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Law and Science in Conflict: The resurrection of maximum sustainable yield

Tom Appleby Mark Everard and Steve Simpson

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What have the Romans ever done for us?

ROMANES EUNT DOMUS

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Open access fisheries

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Arrival in UK

13th Century – England and Wales

17th Century – War with the Dutch Grotius and a colossal herring fleet

18th Century - Scotland

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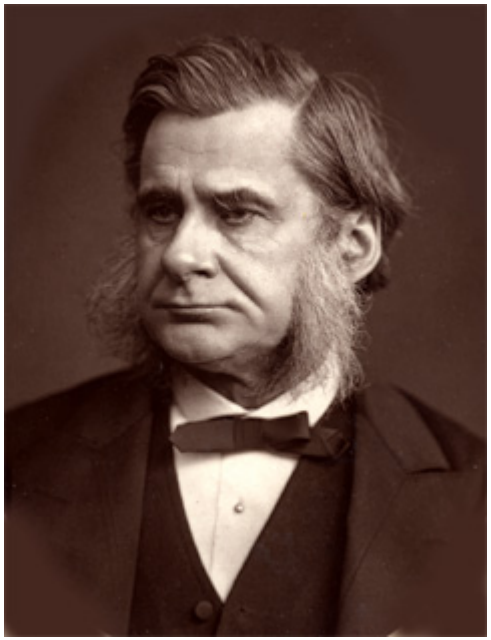
Inexhaustibility of the sea

Thomas Huxley London Fisheries Exhibition 1882



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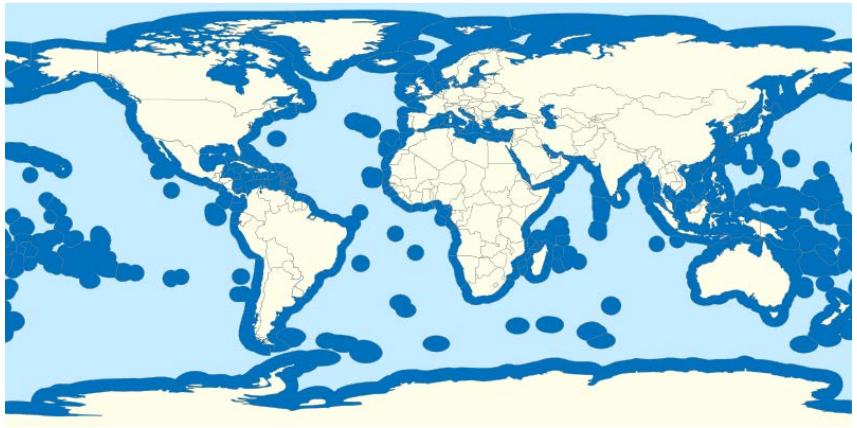
United Nations Convention on the Laws of the Sea

Established territorial waters to 12 miles

Within EEZ (to 200 nautical miles) ‘sovereign rights over fisheries’ with duty to maintain and restore stocks to ‘maximum sustainable yield’

Similar duty for straddling stocks



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World Summit on Sustainable Development

Signatories will maintain or restore stocks to levels that can produce the maximum sustainable yield with the aim of achieving these goals for depleted stocks on an urgent basis and where possible not later than 2015

Convention on Biodiversity

MSY by 2020

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Reformed Common Fisheries Policy

Aim to fish to MSY for depleted stocks by 2015

Longstop date of 2020

Also requirement of Marine Strategy Framework Directive

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Legal Definition

State of Maine v Kreps

The term 'maximum sustainable yield' […] refers to a scientific appraisal of the safe upper limits of harvest which can be taken consistently year after year without diminishing the stock […] so that the stock is truly inexhaustible and perpetually renewable

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Legal definition - Reformed CFP
Art 4 (7) Basic Regulation

‘maximum sustainable yield' means the highest theoretical equilibrium yield that can be continuously taken on average from a stock under existing average environmental conditions without significantly affecting the reproduction process

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Public trust and inshore fisheries

Within the 12 mile limit there are fewer international obligations

But

Fishing rights owned under public trust

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What is Scientific view of MSY?

Scientific definition

- Sigmoid curve

Maximum Sustainable Yield

- the largest amount of fish that can be harvested from a stock indefinitely given current environmental conditions.

^{B}MSY

- The total biomass (weight) of a stock when it is capable of producing MSY.

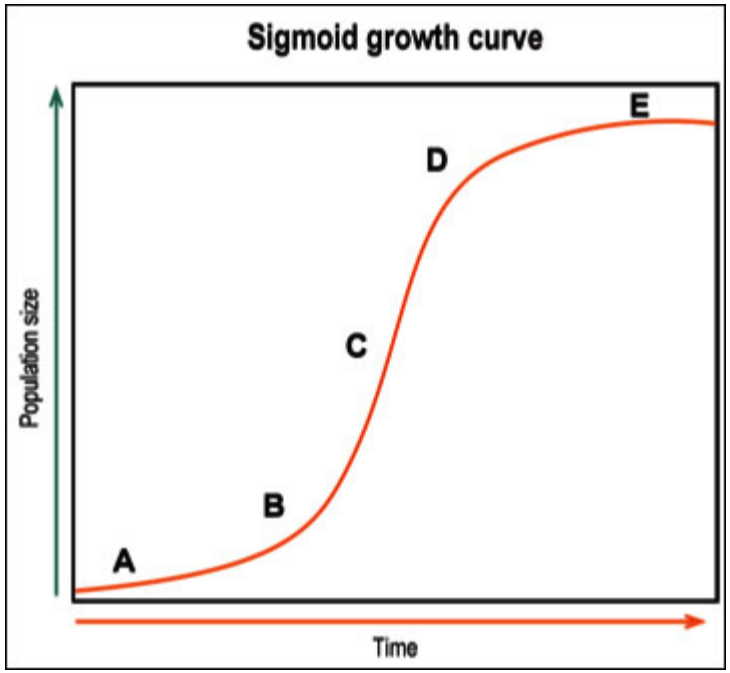
^{SSB}MSY

- The biomass (weight) of the fish in a stock that is capable of reproducing to produce MSY

^{F}MSY

- The level of fishing mortality that would
- maintain a stock at MSY

Maximum Societal Yield?



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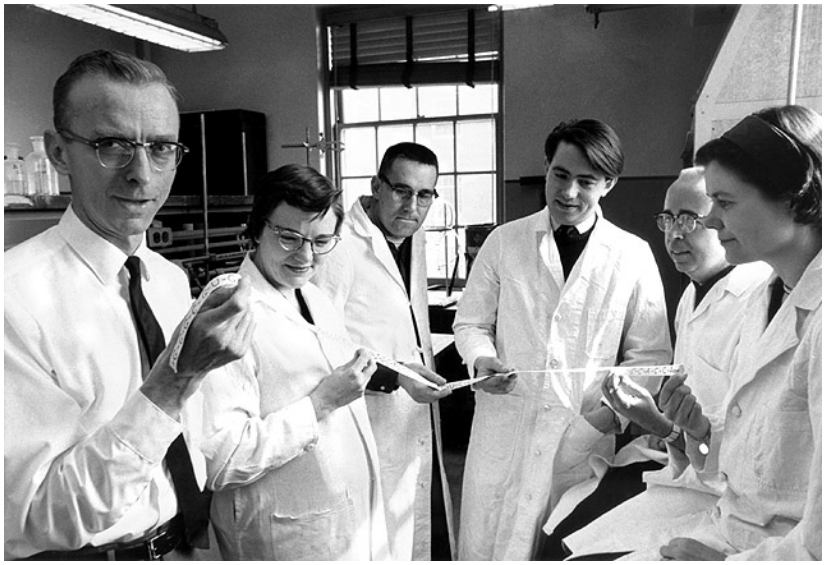
But what is ‘scientific’ advice?

That could mean *any science*

Not just Beverton and Holt sigmoid curve modelling

- Could be economics
- Could be ecosystem services
- Could be biodiversity protection



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What does that mean in practice

Not just ICES setting quota for single species

Could be area based management – (marine protected areas)

Ecosystem approach means need to look at utility of stock for the whole of society and environment

We should manage down the worst fisheries first

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Single point

For the first time the law on MSY changes the burden of proof, it is now up to the government to demonstrate sustainable fisheries; no more untrammelled rights to fish.

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