

Biology of Marine Life

Ninth Edition

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Quickie Lecture #1

Harvesting Living Marine Resources

An Introduction to Sustainable Seafood

Sustainable seafood?

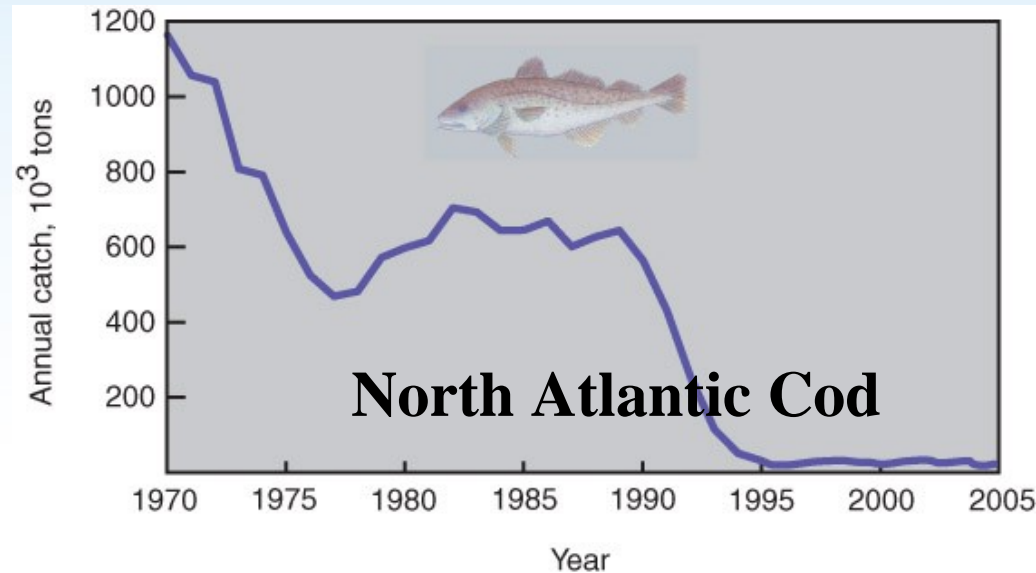
It is estimated that more than 75% of the ocean is overfished (United Nations -2007).

What caused this?

Population growth

Advanced technology

Increased consumption



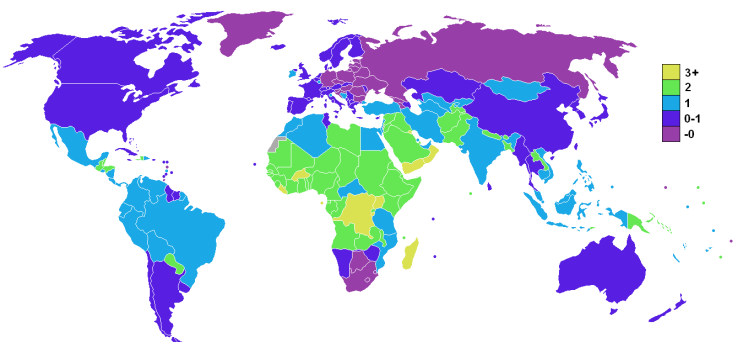
Sustainable seafood?

- Population growth

- 🐟 Over 1 billion people in the world rely on fish as food

- 🐟 Some factoids:

- 400 million people use seafood to provide half their required protein (mainly in Asia and Africa)
 - In the U.S. alone over 170,000 people catch fish commercially.
 - It is projected that an additional 32 million tons of seafood will be needed by 2020



The Tragedy of the Commons

- Fishing is too often considered a right without attendant responsibilities.

- Unrestricted fishing activities remove a valuable commodity from a common resource pool.

Can you think of a similar “tragedy of the Commons”? Can you think of ways to stop this “tragedy”?

- All people share the cost of losing the fishes, the great whales, and the other marine animals that have nearly disappeared because of overfishing.





- Yet the short-term profits derived from overfishing are not similarly shared.

- This is a concept called the “tragedy of the commons.”

Here are some potential solutions!

International Regulation of Fisheries

Common strategies for management include:

-  setting quotas on the amount of fishes harvested
-  establishing seasons and minimum size limits
-  defining acceptable gear, such as net mesh sizes
-  limiting the number of boats that are allowed to participate in a fishery

Sustainable seafood?

Potential solutions? - WE STOPPED HERE!!!

Aquaculture – the controlled cultivation of aquatic animals and plants for human use (farmed fish) – ½ the world's fish!

Will this work?

Is it working?

Do you see any negatives?

Other solutions?



Sustainable seafood!

Responsible Aquaculture

Sustainable Seafood

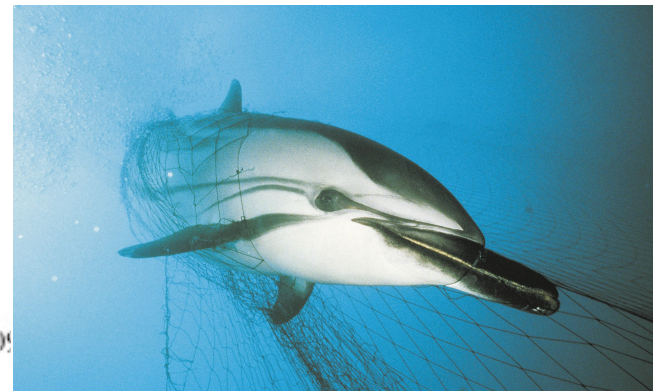
Seafood from sources, either fished or farmed, that can exist over the long-term without compromising species' survival or the health of the surrounding ecosystem is sustainable.

Source: Monterey Bay Aquarium, www.seafoodwatch.com



5 criteria of being sustainable (wild-caught)

1. Species vulnerability to fishing pressure
2. Wild stock (how many) status
3. Nature and extent of bycatch (marine life incidentally caught)
4. Effects of fishing practices on habitats and ecosystems
5. Effectiveness of management regime



Who here likes seafood?

What can you
do on an
individual
level???

