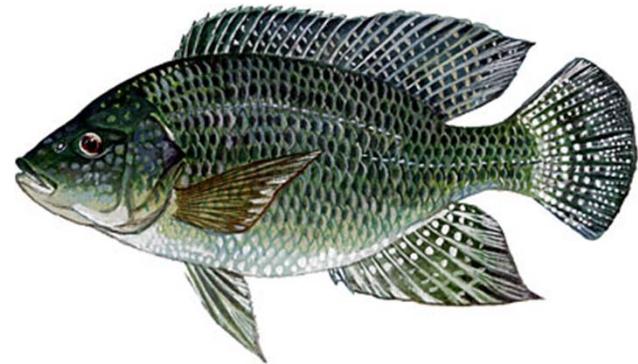
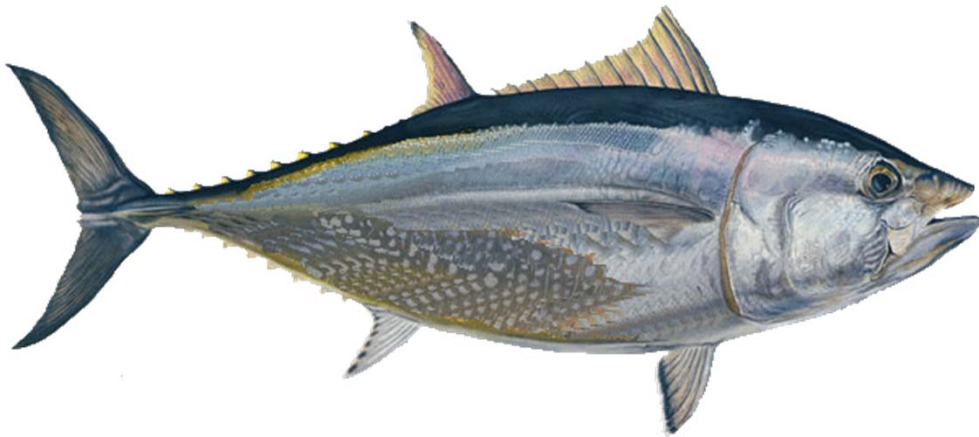


# Tuna or tilapia?

## Food security and environmental implications of aquaculture



# Increasing demand for seafood

## More People

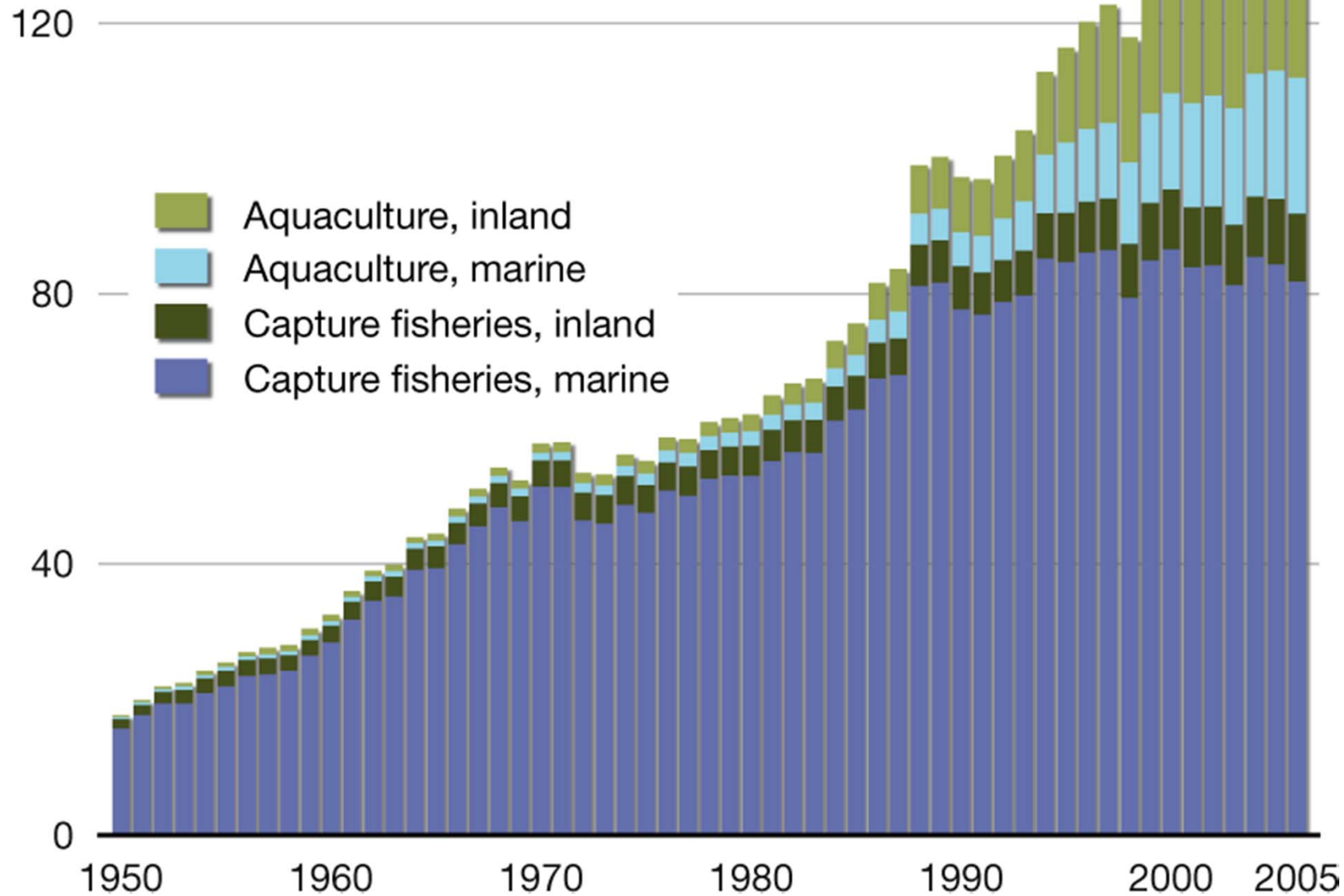
- 1960s – **3 billion** people
- 2007 – **6.6 billion** people

## Eating More Fish

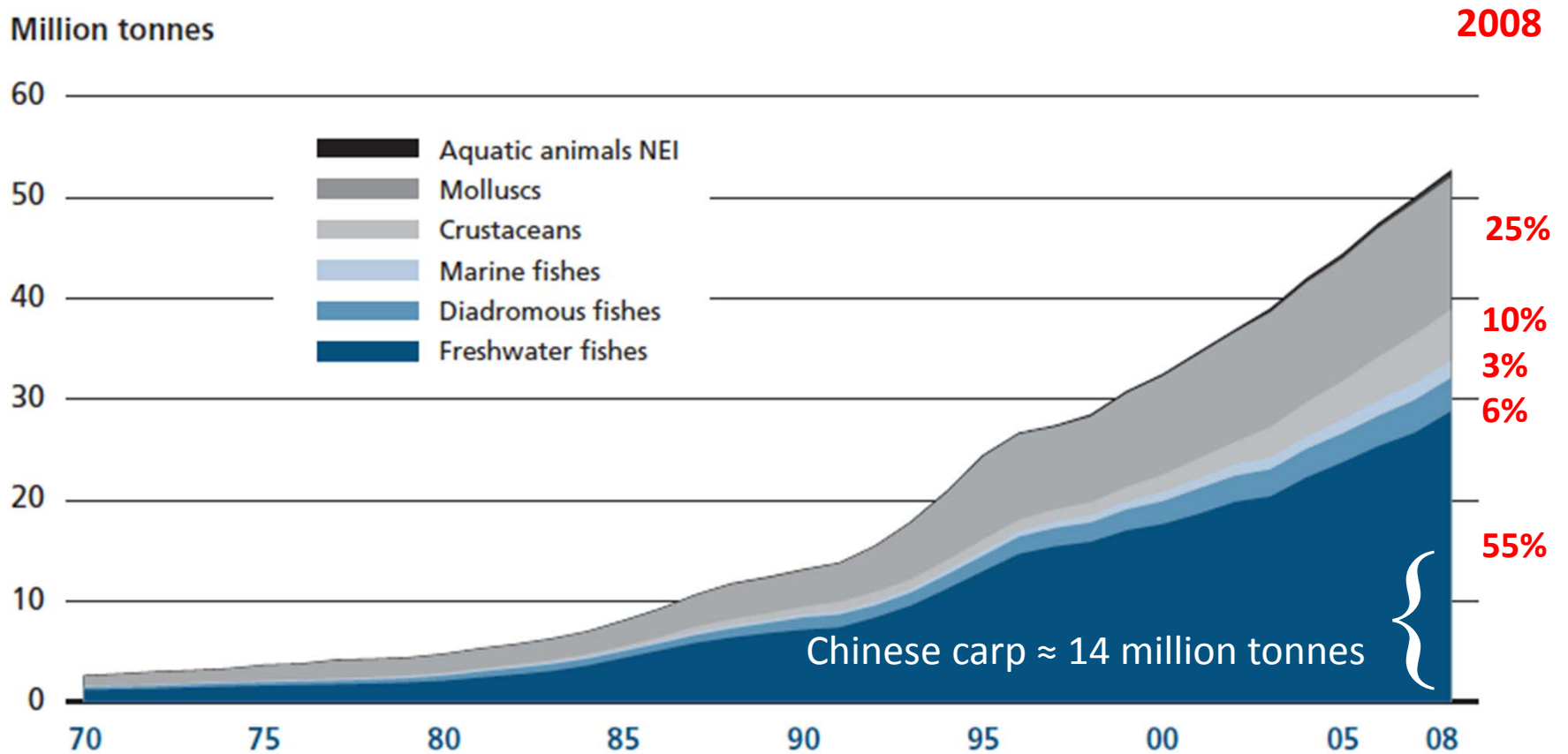
- 1961 per capita fish consumption: **9 kg**
- 2007 per capita fish consumption: **17 kg**



# World fisheries and aquaculture production (million tonnes)

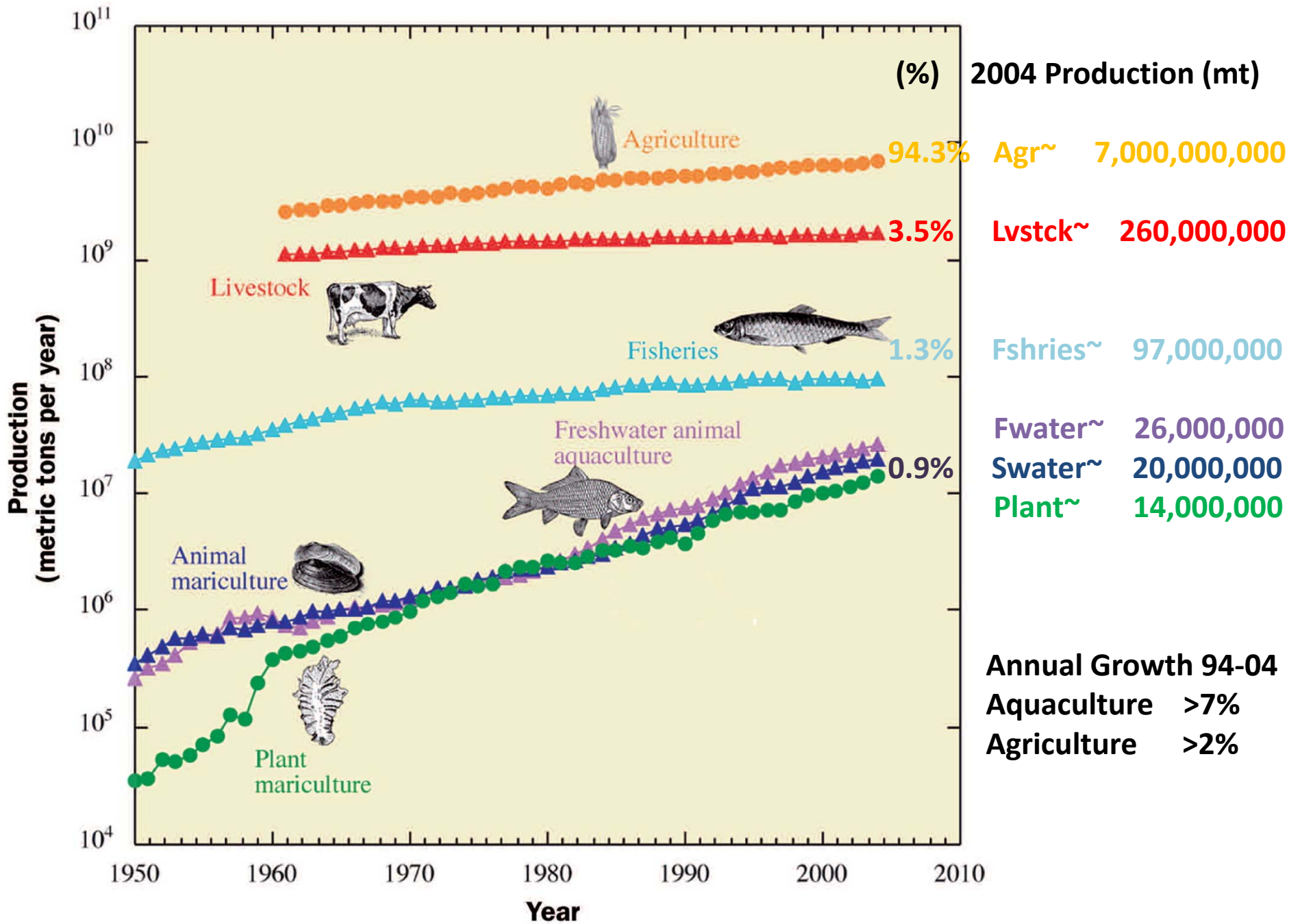


# Trends in world aquaculture production 1970-2008



Note: NEI=not elsewhere included

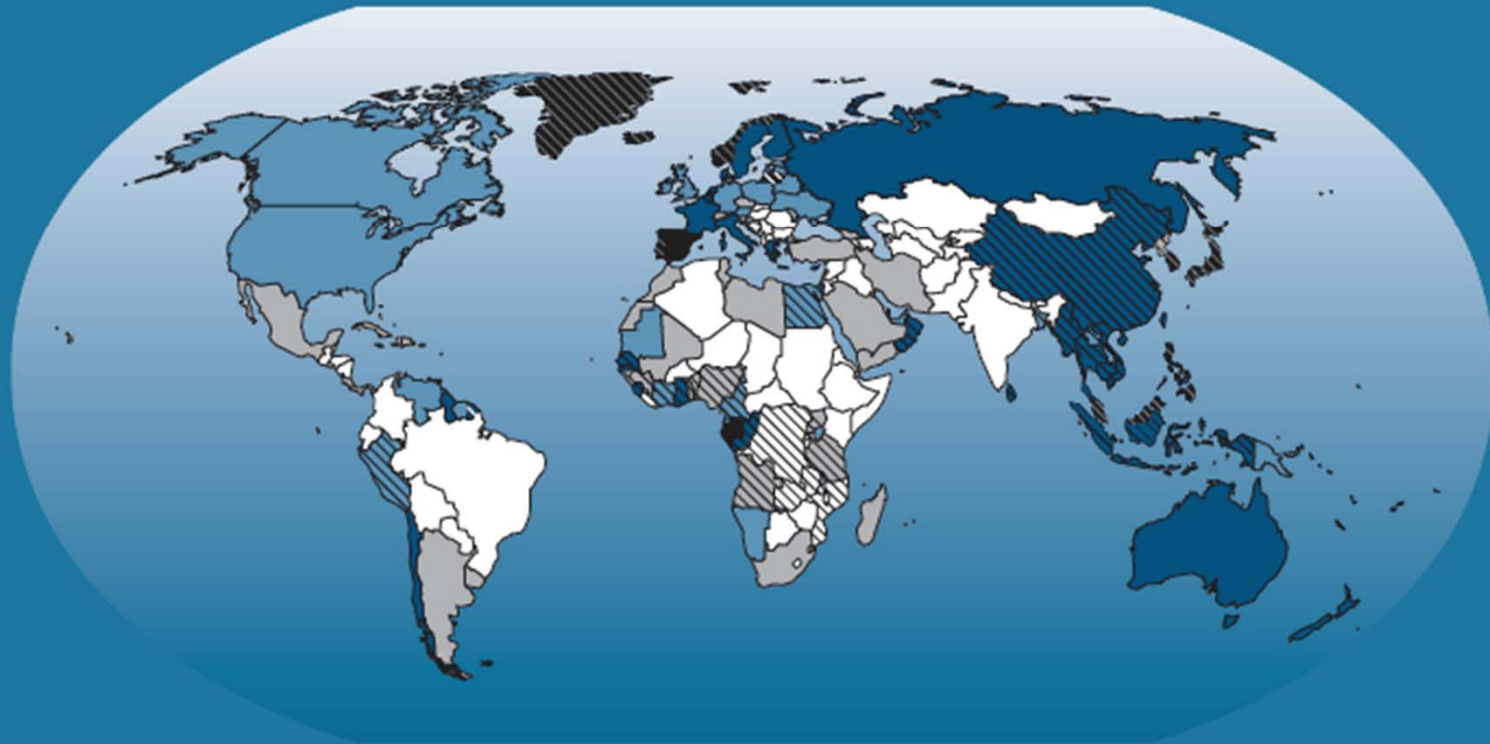
(2008 Chinese production= 33 million tons)



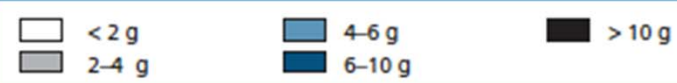
# Aquaculture and food security



## Contribution of fish to animal protein supply (average 2005–2007)



Fish proteins  
(per capita per day)



Contribution of fish  
to animal protein supply



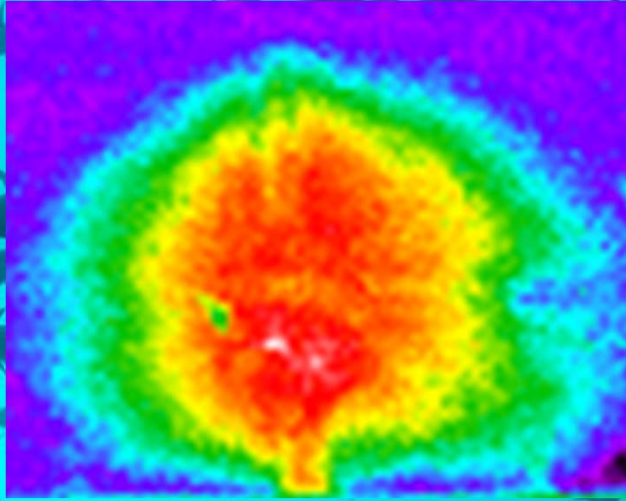
# Potential for aquaculture to address food insecurity: some considerations

- Providing inexpensive protein distributed through global markets (industrial tilapia) ??
- Alleviating pressures on wild stocks that the food insecure depend on??
- Substituting farmed protein systems for subsistence fishermen and impoverished farmers ??
  - Cultural/infrastructural impediments
  - Requires significant agricultural extension work





# Bluefin tuna farming



# Food security implications



# Tilapia

## Blue Ridge Aquaculture

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# Environmental and food security Implications





# Who should invest? In what?



BILL & MELINDA  
GATES *foundation*

