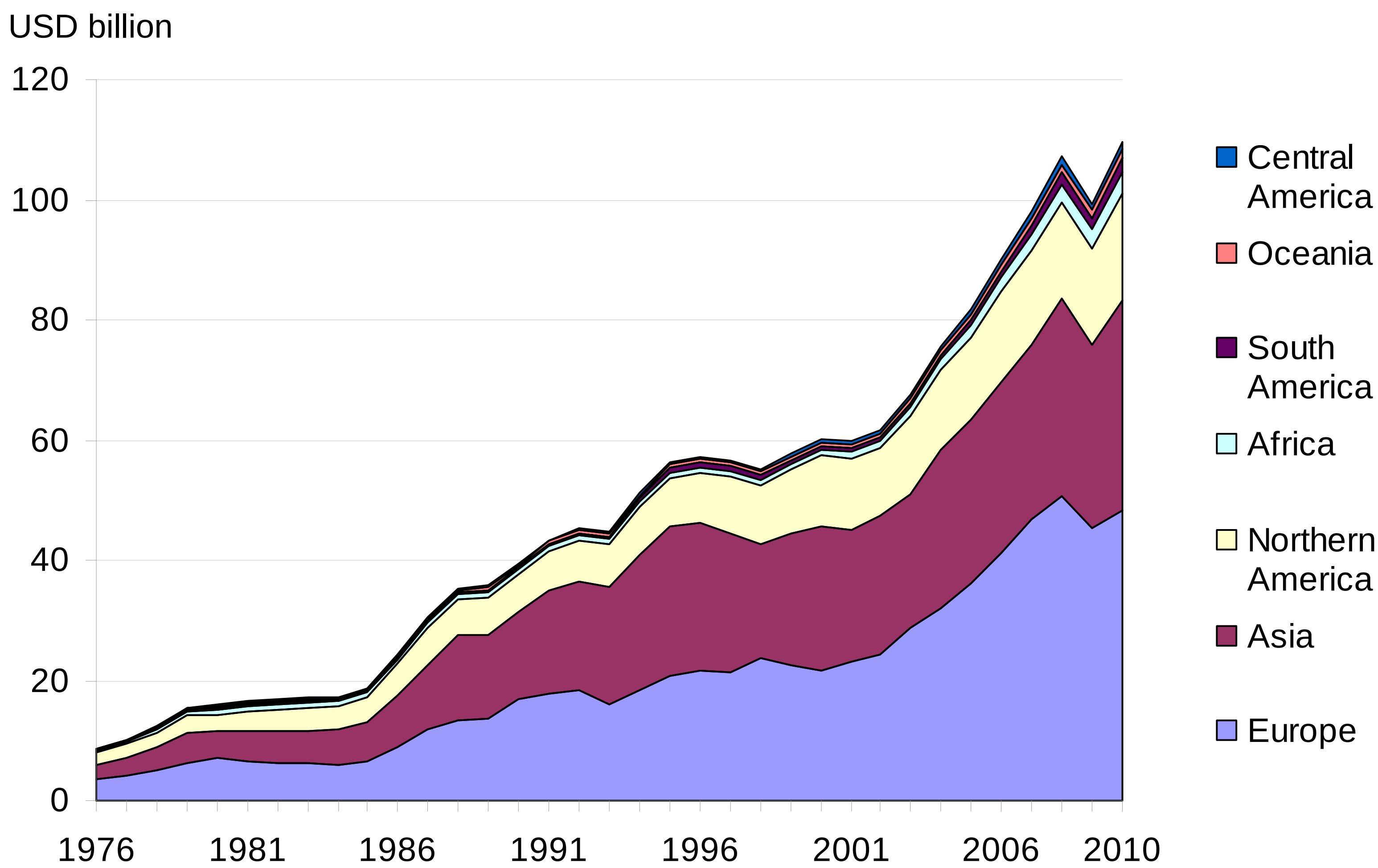
2009: Top exporters (value)



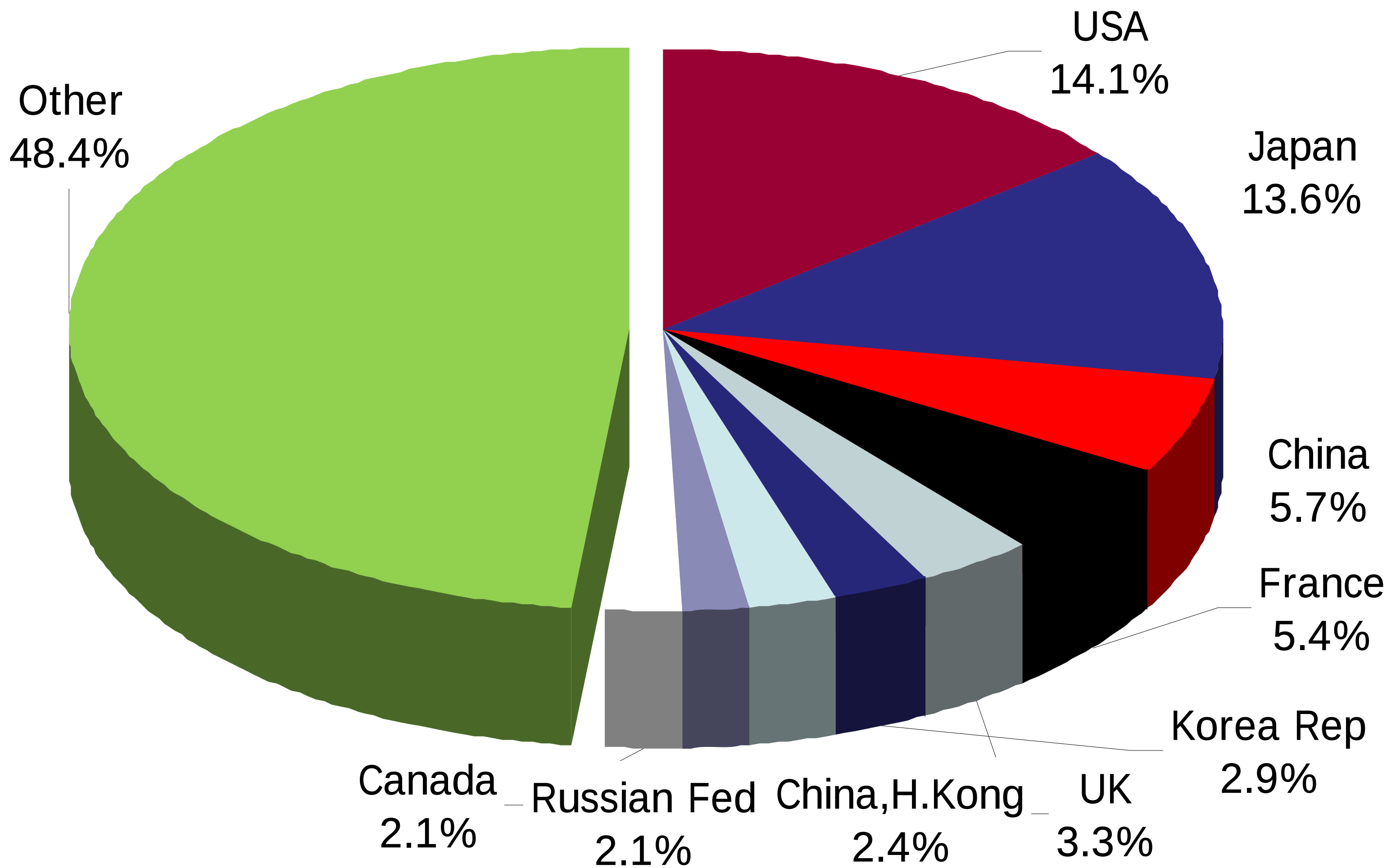
Net exports developing countries



Fish imports



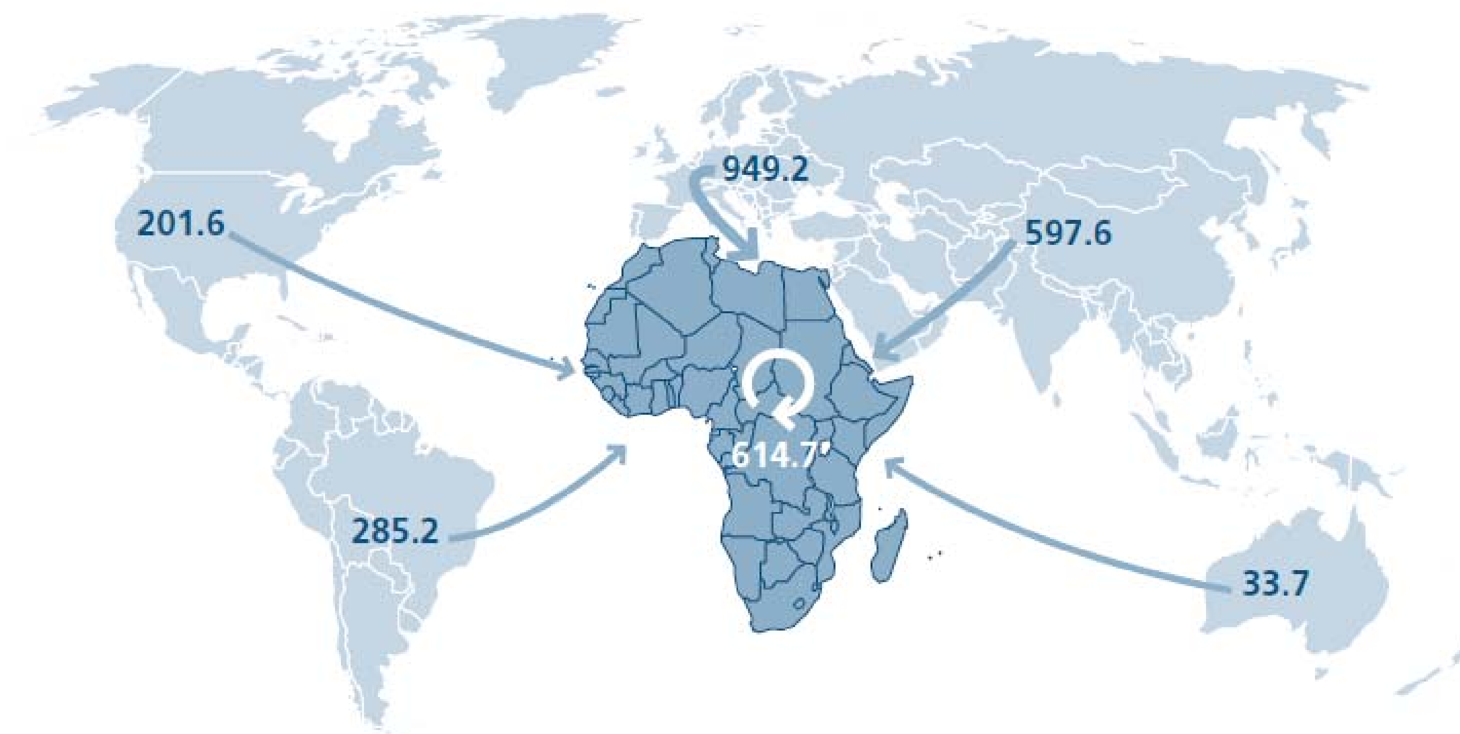
2009: Top importers (value)



Trends in trade

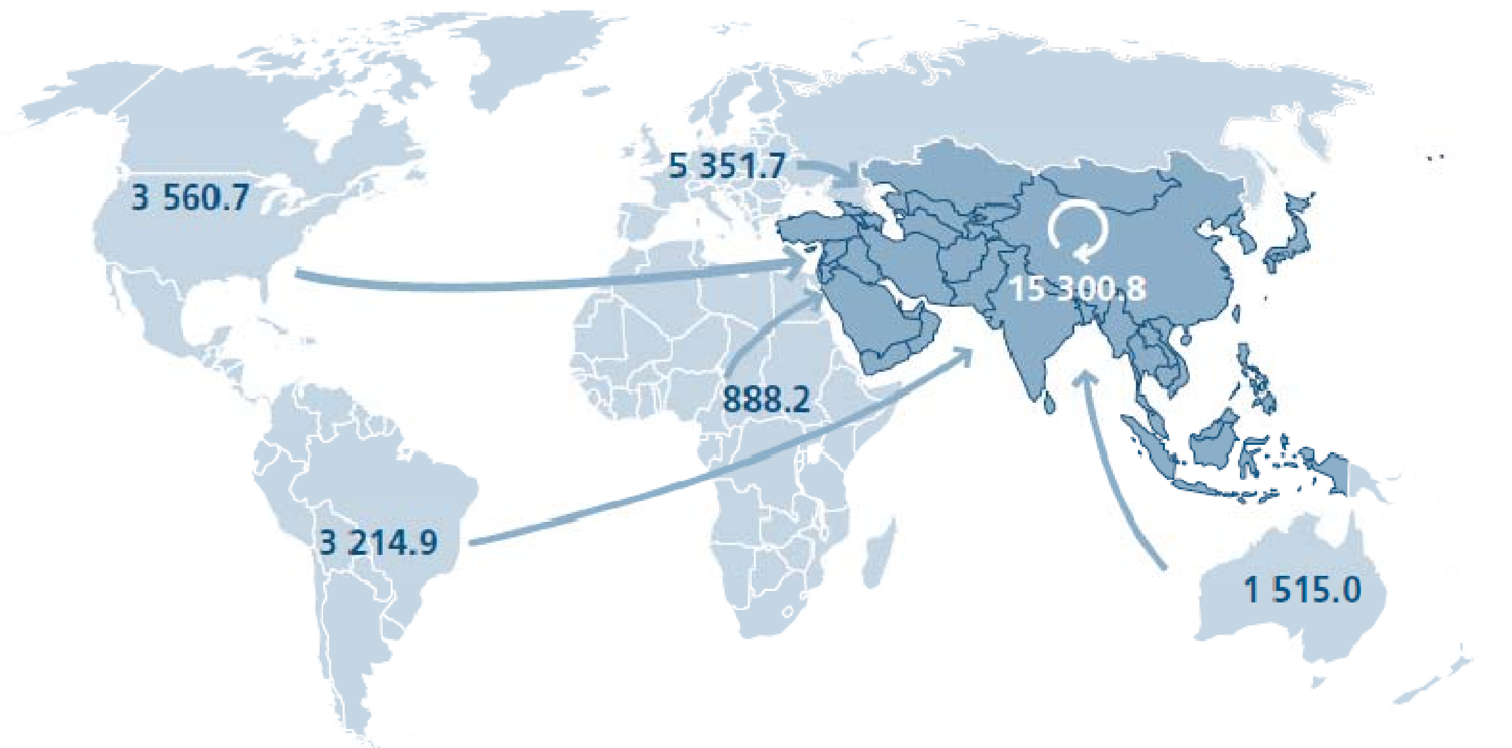
- 7% decline in 2009, followed by growth of 11% in 2010
- 2010 imports estimated ad USD 110 billion and exports at USD 105 billion
- Positive 2011
- Wide range of product types and participants
- Increased fishery trade within regions
- Growing imports among/from developing countries

Africa



Imports in USD million

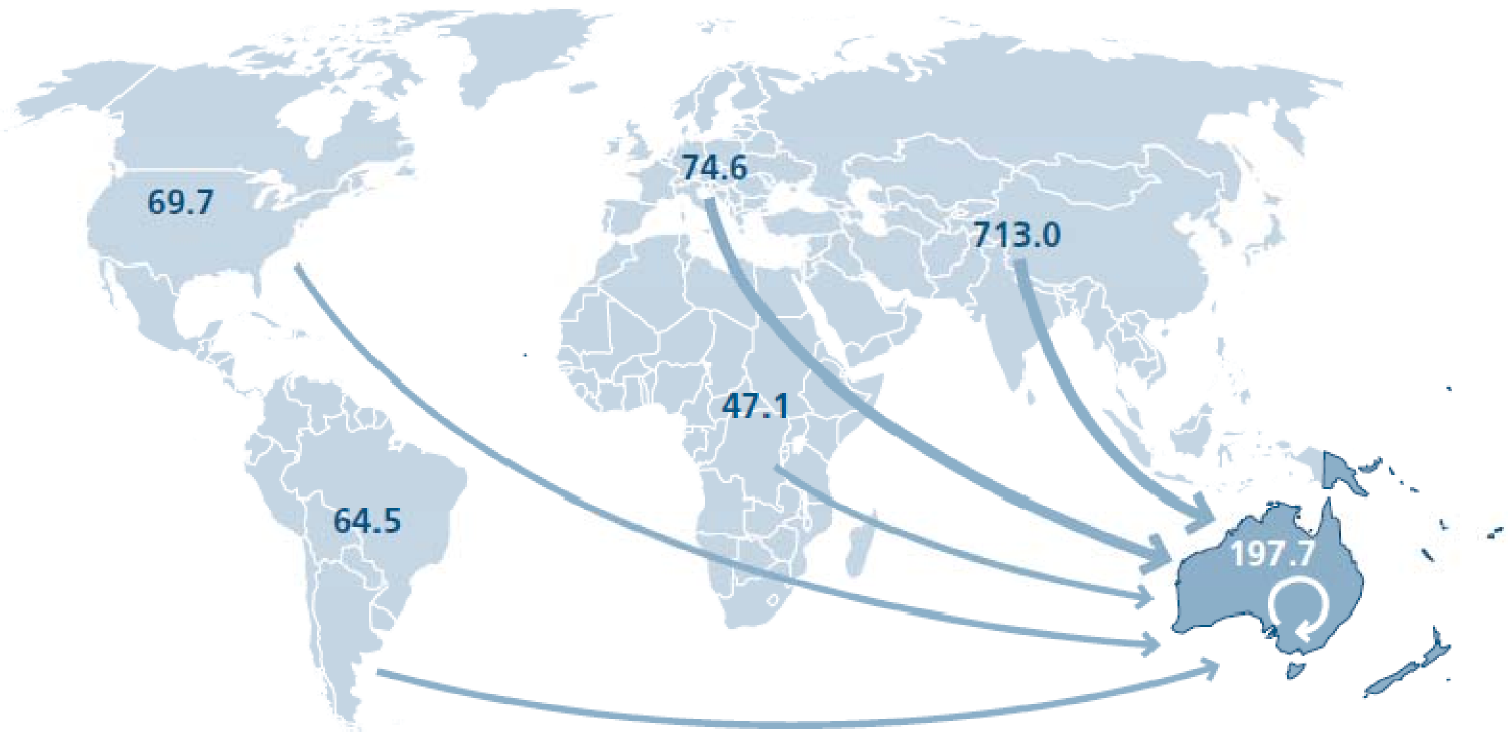
Asia



Intraregional trade

Imports in USD million

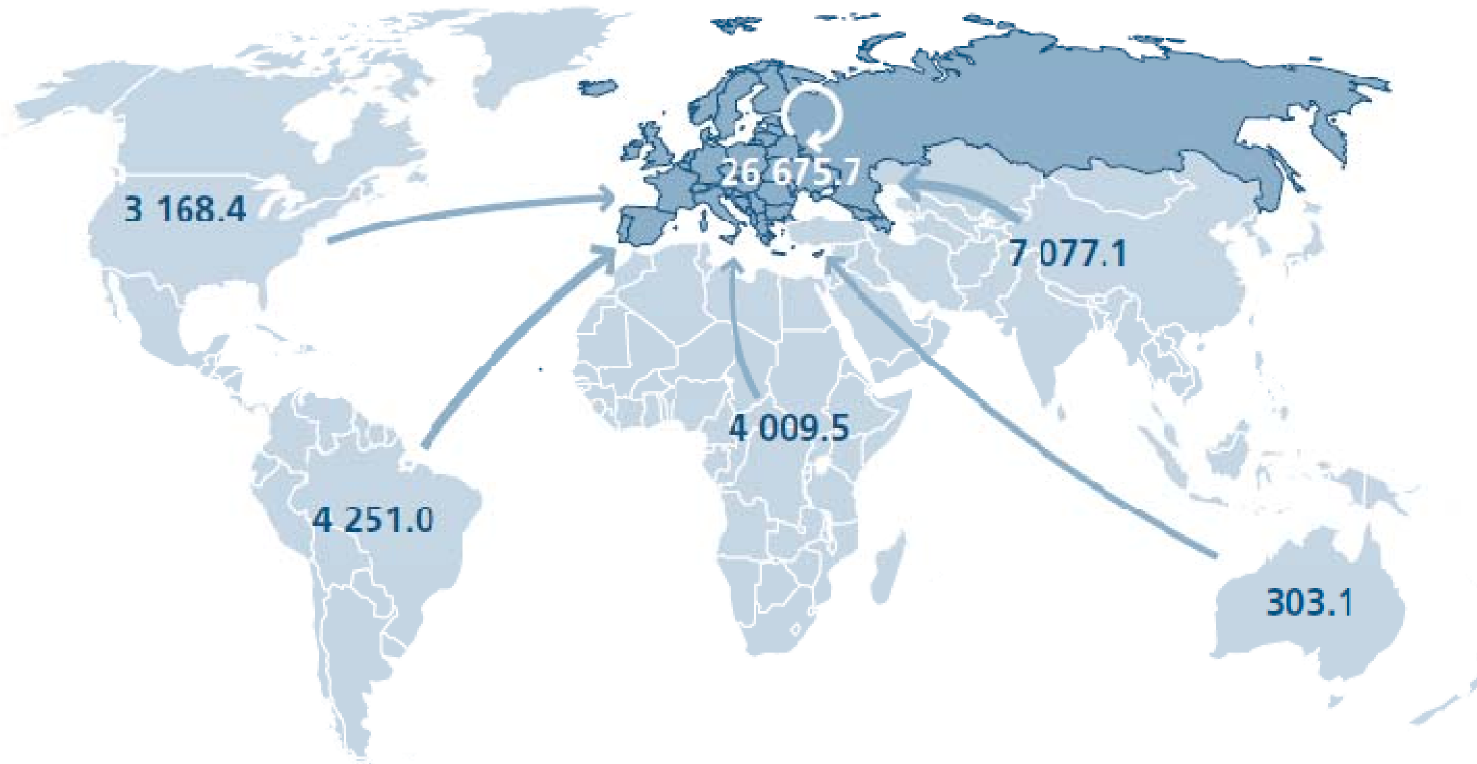
Oceania



Intraregional trade

Imports in USD million

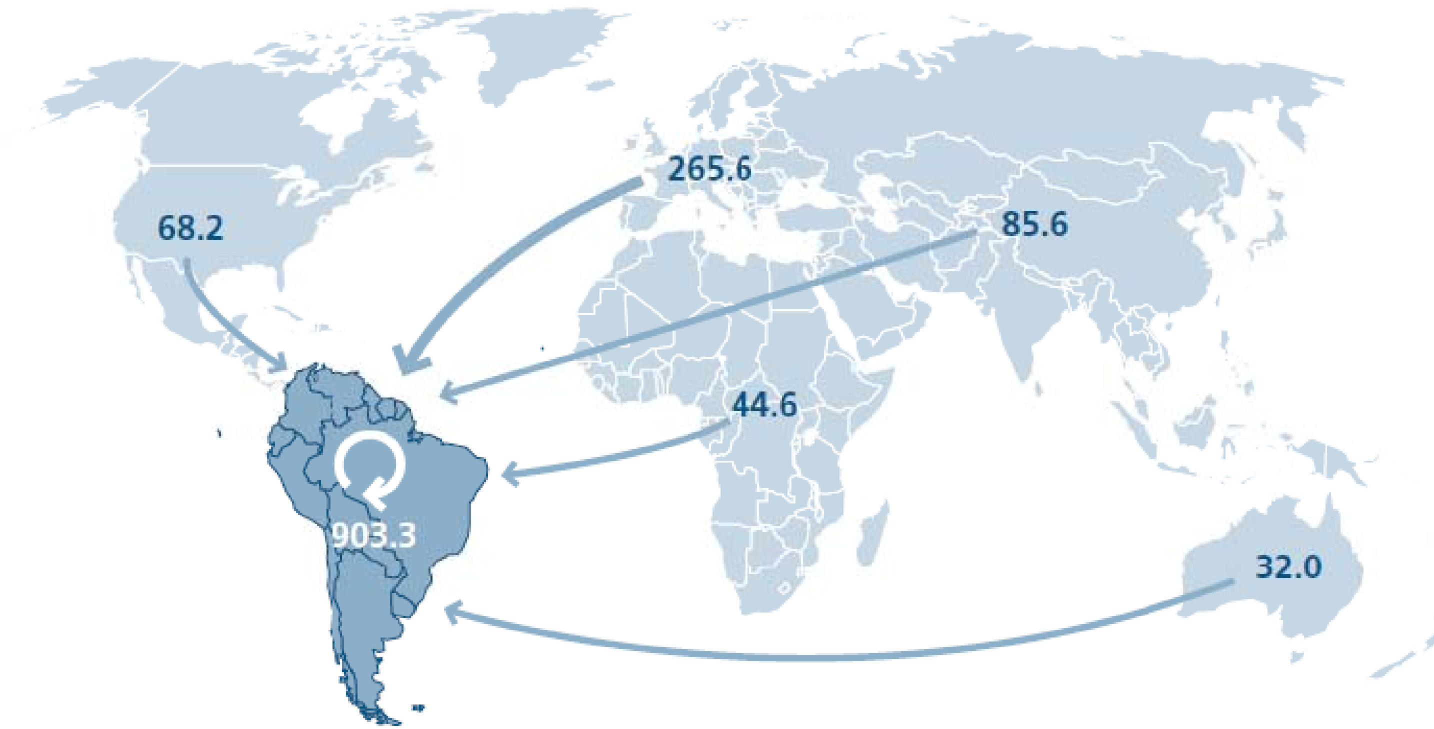
Europe



Intraregional trade

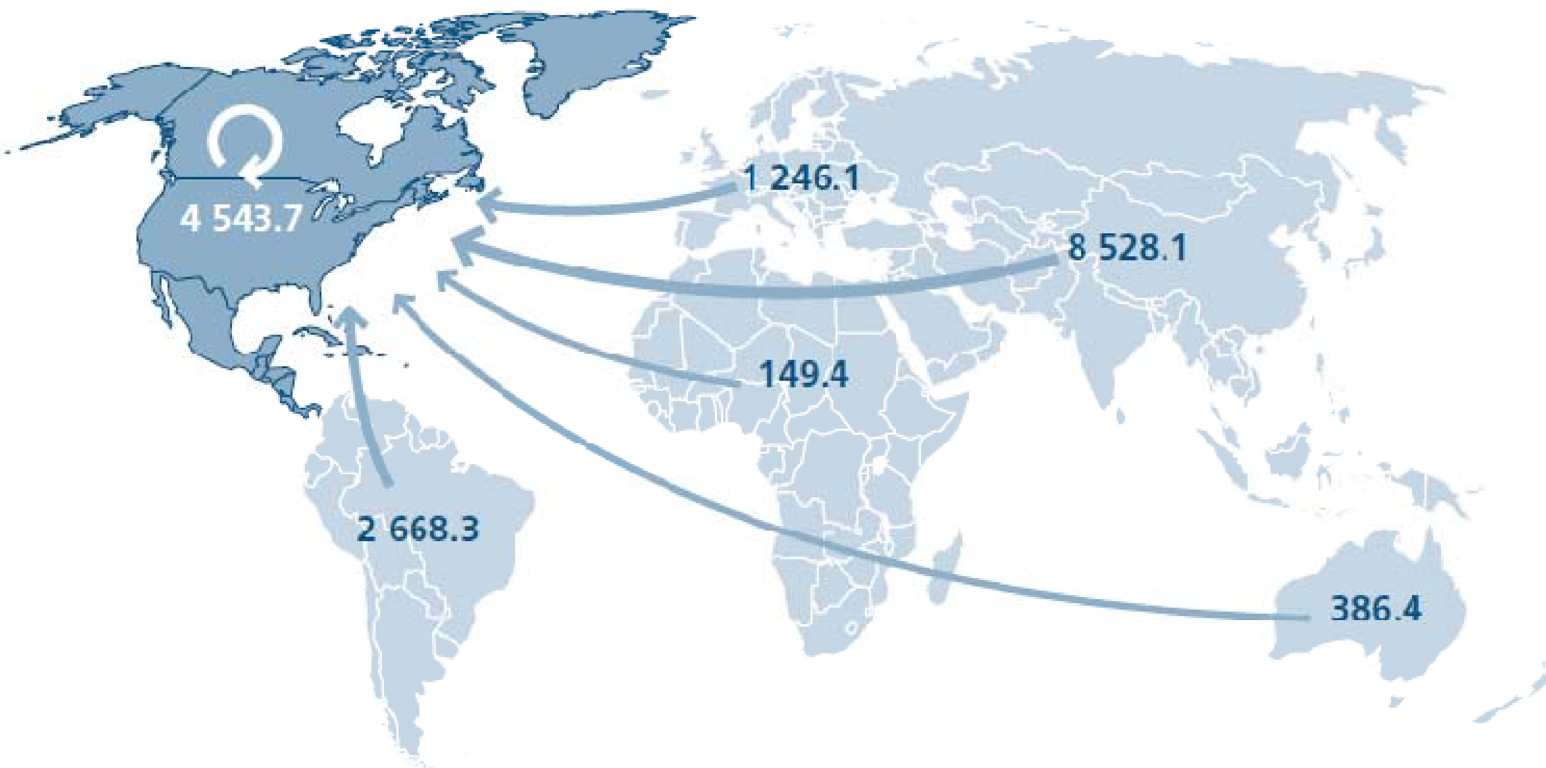
Imports in USD million

South America



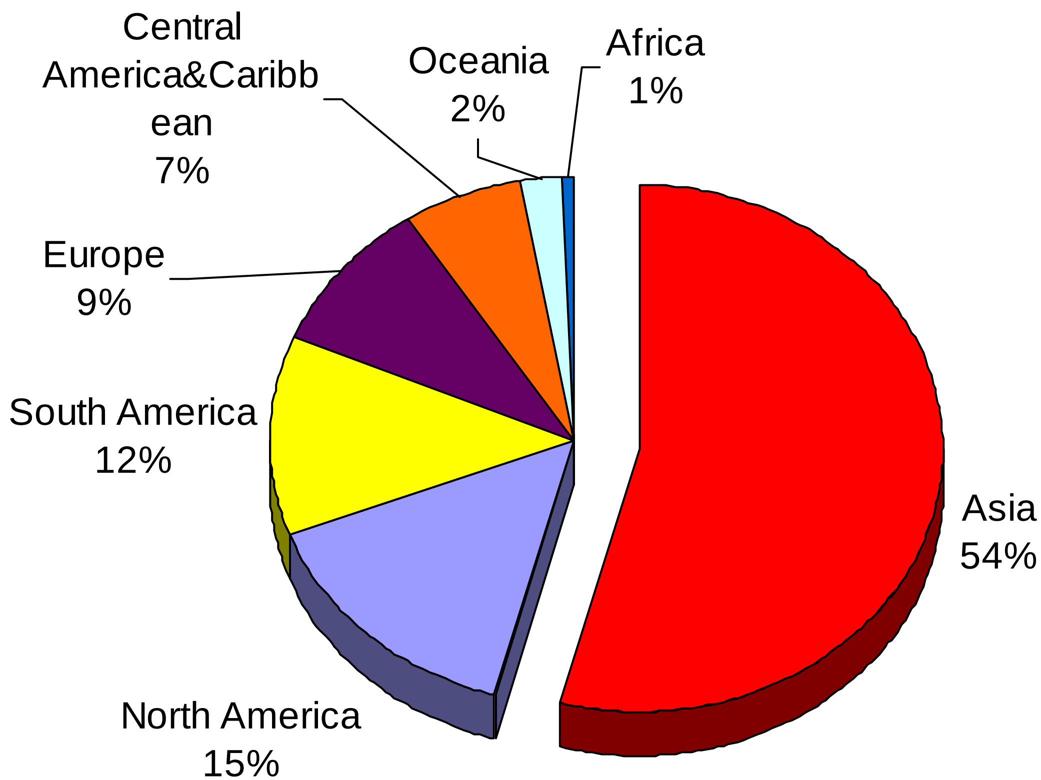
Imports in USD million

North and Central America

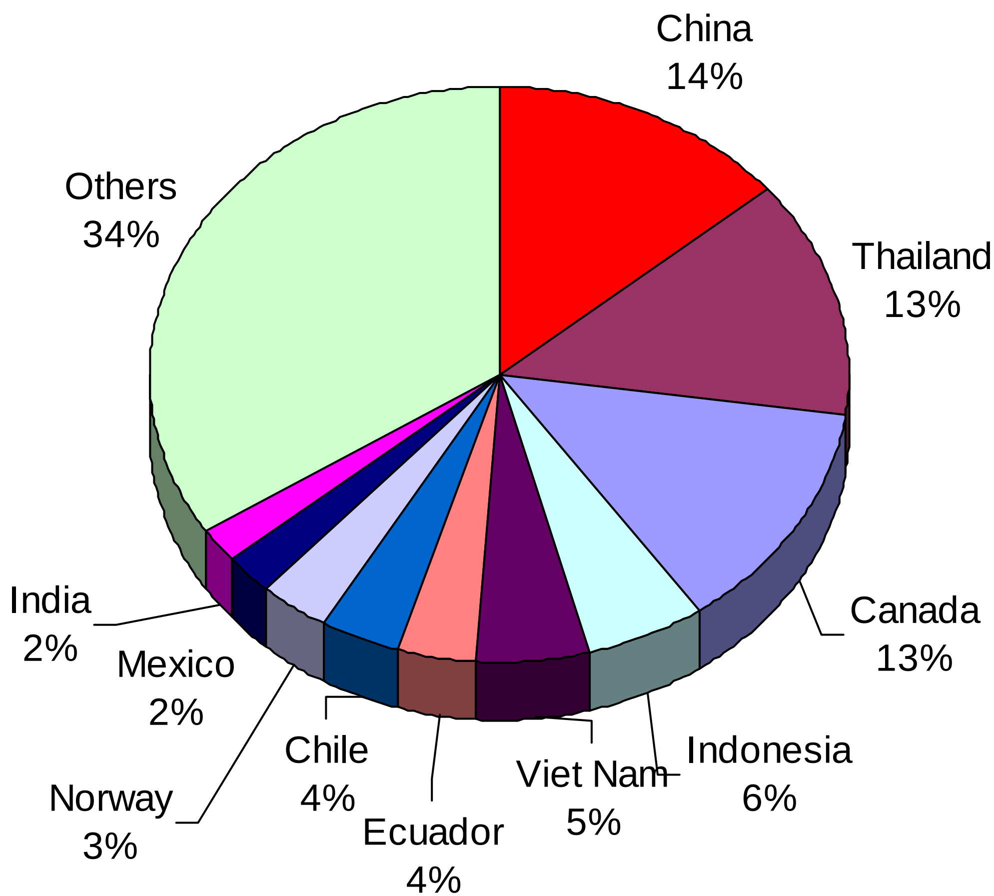


Imports in USD million

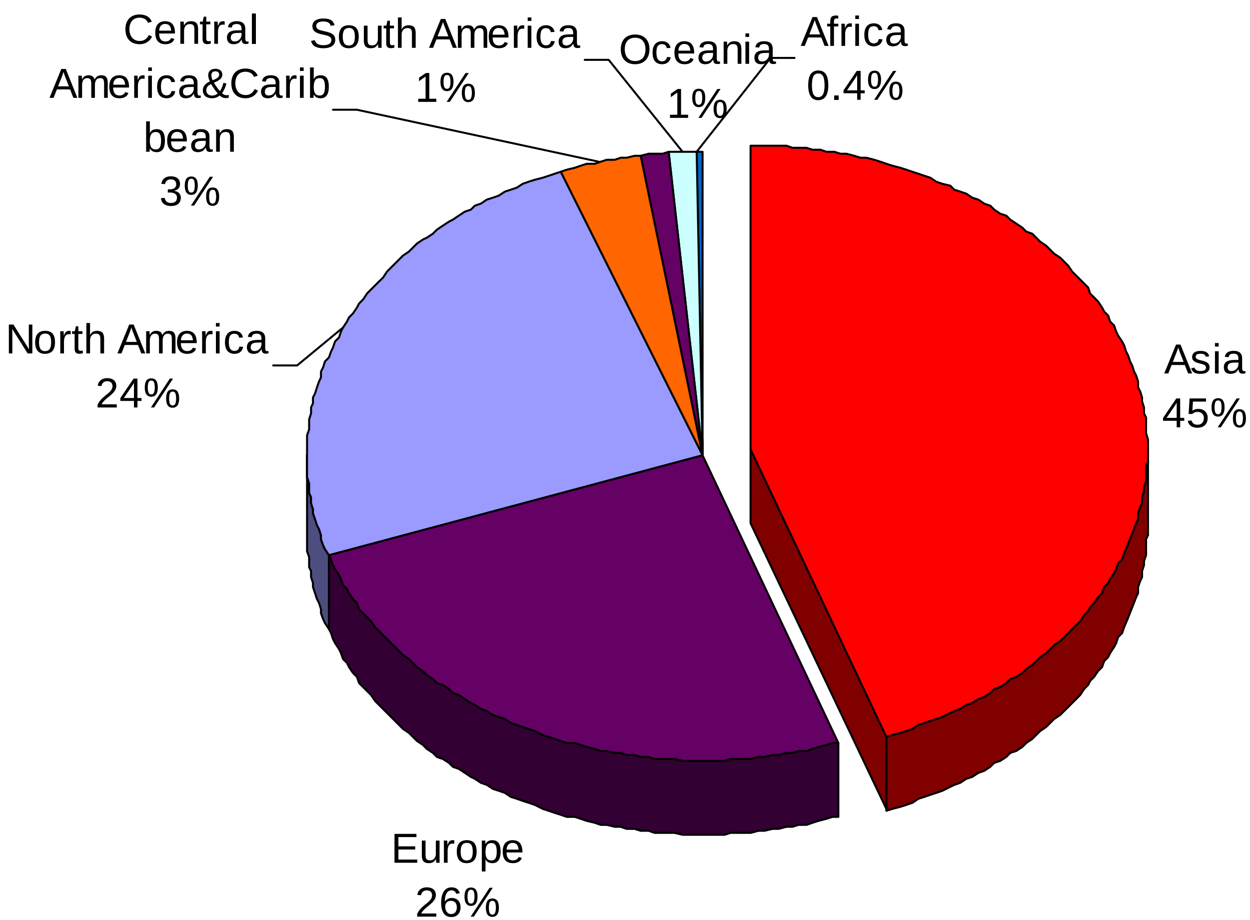
US fish imports in 2010
Value



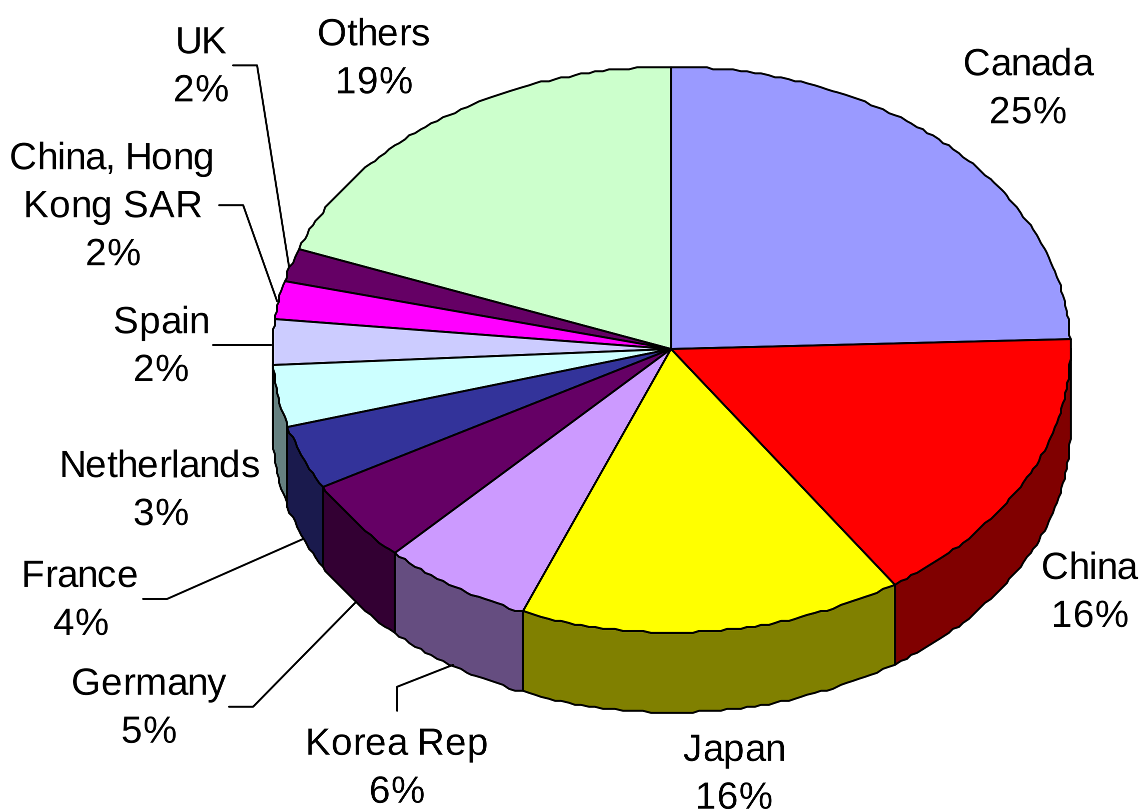
US fish imports in 2010 Value



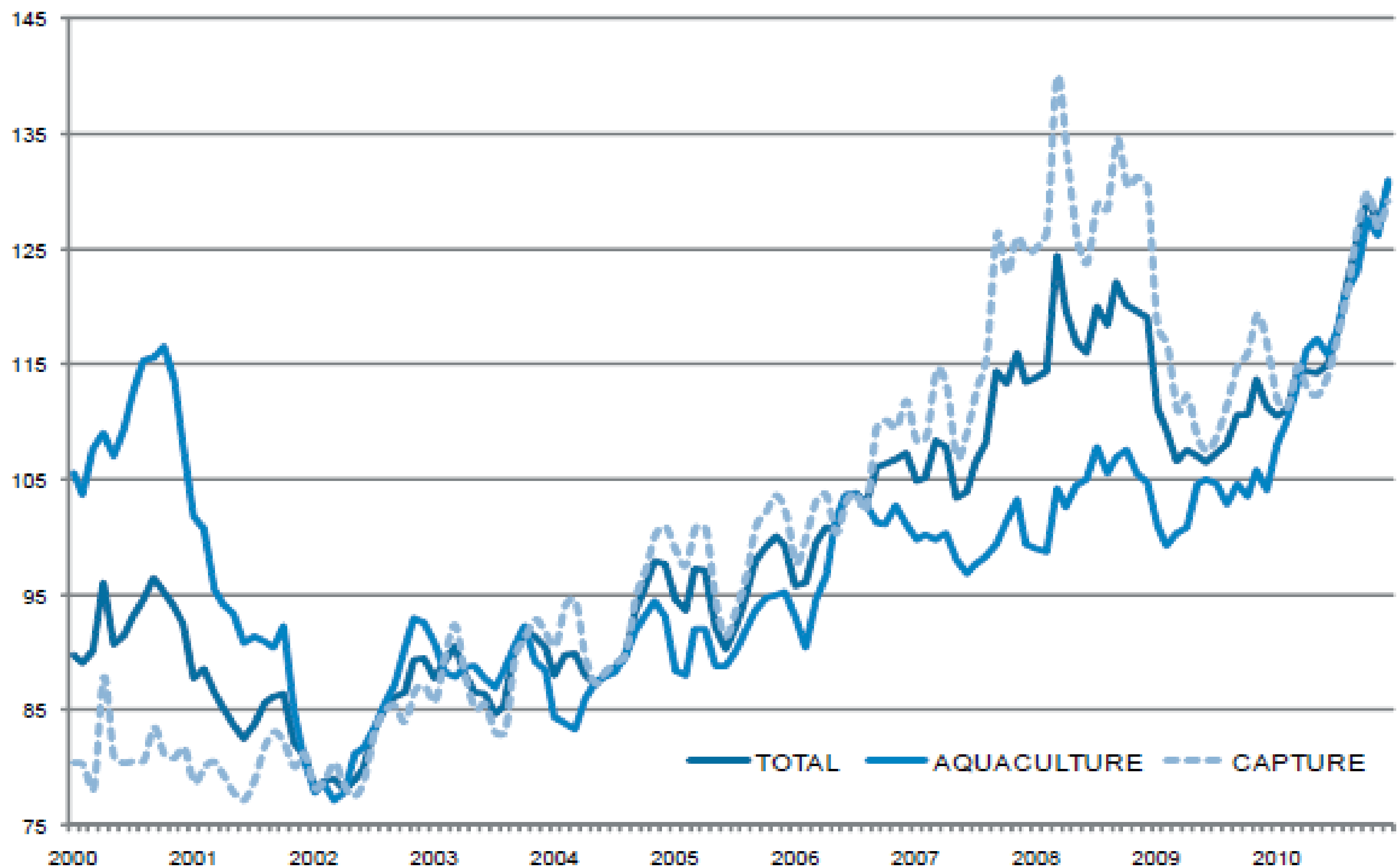
US fish exports in 2010 Value



US fish exports in 2010 Value



Fish Price Index (2005=100)



Data Source: Norwegian Seafood Export Council

Outlook supply

- Major increases will depend on aquaculture.
- Factors to influence future growth of aquaculture:
  - costs/availability of feed for selected species; access and availability of areas/water
  - environmental impacts
  - availability of technology and finance
  - effects on biodiversity
  - climate changes
  - governance
  - food safety and traceability issues
- Capture: importance of implement more cautious and effective fisheries management

Outlook demand

- Retail concentration in developed and developing which will affect demand
- Product development, technological innovation
- Continuous increase of trade
- Increased imports from developing countries
- Outsourcing of processing will continue
- Slow growth in per capita consumption


THANK YOU