



SCIENTIFIC UPDATE 2006 ...

STILL UNCOVERING THE MYSTERIES OF THE DEEP

5 January

A new study published in *Nature* reveals that: “A shift from shelf fisheries to the deep sea is exhausting later-maturing species that recover only slowly.”

The authors – from the Memorial University in St John’s, Newfoundland, Canada – explain: “Here we use research-survey data to show that five species of deep-sea fish have declined over a 17-year period [1978-1994] in the Canadian waters of the northwest Atlantic to such an extent that they meet the IUCN [World Conservation Union] criteria for being critically endangered...”

“The declines occurred on a timescale equal to, or slightly less than, a single generation of these species.”

All five species declined by between 87 and 98 per cent over 17 years. By extrapolating the figures to cover a period of three generations, the authors concluded that the real decline is nearer to 99 per cent.

They conclude: “Our results indicate that urgent action is needed for the sustainable management of deep-sea fisheries... Conservation measures are necessary and lack of knowledge must not delay appropriate initiatives, including the establishment of deep-sea protected areas.”

Devine J A, Baker K D, and Haedrich R L - Fisheries: Deep-sea fishes qualify as endangered.. Nature, vol 439.

20–24 February

New results from the Mid-Atlantic Ridge Ecosystems Program (MAR-ECO) show that deep-sea pelagic fish may be gathering at features such as ridges or seamounts to spawn before dispersing. For many centuries, scientists have accepted that pelagic species are nomadic wanderers.

Presented at the Ocean Sciences meeting in Honolulu, the findings have important implications for how deep-sea ecosystems should be managed to prevent devastation by deep trawling activities.

If there are pelagic spawning aggregations at the ridge or other prominent features they are likely to be critical to the preservation of the species involved, but are also likely to

become primary trawling targets, and that could lead to devastating effects on spawning aggregations.

Sutton TT, et al. (2006) Overlap between Pelagic and Demersal Fishes at the Mid-Atlantic Ridge, Eos Trans. AGU, 87(36), Ocean Sci. Meet. Suppl., Abstract OS23A-06

March

A report demonstrates that global landings of bottom-dwelling (demersal) marine fish have shifted to deeper water species over the last 50 years. The authors' analysis suggests that "deep-water fish stocks may be at serious risk of depletion, as their life histories render them highly vulnerable to over-fishing with little resilience to over-exploitation. Deep-sea fisheries are exploiting the last refuges for commercial fish species and should not be seen as a replacement for declining resources in shallower waters. Instead, deep-water habitats are new candidates for conservation."

T.Morato et al. Fish and Fisheries, 2006, 7, 24–34.

1 April

A report shows that cold-water corals are at risk from increasing acidification of the ocean.

As seawater absorbs CO₂ from the atmosphere, chemical reactions transform the gas into carbonic acid. Today, oceans are 25 per cent more acidic than they were in the mid-to late-nineteenth century, and by 2100 they are projected to have the lowest alkaline level for 420,000 years.

The increased acidity is likely to change the amount of calcium carbonate in the ocean – the mineral that deep-water corals use to build their slow growing skeletons.

Report author, John Guinotte says: "Tropical reefs grow very slowly, but deep-water reefs grow 10 times slower. You're talking four to 20 millimetres each year. ...They can't afford to lose anything in terms of their growth rate".

Guinotte, J., J. Orr, S. Cairns, A. Freiwald, L. Morgan, and R. George. 2006. Will human-induced changes in seawater chemistry alter the distribution of deep-sea scleractinian corals? Frontiers in Ecology and the Environment 4:141-146.

2 May

The 2006 IUCN Red List includes sharks and rays with the news that of the 547 species listed, 20 per cent are threatened with extinction. The IUCN Press Release says "This confirms suspicions that these mainly slow-growing species are exceptionally susceptible to over-fishing and are disappearing at an unprecedented rate across the globe.

As fisheries extend into ever deeper waters, the deep, bottom-dwelling gulper shark (*Centrophorus granulosus*) has now qualified for listing as *Vulnerable* with local population declines of up to 95 per cent. This fishing pressure, for its meat and rich liver oil, is well beyond their reproductive capacity and sustainable fishing. Populations are destined to decline in the absence of international catch limits."

IUCN Red List 2006. www.redlist.org

4 May

A 21-day survey by a team of international scientists in an area near the Bermuda Triangle has so far found at least 12 new species of zooplankton while taking samples three miles below the ocean surface – much deeper than the 1000-meter depth usually studied.

Senior scientist Peter Wiebe, who led the survey, said: “Part of this work was to try to go where we know the least about our planet, which is the biggest habitat on Earth”.

The study is part of the Census of Marine Life. <http://www.coml.org/medres/zoopla/Final-Census-news-release-05-04.pdf>

.....POLITICAL RESPONSE 2006

15 February

The EU calls for strong, precautionary measures to protect biodiversity in the high seas.

Speaking at a UNGA working group on biodiversity in New York, the Head of the EU delegation, Dr Gerhard Hafner said: “The EU views that evidence of actual destruction of ecosystems is overwhelming and that we know sufficient about growing human pressure on marine biodiversity in [areas beyond national jurisdiction] to warrant taking further steps on international cooperation and coordination for its conservation and sustainable use... on the basis of the precautionary principle and on the basis of the current status of science – we have to act on both the implementation and governance gaps. We have a very impressive and authoritative information basis to warrant those actions.”

The most immediate and serious threat to high seas ecosystems is bottom trawl fishing. Many delegations attending the UNGA meeting, including the US, Pacific Islands nations and Norway, all stated that the impacts of destructive fishing practices on vulnerable marine ecosystems is one of the most urgent problems for the international community to resolve.

28 March

Speaking at the high level ministerial segment of the eighth conference of the parties to the UN Convention on Biological Diversity (CBD COP 8) in Curitiba, EC Commissioner for the Environment, Stavros Dimas, calls for urgent action to halt the destructive practices affecting vulnerable ecosystems and the application of the precautionary approach where necessary.

“We should put in place an interim prohibition of destructive fishing practices in international waters, including bottom trawling, that has adverse effects on vulnerable marine ecosystems.”

April

In a public statement the Swedish Environment Minister Lena Sommestad said: "The Swedish government is pushing for a moratorium on bottom trawling on the high seas. It is particularly important to push the EU to agree to the moratorium, because decisions on fisheries policy are shared amongst all EU countries, and we need to get all of them on board. Sweden is pushing very hard for this issue to be taken forward, but it is difficult to get all EU countries to agree. There are several countries that have a big number of trawlers on the high seas, but we will be pushing them to agree, so my hope is that we will get agreement on a moratorium. I would be very happy if this happened this year."

Full statement available at: <http://oceans.greenpeace.org/en/our-oceans/bottom-trawling/deep-sea-net>)

1 April

The fifth Secretariat of the Pacific Community (SPC) Heads of Fisheries Meeting recognized that the issue of high seas bottom trawling is important and recommended that the options put forward by an informal workshop of member countries and specialists held in March 2006, should be formally considered by SPC members and further developed for an eventual decision by the Pacific Islands Forum and the SPC Governing Council.

The informal meeting noted that, in the absence of current commercial deep sea trawl fisheries within the Western Tropical Pacific Islands Area (WTPIA), the agreement of a management framework was likely to be much more readily accomplished than if commercial fisheries were already operating. On interim measures, "participants noted the importance of interim measures, including an interim moratorium on bottom trawling in areas beyond national jurisdiction in the WTPIA.

May

In a letter to Greenpeace, the Austrian Government wrote: "...Austria, for reasons of environmental and species conservation concern, considers high seas bottom trawling in a very critical light. Austria has repeatedly expressed this view in international fora and has tried to push for this to become the common EU position."

May

Speaking at the UN Fish Stocks Agreement Review Conference in New York, Brazil included the following statement in its opening remarks: "As regards the question of high seas bottom trawling, Brazil supports a moratorium of such activity in high seas beyond national jurisdiction."

Also at the Conference, Norway said the Conference should recommend that States prohibit their vessels from bottom trawl fishing in unregulated areas of the high seas - areas where there are no regional fisheries management organizations (RFMOs) with the authority to manage deep-water fisheries. The Norwegian delegation further stated that where RFMOs exist which do have the authority to manage bottom fisheries, they should do so consistent with the UN Fish Stocks Agreement in relation to its biodiversity and ecosystem provisions.

15 May

In a letter to Greenpeace (translated here) The Belgian Government wrote: "Through input and participation from our administration in this context at the level of the EU, the biodiversity treaty and the UNGA we are trying to seek progress and are appealing for a moratorium on bottom trawling.... Given that Marine Protected Areas will not provide a short-term solution for the large-scale damage caused by bottom trawling, Belgium finds it necessary to urgently adopt short term measures within an international framework. Later this year the UNGA will discuss the possibility of a moratorium on destructive fishing practices on the high seas, including bottom trawling. In an attempt to stop further destruction of the ecologically valuable deep sea, Belgium is calling for such an initiative (moratorium) at the UN level and at the preparatory European meetings."

23 May

In a letter to Greenpeace, the Danish Government states that it views the issue of high seas bottom trawling with great concern in light of its detrimental effect on vulnerable ecosystems and will support a positive EU position towards a UN resolution against the practice.

30 May

In his opening remarks to a DSCC Workshop held in Lisbon, Portugal's State Secretary for the Environment, Dr. Humberto Rosa seemed to validate the DSCC assessment of high seas bottom trawling as a major threat to marine biodiversity.

"High seas bottom trawling is an unsustainable activity," he said. "We have a strategic opportunity. We have a large fish consumption, we are fishers too and we want to conserve marine biodiversity."

Acknowledging the need to address the situation of fishermen liable to be affected by a temporary prohibition of high seas bottom trawling, Dr. Rosa indicated that a fishing method with such adverse impact was not consistent with the direction that Portugal needs to take. "Portugal will go down the road of transition towards non-destructive fishing techniques... and ensure the sustainability of resources. We are at a unique moment to protect the commons."

www.savethehighseas.org