

How to mobilise the sciences and arts for engaging citizens for sustainable seas?

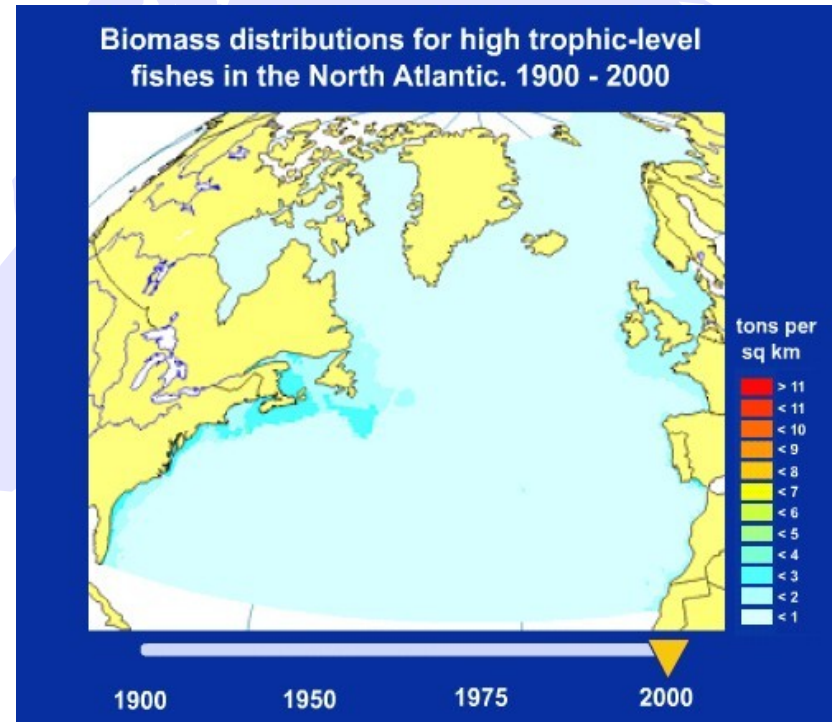
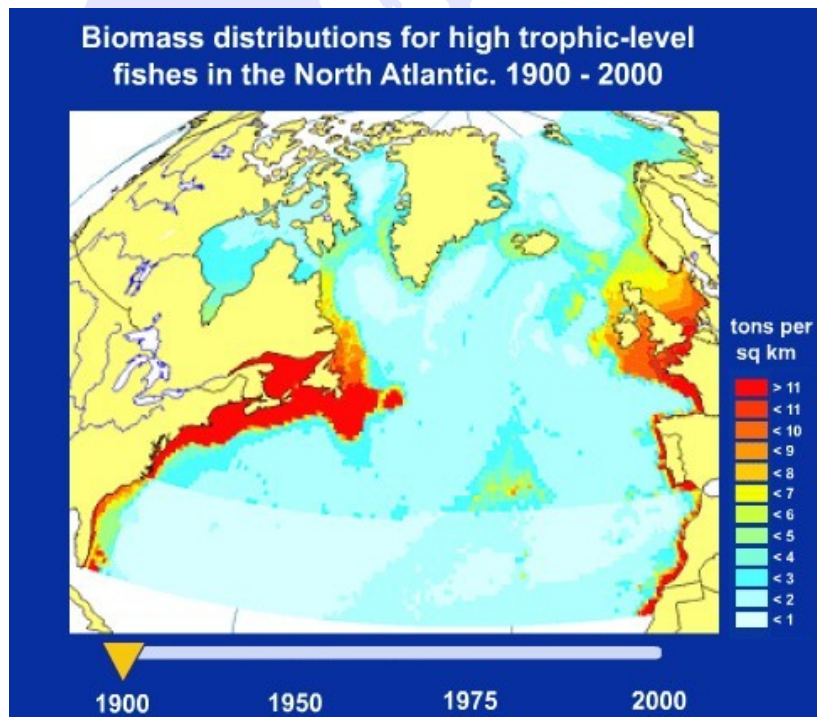
Dr. Cornelia E. Nauen

President

Mundus maris - Sciences and Arts for Sustainability asbl

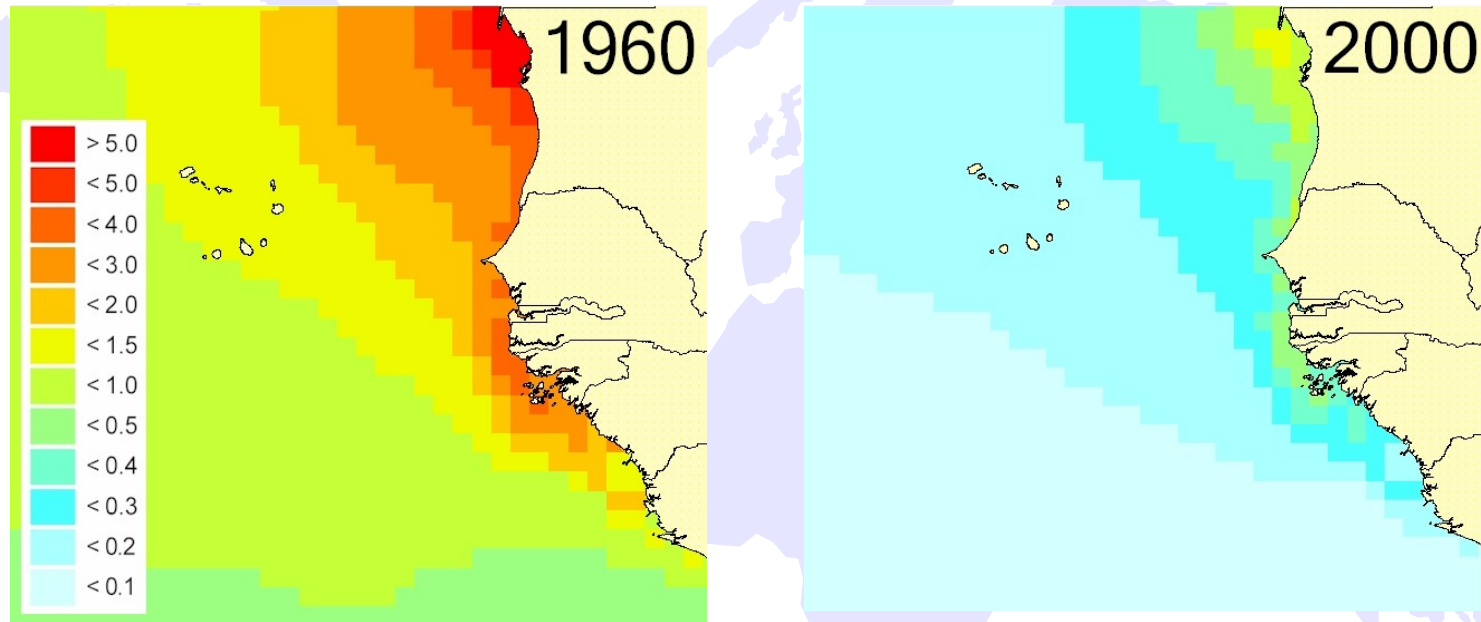
Slow Fish "Pescare in Africa", Genova, 28/05/2011

Why do we talk about a fisheries crisis starting in the North? (1)



Christensen, V. *et al.*, 2003. Hundred-year decline of North Atlantic predatory fishes. *Fish and Fisheries*, 4:1-24.

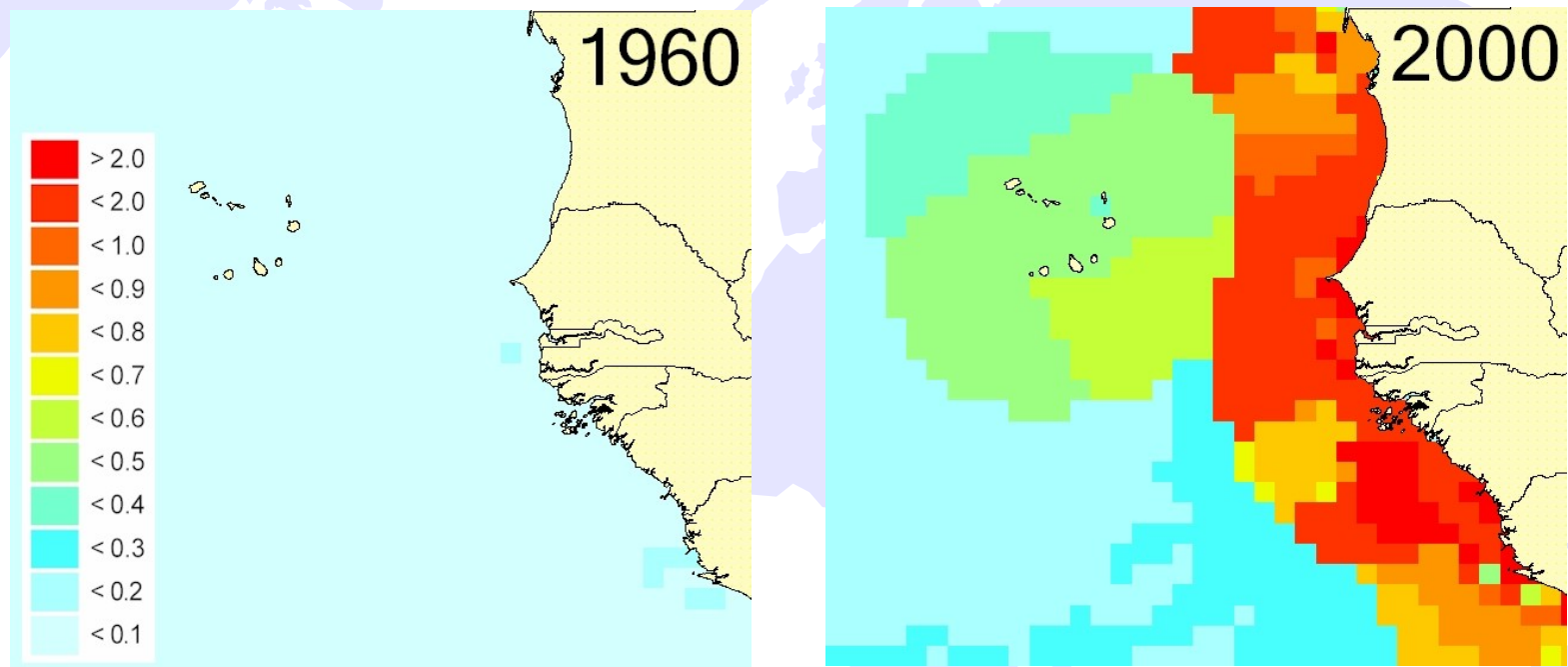
Why do we talk about a fisheries crisis affecting the South? (1)



Biomass distributions for fishes (trophic level ≥ 3.0 , excluding small pelagics and mesopelagics) off West Africa in 1960 and 2000 [tons per sq km]

Christensen *et al.*, 2004. Trends in Fish Biomass off Northwest Africa. pp 377-386 In: Pêcheries maritimes, écosystèmes et sociétés en Afrique de l'Ouest: un demi-siècle de changement. IRD & Commission Européenne.

Why do we talk about a fisheries crisis affecting the South? (2)

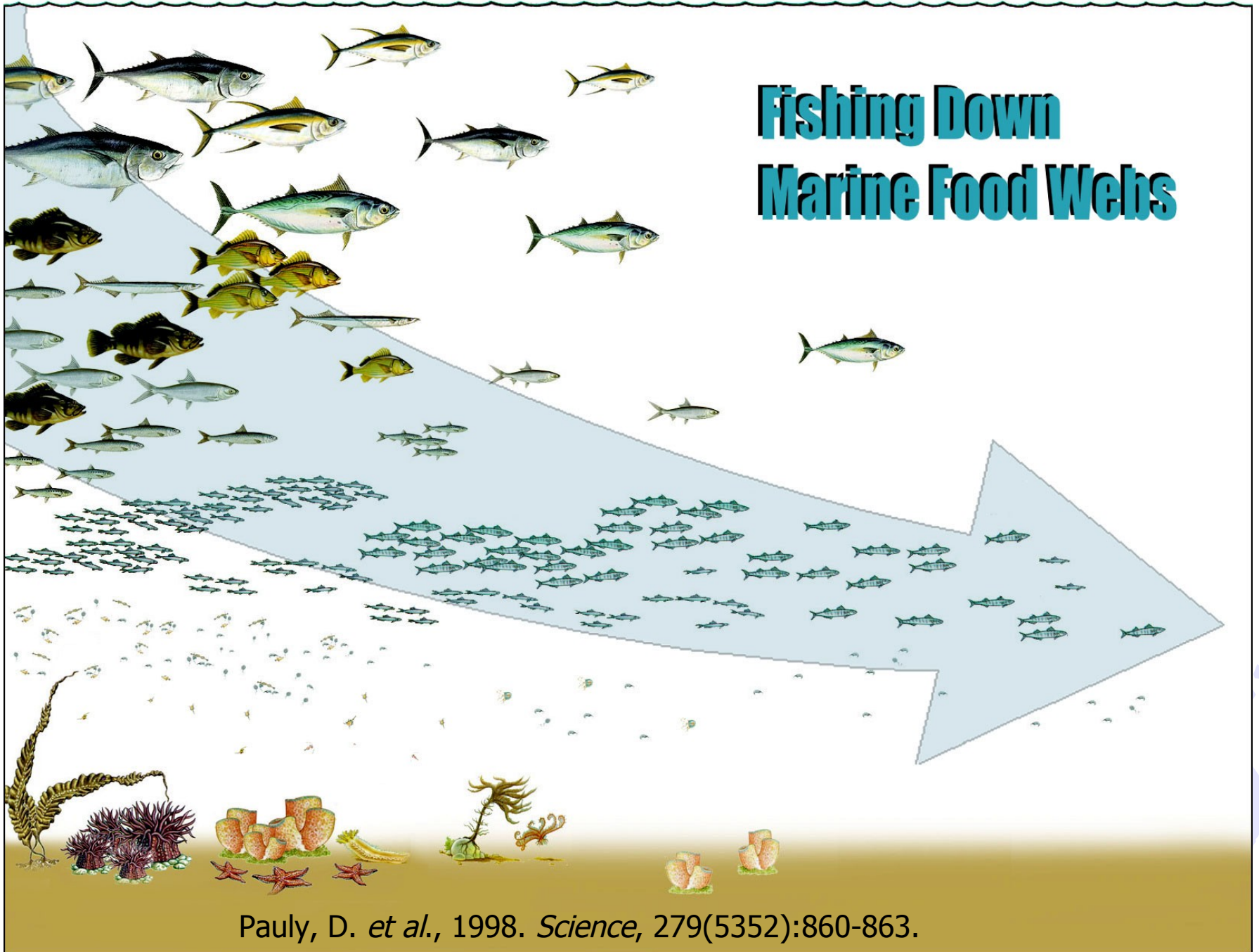


Fishing intensity (= catch/biomass ratio)

for fishes (trophic level ≥ 3.0) in units per year

Christensen *et al.*, 2004. Trends in Fish Biomass off Northwest Africa. pp 377-386
In: Pêcheries maritimes, écosystèmes et sociétés en Afrique de l'Ouest: un demi-siècle de changement. IRD & Commission Européenne

Fishing Down Marine Food Webs



Pauly, D. *et al.*, 1998. *Science*, 279(5352):860-863.

Why does it matter? (1)

At current trends in overfishing worldwide, we will not have the fisheries we know today by 2050, many have already collapsed. World fisheries landings decrease by 0.7% per year since the 1990s, yet discards are high.

Namibia, a country in Southwest Africa had **15 million tons of fish** in its water and was able to get a good portion of that through fishing – that was a good deal for many years.

Overfishing led to the collapse of the fisheries and now Namibia has **12 million tons of jellyfish** and much less fish than before. Trawling destroys much of the bottom habitat e.g. for fish and octopus, but often enhances conditions for the polyps of jellyfish.

Why does it matter? (2)



Tamsir Diogou Seck - Immigration

Wealth of fishing communities e.g. in Senegal, is being eroded rapidly:

'Thiof', an emblematic fish, has all but disappeared

Instead, people now make do with sardines and mackerel, which used to be disdained (though they are excellent food)

Children are taken out of (private) schools

Some 'unconventional drivers' of unsustainable fisheries (1)

Pursuing economic efficiency (maximizing present value of returns):

- without due regard to risk in a broad ecosystem context and only in a narrow sectoral sense;
- while ignoring the fact that it is becoming difficult to use taxation as a policy instrument;
- while neglecting the effects of corruption;
- weighing immediate returns much more than future returns.

Some 'unconventional drivers' of unsustainable fisheries (2)

Demography and trade

- Humanity has more than doubled since the 1950s to close to 7 billion people;
- The notion of fish as healthier food than red meats is an additional incentive to shift consumption patterns
- Some 40% of fisheries production is internationally traded (rice 3-5%)
- Europe, Japan and North America are major import markets.

How do these broad trends pan out in the lives of people e.g. in West Africa – just one example



How youngsters in Kayar, a fishing village in Senegal, experience the new realities – from being proud to brave the swell near the beach to suffering from the hardship of migration in unsafe boats.



Towards Sustainable Development – Looking at old problems through new lenses



Small scale fisheries are mostly much more sustainable.

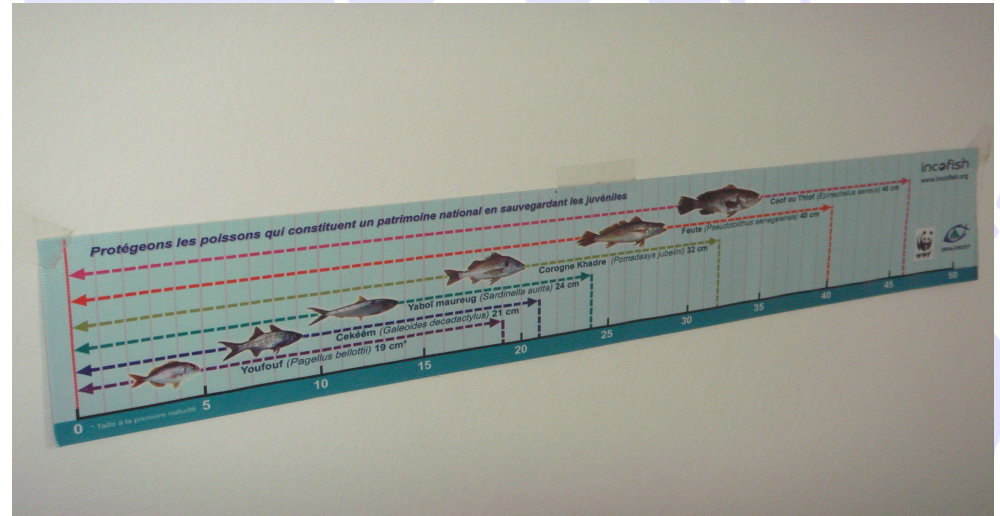
- They use less energy
- They are less destructive
- They are more selective
- They employ more people
- They can produce high value fish.

What can we do together? (1)

- Buy insurance against risk and uncertainty by creating and enforcing marine protected areas (Lauck et al., 1996; Sumaila 1998);
- Value our grand and grandchildren's fish as their fish, not ours (Sumaila and Walters, 2005);
- Integrate economics with ecology and other disciplines;
- Encourage looking at the big picture and explore what it means for taking local decisions.

What can we do together? (2)

- Stop bad government subsidies to fisheries – Asia US \$ 11.5 billion, Europe \$ 5 billion, Latin America and Caribbean \$ 4.5 billion
- Promote sustainable forms of small-scale fisheries, recognise cultural diversity
- Engage in concrete joint activities – develop and use local fish rulers to avoid baby fish.
- Support training and credit for women.



What can we do together? (3)

- Work on integrating sustainability principles, sciences and arts into school curricula and engage with young people and their teachers
- Help equip collaborating schools with educational materials, computers, books, etc.
- Make scientific knowledge more widely available in the public domain and
- Encourage story telling and registration of memories to build bridges between different knowledge communities for mutual recognition and ability to cooperate on shared challenges



For more ...

all fishes: <http://www.fishbase.org>

coastal zones: <http://www.incofish.org>

marine fisheries: <http://www.seaaroundus.org>

development: <http://acpfish2-eu.org/>

try new ways: <http://www.mundusmaris.org>

new film: <http://www.seathetruth.nl/en/>



Thanks!

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