

Minding the storm

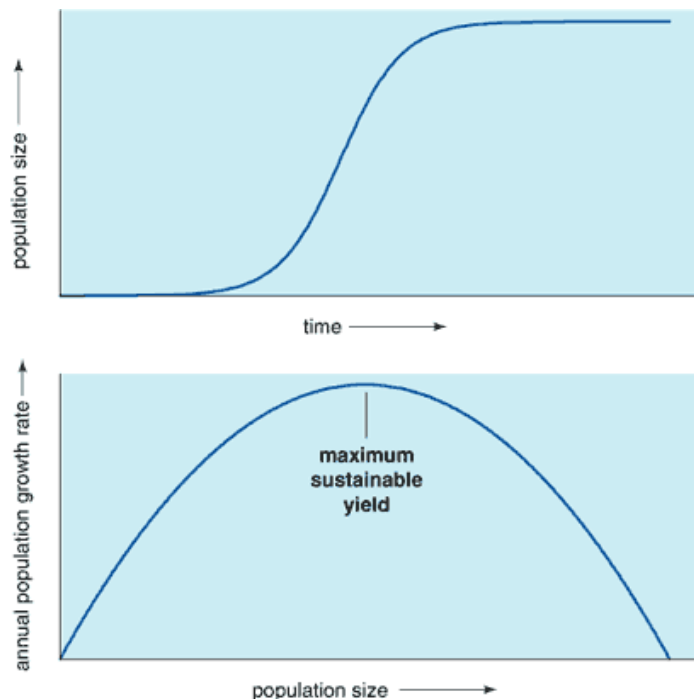
When ancient sailors spread oil on the sea to calm a storm, they may have been onto something. Sea spray kicked up by churning ocean waves can reduce air turbulence, allowing winds to become fiercer, according to a model reported online the week of 25 July in *Proceedings of the National Academy of Sciences*. Oil may have counteracted this effect somewhat by



preventing the formation of water droplets, the authors say. (Photo credit, Photos.com). In Science.

Notes on Ecologically Sustainable Yield

Based on the logistic population growth model, populations have a modest capacity for growth (top) when they are small and attain the greatest capacity when they reach an intermediate size. When the number of organisms in a population becomes so large that the level of resources available to each member becomes limiting, the capacity for growth is reduced once more. In turn, because modeling suggests that the sustainable yield of a fish species is maximal when

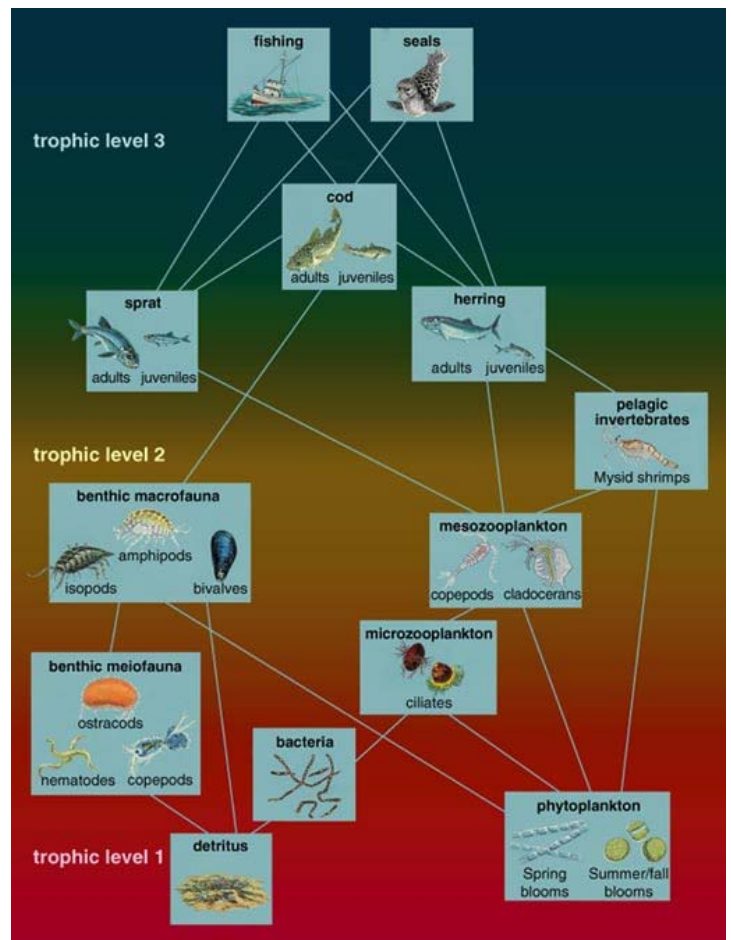


that species' population is intermediate in size (bottom), optimal population size can be maintained by harvesting the species at a rate equal to the annual growth rate. The same general result holds for

more complex models. These models, which have been widely applied for more than half a century, do not take into account the ecologically important effects that impacts on nontarget populations can have on target populations. By: *Barbara Aulicino*.

Destabilizing the marine food web

Marine organisms interact in numerous ways, transferring energy through various trophic levels in the marine food web. Thus fishing can affect entire ecosystems as well as target species, often disturbing several trophic levels. By removing cod, sprat and herring, for example, fishing decreases the amount of food available to seals. Conversely, it favors organisms that normally serve as prey for cod, sprat and herring. When populations of organisms at this second trophic level increase, they consume more organisms at the first trophic level, reducing the number of primary producers, such as



that bring energy into the ecosystem. By: *D. W. Miller*.

Excerpt from: **Ecologically Sustainable Yield** “Marine conservation requires a new ecosystem-based concept for fisheries management that looks beyond sustainable yield for individual fish species”. By: Richard W. Zabel, Chris J. Harvey, Steven L. Katz, Thomas P. Good, Phillip S. Levin. *In American Scientist*.