Momentum in support of a moratorium on high seas bottom trawling continues to grow

DSCC **In April 2005, the Deep Sea Conservation Coalition (DSCC) published the paper, *A moratorium on deep-sea bottom trawling on the high seas: political momentum is building rapidly*. The paper described the growing number of States which support United Nations (UN) action on this issue, and/or which have taken steps to curb the problem in their own areas of jurisdiction. Since this time, momentum has continued to grow, and this paper serves as an addendum to the original publication, highlighting the global reach of support for a UN General Assembly moratorium on high seas bottom trawling.**

UN Task Force

The UN Task Force on Environmental Sustainability of the Millennium Project (an independent advisory body commissioned by UN Secretary-General Kofi Annan to advise the UN on strategies for achieving the Millennium Development Goals) has called for urgent action on bottom trawling. The report was launched in New York in March 2005, and states that:

"Global fisheries authorities must agree to eliminate bottom trawling on the high seas by 2006 to protect seamounts and other ecologically sensitive habitats... [An] immediate moratorium would prevent irreversible destruction on the high seas and provide more time to fully assess deep-sea biodiversity, fisheries, and ecosystems; determine their vulnerability to deep-sea fishing on the high seas; and adopt and implement protection laws."

UNICPOLOS

In June 2005, the UN Open-Ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) called on countries to accelerate action to protect deep-sea ecosystems and deal with the impact of bottom trawl fishing on the high seas. It reaffirmed the call to take urgent action to prevent bottom trawl fishing from damaging vulnerable deep-sea ecosystems on the high seas made by the UN General Assembly (UNGA) in 2004 and recommended accelerated progress on implementation of the 2004 UNGA resolution. UNICPOLOS also called on states to urgently speed up cooperation in establishing "interim targeted protection mechanisms for vulnerable marine ecosystems," a recommendation which largely applies in international waters where no regional fisheries management organisations (RFMOs) currently exist. In addition, where they do exist, RFMOs are requested to implement measures to protect vulnerable marine ecosystems as a matter of urgency.

Initially there was considerable reluctance on the part of many countries to even re-open negotiations further to the 2004 UNGA resolution. However, this proved impossible after a number of governments spoke to the issue during the course of the meeting. In the end, governments agreed that the issue continues to warrant urgent action and has not yet been resolved effectively.

Amongst others, Nigeria called for a moratorium on high seas bottom trawl fishing and Chile announced its position in support of an interim prohibition on all high seas bottom trawl fishing in areas not covered by a competent RFMO.

United States

In August, the National Marine Fisheries Service of the US National Oceanographic and Atmospheric Administration issued a 'decision' to "proceed with designating the largest marine protected area in US waters" in the Aleutian Islands area of the North Pacific which "will prohibit bottom trawling in an area exceeding 274,000 square nautical miles (nm). The agency's decision also includes protections for other areas and new measures to identify and conserve essential fish habitat in Alaska." The decision was designed primarily to protect cold-water corals, seamounts and other deep-sea ecosystems from bottom trawl fishing within the US EEZ off Alaska.

Similarly, the Pacific Fisheries Management Council in the US has recommended the closure of approximately 82 percent of the US EEZ off California, Oregon and Washington to bottom trawl fishing primarily to protect deep-sea habitats such as corals and seamounts.

Legislation currently pending (January 2006) before the US Congress provides for sanctions against countries whose vessels engage in illegal unregulated and unreported (IUU) fishing. IUU fishing would be classified to include fishing activity, including bottom trawling, that has adverse impacts

on seamounts, hydrothermal vents, and cold water corals in areas of the high seas where there are no applicable conservation or management measures or in areas with no applicable RFMO.

New Zealand

New Zealand has one of the largest fleets of vessels bottom trawl fishing on the high seas. In September 2005, the government announced: "New Zealand would be prepared to support, in principle, the concept of an interim global moratorium on bottom-trawling on the high seas if such a proposal had sufficient support to be a practical and enforceable option for improving biodiversity protection on the high seas. At a minimum, New Zealand would need to be confident of the commitment of key likeminded fishing nations to a moratorium before lending its support to the proposal."

The European Union

It is no secret that the European Union (EU) remains the single largest obstacle to obtaining a high seas bottom trawling moratorium. EU member States are not allowed to put forward individual positions on this issue at the UN negotiations; a collective position is negotiated and put forward by the country holding the EU presidency. Whereas in 2004 the EU held a collective position – driven by Spain, the world's leading high seas bottom trawling country – in opposition to the moratorium, there are now indications that support for this position is starting to crumble. Several countries have begun calling for a stronger EU position, at a minimum for a moratorium in high seas areas outside the jurisdiction of RFMOs. In the run-up to UNICPOLOS 2005, these included Belgium, The Netherlands, Sweden, Germany and the UK.

Spain clearly began to feel the pressure: On 12 August 2005, the Spanish Ministry of Agriculture and Fisheries published a press release titled, "Spain, First Major Fishing Power to Support regulation on Bottom Trawling." However, as always, the devil is in the details. According to the press release, "the General Secretariat for Fisheries has adopted a precautionary position whereby in those areas on the high seas where no regional fisheries management organization (RFMO) has been established, the practice of bottom trawling will only be permitted based on scientific reports determining that no vulnerable marine ecosystems exist."

The statement also said: "Where an RFMO exists, Spain will support regulations establishing specific conditions for fishing activities, in particular bottom trawling, to ensure that they that respect marine ecosystems."

Despite its limitations, the new Spanish position is a significant development. Spain now admits that bottom trawling is inherently destructive to vulnerable seabed ecosystems such as seamounts and deep-sea coral reefs, and that trawling on sensitive ecosystems will most certainly wipe them out. In addition, it calls for a reverse burden of proof: that trawling should not be allowed until it is proven safe. This is a conceptual reversal of the EU position in 2004 which called for case by case protection on the basis of scientific evidence that vulnerable ecosystems are being damaged.

Unfortunately Spain, (together with the European Commission's DG Fisheries and Maritime), continued through the remainder of 2005 to block the adoption of a EU 'consensus' position in support of a moratorium on deep-sea bottom trawling on the high seas in non-RFMO areas and actions to protect vulnerable deep-sea ecosystems in high seas areas where such RFMOs do regulate deep-water fisheries. Furthermore, there is growing evidence that Spain is not taking seriously its duty to curb illegal, unregulated and unreported fishing activities – 2006 will thus be a 'test-year' to determine whether Spain is able or willing to fulfil the commitments it has made to protect marine biodiversity and engage in responsible fishing.

In November, one of Spain's staunchest allies adopted a position which further undermines European Union opposition to a moratorium. France has now called for a moratorium on ALL deep-sea fishing in areas outside the jurisdiction of RFMOs. The position states: "In order to limit the impact on habitats in the high sea, France will support a moratorium on all fishing techniques for deep-sea species, where there is no competent authority in this regard (75 percent of the oceans), pending the creation of a Regional Fisheries Management Organisation (RFMO)."

In the meantime the EU has adopted a permanent ban on all deep-water bottom trawl fishing in the 200 nm limits (EEZs) surrounding the Azores, Madeira and Canary Island groups in the Northeast Atlantic. The ban, which covers several hundred thousand square kilometres of ocean encompassing seamounts and oceanic ridge systems, was adopted in recognition of the need to protect deep-sea corals and other vulnerable deep-sea ecosystems from the destructive impact of bottom trawl fishing within EU waters.

Canada

"Canada is teaming up with some of its traditional high seas foes to fight efforts for an international ban on the controversial practice of dragging the ocean bottom for fish."

This quote from a Canadian Press article, which appeared on 29 December 2005 in newspapers across the country, summed up the Canadian Government's record in 2005 and also exposed the contradictory and awkward position the Canadian Government finds itself by opposing an international moratorium – especially since a recent nationwide opinion poll shows that 78.3 percent of Canadians support a moratorium on high seas bottom trawling. Two weeks later, in January 2006, Canadian researchers reported in the prestigious science journal Nature, that, "five species of deep-sea fish have declined over a 17 year period in the Canadian waters of the Northwest Atlantic to such an extent that they meet the IUCN criteria for critically endangered."

Editorials and letters in Canadian newspapers are increasingly calling into question the government position. The all-party House of Commons Standing Committee on Fisheries and Oceans has issued a strongly-worded report urging the Canadian government to take action on dragging. The opposition to Canadian support for the moratorium is coming from the Canadian fishing industry which fears that it will have consequences for their activities in domestic waters. However, there are many independent, fixed-gear fishermen who are supportive of efforts to address bottom trawling.

In March 2006 the Canadian government is going to hold the first-ever, national scientific review of the impacts of fishing gear on the ocean floor. This review could have a significant impact on Canada's position in UN talks in 2006.

Australia

Australia has been a global leader on other significant fishery issues and has taken a strong proactive regulatory stand on illegal fishing practices in its EEZ. On high seas protection, it has promoted implementation of long-term sustainable high seas fisheries management and is focusing particular effort on the development of 'model' RFMOs. However, it has been loathe to support urgent protection measures, arguing in particular that a moratorium would not be enforceable and would unfairly penalize 'responsible' fishers. Until late 2004 Australia had been prepared to block discussion of short-term measures in favour of the longer-term RFMO approach.

During 2005, there were several indications of a shift both within the government and the Department of Fisheries, towards acknowledging the need for urgent protection measures in addition to longer term governance solutions. There are indications that the tension between the relevant government departments which has hindered the development of a unified position, is lessening with growing widespread support for short-term measures, including consideration of temporal and spatial closures.

"scientists will recommend that all existing deep-sea fisheries should be cutback to low levels until they can demonstrate that they are sustainable. They will advise zero catch of depleted deep-sea sharks, and they will recommend that no new fisheries for deep-sea fish should be allowed until it can be demonstrated that they are capable of being sustainable."

At the parliamentary level, in mid October, the government-controlled Senate agreed to a Motion which noted the damage that may be caused to deep-sea coral and sponge communities by destructive fishing practices and supported the development and implementation of an effective, legally binding governance framework to protect deep-sea biodiversity in the high seas area and to conserve and manage bottom fisheries of the high seas consistent with the UN Convention on the Law of the Sea and 2004 UNGA resolution 59/25. The main opposition Labour Party, has publically announced its support of the need for urgent protective measures, and is intending to table a policy position on the issue in early 2006.

Iceland

In October 2005, an event organized by the Deep Sea Conservation Coalition (DSCC) together with the Iceland Nature Conservation Association, and attended by key Icelandic government officials, initiated a debate in Iceland over the country's opposition to the high seas bottom trawling moratorium. Iceland believes that fisheries should be regulated not on a global scale by the UN, but at a regional level through RFMOs. Media coverage subsequent to the event resulted for the first time in an active public discussion on this issue. While the government remains firmly opposed to a moratorium, the Icelandic Fisheries Minister recently declared some 80 sq km off-limits to all bottom trawling in order to protect cold water corals. This is an entirely new approach by Iceland.

Scientists increasingly concerned

There is growing concern amongst scientists about the need to take urgent action to protect deep-sea biodiversity – fish stocks as well as habitat. The International Council on the Exploration of the Sea (ICES) prepared a report in October 2005 calling for "a complete overhaul of deep-sea fisheries." According to a 17 October ICES press release about the report's launch, "scientists will recommend that all existing deep-sea fisheries should be cutback to low levels until they can demonstrate that they are sustainable. They will advise zero catch of depleted deep-sea sharks, and they will recommend that no new fisheries for deep-sea fish should be allowed until it can be demonstrated that they are capable of being sustainable." According to David Griffith, General Secretary of ICES, "Deep-sea fish such as the orange roughy or the roundnose grenadier are long-lived, slow reproducing fish that can withstand only low levels of fishing pressure. All our evidence indicates that the current fishing pressure on these stocks is much too high. We are particularly concerned about deep-sea sharks such as the Portuguese dogfish and leafscale gulper shark which are now heavily depleted."

In the UK, in an open letter signed by 50 leading scientists, Minister Ben Bradshaw was urged to "take advantage of a historical opportunity to secure significant protection for the world's deep-ocean ecosystems on the high seas – the two-thirds of the world's oceans that lie beyond the jurisdiction of any nation. We are calling on you exercise leadership during the UK Presidency of the European Union to negotiate a moratorium on deep-sea bottom trawl fishing on the high seas at the United Nations General Assembly this year." Minister Bradshaw also received a letter from Sir John Lawton, Chairman of the prestigious Royal Commission on Environmental Pollution calling on the Minister to take similar action. The Royal Commission, in a report issued in December 2004, had previously called for drastic and urgent action to protect the marine environment from unsustainable fishing and, among opther recommendations, called for a prohibition of bottom trawl fishing for deep-sea species.

Leading Canadian scientists also sent a letter to Canadian Prime Minister Paul Martin. In a speech in May, Mr. Martin called on ministers attending an international high-level fisheries governance conference to "seize this historic occasion, and begin the process to stop the rape of our fisheries and oceans, once and for all. I'm asking you to come together – as a global community – to write the next chapter in the history of the world's fisheries and oceans, and to restore their once-proud place in our cultures, in our nations, and in our lives." The scientists' letter, dated 17 October, called

on the Prime Minister to support the high seas moratorium, noting that "it would be in keeping with Canada's national and international commitments to biodiversity protection."

Likewise, leading Australian and New Zealand scientists have called on the Australian and New Zealand governments to support the moratorium.

Pacific Islands Forum (PIF)

Pacific Island leaders attending the Forum in October 2005 adopted a statement on high seas bottom trawling: "Leaders noted the proposal by the Republic of Palau for a moratorium on deep-sea bottom trawling and for the creation of a legal framework to manage this method of fishing to protect biodiversity in the high seas. Leaders were seriously concerned about the problem and thanked Palau for bringing the matter to the Forum. They agreed to develop an appropriate legal framework for consideration of the Forum in 2006. The PIFFA and South Pacific Commission were tasked with the implementation of this decision."

In its statement to the UNGA Debate on Oceans and Fisheries in November (delivered by Papua New Guinea) PIF said: "We are well aware of, and firmly support, the need to take urgent action to prevent and manage the effects of destructive fishing practices, including bottom-trawling, that has adverse impacts on vulnerable marine ecosystems. We are seriously concerned about the destruction caused by these activities." Bottom trawl fishing nations within the Forum, i.e. Australia and New Zealand, have tempered official PIF statements, but even New Zealand has stated that it would support a high seas bottom trawling moratorium if other fishing countries were prepared to do the same.

United Nations General Assembly, November 2005

UNGA reaffirmed its call for nations to take 'urgent action' to protect deep-sea corals, seamounts and hydrothermal vent ecosystems from destruction by bottom trawl fishing. Although it decided to postpone consideration of a moratorium until 2006, it did agree to conduct a review of actions taken by high seas fishing nations and regional fisheries treaty organizations in the meantime to protect deep-sea ecosystems. The outcome of this review is likely to provide renewed impetus for the moratorium call. More countries are speaking out on this issue than ever before, and even more have signaled that they will support the moratorium call by others.

Many African states are now in support of a moratorium on high seas bottom trawl fishing. During its address to the UNGA, Tunisia said it supported the decision taken in the Mediterranean that bans bottom trawling below 1000 metres, and will adopt further measures as needed. A number of Asian and South Asian nations also support the moratorium. In Latin America, a number of countries such as Brazil and Chile have taken stronger positions and are working with other countries in the region. In its statement to the UN Oceans and Fisheries debate, Uruguay said "Despite the fact that we are optimistic about the [bottom trawling] Review Conference of 2006, what relates to the provisions adopted in resolution 59/25 with regards to the impact of deep-sea bottom trawling on the vulnerable marine ecosystems, we must emphasize that the irreversible damage caused to the marine environment leaves little margin of action, reason why we urge strengthening provision to counteract on such undesirable effects."

The Statement of the Pacific Islands Forum (PIF) as presented by the Ambassador from Papua New Guinea reflects a united view amongst Pacific Island States that urgent action is needed by the UN. Caribbean and Central American States have expressed their concerns in previous debates. The UN is poised to take more serious action of some kind in 2006: many delegates believe that this will be one of the highest priorities for discussion and agreement in the coming year.

ENDNOTES

See NOAA press release, 8 August 2005 at http://www.fakr.noaa.gov/newsreleases/efhrod080805.htm
http://www.doc.govt.nz/Conservation/Marine-and-Coastal/Fishing/120~Bottom-trawling-strategy.asp
For details and links, see HYPERLINK "http://www.savethehighseas.org/display.cfm?ID=76" http://www.savethehighseas.org/display.cfm?ID=76
See: HYPERLINK "http://www.greenpeace.org/espana/news/greenpeace-pide-una-investigac" http://www.greenpeace.org/espana/news/greenpeace-pide-una-investigac;
HYPERLINK "http://www.oceana.org/index.php?id=327&no_cache=1&tx_pressrelease_pi1[pointer]=0&tx_pressrelease_pi1[showUid]=353" http://www.oceana.org/index.php?id=327&no_cache=1&tx_pressrelease_pi1[pointer]=0&tx_pressrelease_pi1[showUid]=353; and http://assets.panda.org/downloads/liumr.pdf
1. Des actions pour enrayer l'érosion du vivant. Actions phares des plans d'action sectoriels de la Stratégie Nationale pour la Biodiversité, 23 novembre 2005, Ministère de l'Ecologie et du Développement Durable. See Paragraphs 24 and 25. HYPERLINK "http://www.ecologie.gouv.fr/IMG/pdf/05-11-23_snb_plans_d_actions_dossier_de_presse.pdf" Downnload pdf
See: HYPERLINK "http://www.savethehighseas.org/display.cfm?ID=90" http://www.savethehighseas.org/display.cfm?ID=90
For a map of the areas where bottom trawling is banned, see HYPERLINK "http://www3.sjavarutvegsraduneyti.is/media/kort/verndun_koralsvada_des_05.bmp"http://www3.sjavarutvegsraduneyti.is/media/kort/verndun_koralsvada_des_05.bmp
HYPERLINK "http://www.doc.govt.nz/Conservation/Marine-and-Coastal/Fishing/120~Bottom-trawling-strategy.asp" http://www.doc.govt.nz/Conservation/Marine-and-Coastal/Fishing/120~Bottom-trawling-strategy.asp

The Deep Sea Conservation Coalition, an alliance of over 50 international organizations, representing millions of people in countries around the world, is calling for a moratorium on high seas bottom trawling. For further information about the Coalition visit www.savethehighseas.org

DSCC

A DSCC is to halting the ravages of on the high seas

The deep sea[1] is one of the last frontiers on the planet – the home to breathtaking landscapes of mountains, hills, ridges and troughs that very few of us will ever see. Until approximately 30 years ago, it was assumed that there was little life in the cold and dark waters of the deep sea, which covers more than half the world's surface. The advent of manned and unmanned submersible technology, however, has turned that belief on its head. The world deep beneath the oceans' surface is far more diverse than had ever been imagined.

Today, scientists and the fishing industry know that the deep sea is teeming with life, most of which remains undiscovered. Indeed, scientists have speculated that as many as 10 million species may inhabit the deep sea: biodiversity comparable to the world's richest tropical rainforests. They are slowly discovering ecosystems which are extraordinary in nature, often hosting species found nowhere else on the planet.

For the fishing industry also, the unreachable is now within reach. Advances in bottom trawl technology means that it is now possible to fish the deep sea's rugged floors and canyons. More powerful engines, bigger nets, more precise mapping, and advanced navigational and fish-finding electronics have enabled fishing vessels to drag fishing gear across the ocean bottom as much as two kilometers (1.2 miles) deep. As a result, well-capitalized fleets from a handful of wealthier nations[2] are today destroying some of the planet's last, most ecologically-rich frontiers, in search of a few commercial fish and crustacean species.

In February 2004, 1,136 scientists from 69 countries released a statement[3] expressing profound concern "that human activities, particularly bottom trawling, are causing unprecedented damage to the deep-sea coral and sponge communities on continental plateaus and slopes, and on seamounts and mid-ocean ridges." The statement called on governments and the United Nations to adopt a moratorium on high seas bottom trawling.

Never before had such a large number of scientists united around a specific marine environmental issue. The statement represented an unprecedented call to action by experts in marine sciences and conservation biology and a turning point in the mounting global campaign to halt deep-sea bottom trawling on the high seas.

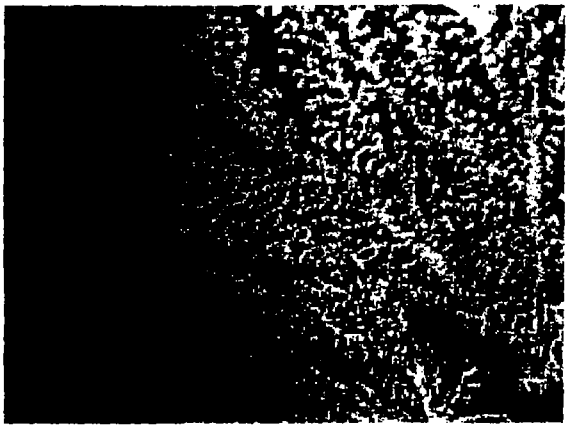
Underlying the statements made by the scientists is a still-emerging body of science. Scientists are only just beginning to understand the diversity, significance and vulnerability of deep-sea biodiversity and ecosystems, and it is estimated that an incredibly small number – less than one percent – of the world's seamounts have been explored. One of the driving forces behind the scientists' letter, in fact, was mounting concern that entire deep-sea ecosystems will be destroyed before they can be subject to scientific study. More time, more science and more knowledge is needed.

The Deep Sea Conservation Coalition (DSCC) is joining forces with this scientific community to call for a short-term moratorium on deep-sea bottom trawling on the high seas. This reprieve would provide immediate protection to the extraordinarily rich, vulnerable and mostly undiscovered biodiversity of the deep seas whilst legally-binding conservation and management regimes can be developed – before it is too late.

FOOTNOTES

Please see overleaf page 3.

Photo courtesy of NOAA and



Below: Gorgonian at the Davidson Seamount off the coast of California, USA.

We know more about our solar system than about life in the deep oceans...

The mysteries and mountains of the deep

A great deal of deep-seas biodiversity is concentrated around seamounts which are underwater mountains that rise 1,000 meters or higher from the seabed without breaking the ocean's surface. It is estimated that there may be as many as 30,000 to 100,000 seamounts worldwide They are home to cold-water coral reefs and forests, sponge beds and hydrothermal vents, as well as the many millions of species dependent on these. And because many seamounts are located in remote surroundings –underwater islands, essentially – virtually every study finds species that were previously unknown and are endemic, meaning that they are unique to that area.

"These species recover from disturbances at an exceedingly slow rate, if at all. Whole populations can be quickly fished out."

Seamounts are not only physically impressive, but like an oasis in the desert, provide an important source of food. Because of their physical characteristics and strong localized currents, they accumulate enormous quantities of plankton. The plankton, in turn, attracts a vast array of marine life, providing feeding as well as spawning grounds for myriad pelagic species, including some that have migrated across wide oceanic areas. As home to large marine mammals, such as dolphins and whales, an extraordinary diversity of fish species and the birds that prey on them, exotic sponge ecosystems and microscopic bacteria, seamounts are among the world's greatest marine-biological treasures.

The deep sea is also home to remarkably rich coral systems. Once thought to inhabit only the warm and shallow waters of tropical and subtropical regions, corals have apparently been thriving in deep, dark and cold waters throughout the world for millions of years. Indeed, it is now thought that there are more coral species living in the dark ocean depths than in the tropical shallows. Carbon dating of living cold-water coral reefs has revealed that the oldest may be 8,000 years old or more.

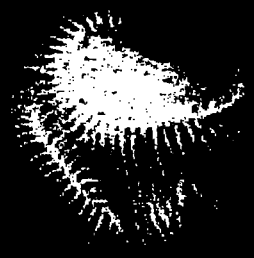
Several of the coral species create complex reefs and ornate three-dimensional, forest-like structures that rival tropical coral systems in their size and complexity. Indeed, the oldest and tallest reef yet observed is 35 meters high. Although the ecological aspects of cold-water corals have only just begun to be explored, it is clear that cold-water reefs are bustling with life, providing essential sanctuaries and nursing grounds for countless species.

Seamounts, and the cold-water corals they sustain, provide habitats for several commercial bottom-dwelling fish species, such as orange roughy, roundnose grenadier, blue ling, mirror dory and silver dory. Other species, for example, alfonsino, boar fish

The promise of the deep

- Of the estimated 500,000 to 10 million species living in the deep sea, the majority are yet to be discovered.
- Approximately 98 percent of the oceans' species live in, on or just above the floor of the sea.
- The estimated number of seamounts ranges from 30,000 to 100,000.
- Seamounts are home to a breathtaking array of species (for example, over 850 species were recently found on seamounts in the Tasman and Coral Seas).
- Because 15 percent or more of the breathtaking array of species being found on seamounts may be endemic (meaning that they are unique to that area – Coral and Tasman Sea seamounts have endemism rates of 29-34 percent), each unsampled seamount is a potential source of numerous undiscovered species.
- Two-thirds of all known coral species live in waters that are deep, dark, and cold – some live three miles deep and are able to survive in 30°F.
- Some cold-water corals are 5,000-8,500 years old or more, and some grow into beautiful structures that rise up to 35 meters high.
- Deep-sea corals, sponges and other habitat-forming organisms provide protection from currents and predators, nurseries for young fish, and feeding, breeding, and spawning areas for hundreds of thousands of species.
- Commercially important deep-water fish and crustacean populations found in the high seas include crabs, shrimp, cod, Pacific cod, orange roughy, armorhead, grenadier, Patagonian toothfish (aka Chilean sea bass), jacks, snappers, porgies, sharks, groupers, rockfish, Atka mackerel, and sablefish.
- Deep-sea species tend to be slow growing, late maturing and low in reproductive capacity. Many deep-water fish species live 30 years or more. Some, such as orange roughy, can live up to 150 years.
- Because deep-sea species live in rarely disturbed environments and tend to be slow growing, late maturing and endemic, they are exceptionally vulnerable to extinction.
- Deep-sea coral and sponge communities are largely untapped sources of natural products with enormous potential as pharmaceuticals, enzymes, pesticides, cosmetics, and other commercial products, for example:
  - Gorgonian corals produce antibiotics;
  - compounds found in certain deep-sea sponges are potent immunosuppressive and anti-cancer agents;
  - some coral species contain the pain-killing compounds known as pseudopterosians;
  - seafans contain high concentrations of prostaglandins (compounds used to treat asthma and heart disease).
- Ancient deep-sea corals provide valuable records of climate conditions that may assist our understanding of global climate change.

Right: Flytrap Anemone, Davidson Seamount, Pacific Ocean.



Photos pages 2, 3, 4: courtesy of NOAA and MBARI

Right: Blob Sculpin (Cottidae or Psychrolutidae), Davidson Seamount, Pacific Ocean. Very large, flabby sculpin with naked skin, large pectoral fins. Specimens have small eyes and no pre-opercular spines (usually in all scorpaeniformes and certainly sculpins). Geographical Distribution: Northeast Pacific, especially from Monterey to Oregon, in a depth of 3,000 to 6,000ft or 1,000 to 2,800m.

and blue-eye trevalla, are also attracted to these habitats. The concentrations of these fish around seamounts make them very attractive fishing grounds. Sadly, studies show that the long life cycles and slow sexual maturation of deep-sea fish makes them particularly vulnerable to large-scale fishing activities. These species have dwelled in ecosystems that are rarely disturbed and that recover from disturbances at an exceedingly slow rate, if at all. Whole populations can be quickly fished out.

The destructive power of deep-sea bottom trawling

Today's trawlers are capable of fishing deep-sea canyons and rough seafloor that was once avoided for fear of damaging nets. To capture one or two target commercial species, deep-sea bottom trawl fishing vessels drag huge nets armed with steel plates and heavy rollers across the seabed, plowing up and pulverizing everything in their path. The mouth of the trawl net is held open by two steel plate doors that help to keep the net on the seafloor. One company markets what it calls 'Canyonbusters', trawl doors that weigh up to five tons each and undoubtedly live up to their name. To protect the net from snagging on rugged seafloors, heavy chafing gear is attached to the bottom of the trawl net. A heavy cable is then strung through steel balls or rubber bobbins – known as roller gear or rockhoppers – that can measure a meter or more in diameter.

Fragile deep-water ecosystems, coral systems in particular, stand no chance against these ruthlessly effective underwater bulldozers. In a matter of a few weeks or months bottom trawl fishing can destroy what took many thousands of years to create. Deep-sea structures are not merely damaged, they are obliterated in a manner akin to clear-cutting a rainforest. After heavy trawling, the surfaces of seamounts are reduced to mostly sand and bare rock or coral rubble. Once destroyed, slow-growing deep-sea species are either lost forever or unlikely to recover for decades or centuries. Stable, living habitats such as coral and sponge communities in particular tend to be both the most heavily damaged and the slowest to regenerate. To make matters worse, the deep sea's remarkable array of coral, sponge, fish, crustacean and other species are, to an unusually high degree, undiscovered and endemic. The risk of extinguishing whole species never before seen is, therefore, very high each time a bottom trawler ravages the surface of a seamount.

Considerable damage to deep-water coral communities has been recorded off both coasts of North America, off Europe from Scandinavia to northern Spain, and on seamounts near Australia and New Zealand. In Norwegian waters, for example, an estimated one-third to one-half of the deep-water reefs have been damaged or destroyed by trawling. Photographs document giant trawl scars up to 4 kilometers (2.5 miles) long.

On the high seas south of Australia, in an area known as the South Tasman Rise, observers recorded trawlers bringing up an average of 1.6 tons of coral per hour in their nets in 1997 – the first year of the area's orange roughy seamount fishery. An estimated 10,000 tons or more of coral were brought up in the nets of the 20 or so deep-sea trawlers working in the area. This figure does not include coral that was damaged but not brought up in the nets. By contrast, the catch of orange roughy – the target species in this fishery – in the first year of the fishery was reported to be less than 4,000 tons.

A study in the Gulf of Alaska observed a trawl path that had pulled up one ton of corals. Thirty-one red tree coral colonies had been in the 700-meter trawl path observed. Seven years after the damage, some of the larger colonies that survived the initial trawl tow were still missing 95–99 percent of their branches. No young corals had replaced the dead ones in the damaged colonies.

Large quantities of 'non-target' species are captured (bycatch) and these are often discarded at sea as a waste product, killing much in the process. For example, according to the United Nations Environment Programme, trawling off the Aleutian Islands in Alaska between 1990 and 2002 produced over 2 million kilograms (4.4 million pounds) of coral and sponge bycatch.

Economics and food security: why the carnage doesn't make sense

Though high seas bottom trawl fishing has already had a devastating impact, the use of bottom trawls on the high seas is still only in its early stages. At present, it is estimated that out of 3.1 million fishing vessels in operation worldwide, only 100-200 at most are bottom trawling the high seas on a full-time, year-round basis. Even including vessels that bottom-trawl fish on the high seas on a part-time basis, no more than several hundred vessels are likely to be engaged in this activity each year.

In 2001[4], the world's high seas bottom trawl fleet caught approximately 170,000 – 215,000 metric tons of fish. This represents a tiny fraction (a mere 0.2 – 0.25 percent) of the 84 million tons of fish caught worldwide that year. Most of the high seas catch is sold in European Union, United States and Japanese markets, making international bottom trawl fisheries virtual non-contributors to global food security.

Nor is high seas bottom trawling a strong economic force. The overall annual value of high seas bottom

FOOTNOTES

1. The deep sea starts beyond the shallower continental shelf and includes the slope and rise of the continental margin, deep-ocean basins and plains, trenches, mid-ocean ridge systems, smaller ridge systems, seamounts, plateaus and other underwater features rising from the deep ocean floor. This area constitutes over 90 percent of the ocean bottom and mostly lies beyond 200 nautical miles from shore.
2. Virtually all bottom trawling activity in the high seas is being conducted by 11 of the world's wealthier nations: Denmark/Faroe Islands, Estonia, Iceland, Japan, Latvia, Lithuania, New Zealand, Norway, Portugal, Russia and Spain. The European Union (EU), in particular, is the epicenter of deep sea bottom trawling. In 2001, EU countries (including the newly admitted Baltic states) took approximately 60 percent of the high seas bottom trawl catch. The same year, Spain accounted for approximately two-thirds of the reported EU catch and 40 percent of the reported global catch in high seas bottom trawl fisheries. Gianni, M. High Seas Bottom Trawl Fisheries and their Impacts on the Biodiversity of Vulnerable Deep-sea Ecosystems: Options for International Action. IUCN/NRDC/WWF/CI. 2004
3. The 'statement of concern' was simultaneously released in February 2004 at the American Association for the Advancement of Science meeting and the Seventh Conference of Parties to the Convention on Biological Diversity. Full text of the statement is available at: http://www.mcbi.org/sDSC_statement/sign.htm

trawl fisheries is estimated to be approximately $300-$400 million USD. At most, this equals 0.5 percent of the estimated $75 billion value of the global marine fish catch in 2001 – even less when measured against the approximately $135 billion value of total fisheries production (marine, freshwater and aquaculture) that same year. By any measure, high seas bottom trawl fishing is causing ecological destruction that is grossly disproportionate to its very limited economic contribution.

"The management of fisheries on the high seas by RFMOs is highly fragmented and inconsistent."

The situation, however, can only be expected to deteriorate in the years ahead. Deep-sea fish stocks within Exclusive Economic Zones (EEZs) will either continue to be depleted or become less accessible under more restrictive fisheries management regulations. Demand for fish products is rising and will continue to do so. Some fishing nations are subsidizing the construction and/or operational costs of their high seas bottom trawl fleets. Having dug themselves into a hole through unsustainable fishing practices, some of these nations may believe that expanding deep-sea fisheries on the high seas will alleviate over-fishing within their EEZs and create new opportunities for their fishing fleets.

Any or all of these developments would provide incentives for well-capitalized deep-water vessels to push out into the high seas and extend the destructive scope of bottom trawl fishing. Indeed, the fleets of some of the world's more developed nations – for example, Spain, Russia, and New Zealand – are actively engaged in exploratory deep-sea fishing on the high seas in the North and South Atlantic, the South Pacific, and the Southern Indian Ocean.

As the deep-sea bottom fisheries continue to expand, however, the catch of deep-sea species on the high seas may never grow significantly. Once a population is fished out, deep-water trawlers search for new stocks of fish. As these fish stocks are similarly susceptible to over-fishing, they too will be quickly depleted. In this sense, the only true growth that can be certain to follow from high seas bottom trawling is in the destruction of deep-sea ecosystems and biodiversity on the high seas.

A net with holes: the regulation of fishing in the deep seas

There are currently some 30 regional fisheries bodies worldwide. Most of these bodies have extremely limited authority and, in essence, can only provide advice to member states. Some – known as regional fishery management organizations (RFMOs)[5] – theoretically have the authority and the technical capacity to assess the status of fish stocks of commercial value within their area of jurisdiction, to set limits on catch quantities and the number of vessels allowed to fish, and to conduct inspections and/or regulate the types of gear that can be used. In reality, however, most RFMOs only regulate the fishing of particular species, such as tunas, salmon and halibut.

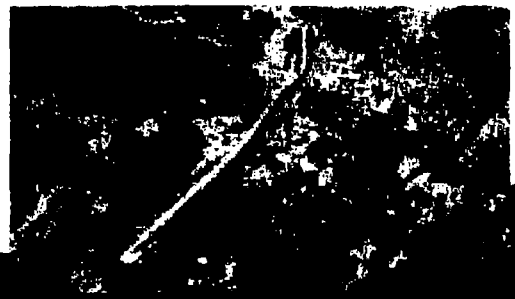
The management of fisheries on the high seas by RFMOs is highly fragmented and inconsistent. For example, any bottom trawl fishing on the high seas in the Pacific Ocean, the Indian Ocean, the Central Atlantic and Southwest Atlantic Ocean is not covered by a regional management organization and, as such, constitutes unregulated high seas fishing.

The vast majority of RFMOs lack the legal competence to impose restrictions on high seas bottom trawl fishing, let alone to protect the ecosystem as a whole within their areas of jurisdiction. And even those RFMOs that do have the necessary authority can only control the practices of vessels flagged by member states.

Furthermore, in those few high seas areas where such RFMOs exist – the North Atlantic Ocean, the Southeast Atlantic Ocean, the Southern Ocean and the Mediterranean Sea – only the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) has comprehensive measures to regulate bottom trawl fisheries for the impacts on deep-sea species on the high seas. Indeed, in the North Atlantic, the failure of the Northwest Atlantic Fisheries Organization (NAFO) and the North East Atlantic Fisheries Commission (NEAFC) to regulate the impact of bottom trawl fishing on deep-sea ecosystems is a long-standing failure of the past four decades or more. Only in November 2004 did NEAFC take steps to protect deep sea sites from destructive fishing practices through its decision to close four seamounts and a section of the mid-Atlantic Ridge from all fishing for three years, while declining to close two larger and more important areas. In February 2005, the General Fisheries Council of the Mediterranean took the unprecedented step of banning bottom trawling in the entire Mediterranean at depths below 1,000 meters to keep it from expanding into the still untouched and unstudied depths. However, no measures were taken to regulate bottom trawling in shallower water. The South East Atlantic Fisheries Organization has yet to regulate any deep-sea bottom trawl fisheries as it has only recently entered into force and its Commission and related infrastructure have yet to be fully established.

Establishing RFMOs that could regulate bottom fisheries in all areas, then ensuring that all countries involved in deep-water fishing abide by the RFMO's regulations, is a long-term process. In the meantime, urgent United Nations General Assembly (UNGA) action is required to protect deep-sea species and ecosystems and the interests of the international community as a whole from the most immediate threat to deep-sea biodiversity at hand – bottom trawl fishing on the high seas.

Halosaur at the Davidson Seamount off the coast of California, USA. Bathysaur (Bathysaur or Lizardfish). Silvery, elongate body, with an adipose fin toward tail and the head flattened and teeth curved and barbed in a long, lizard-like mouth, living in Atlantic and Pacific Ocean, usually below 5,400ft or 1,646m.



FOOTNOTES

4. 2001 is the last year for which data on catch and value is consistently available worldwide, according to a recent report published by IUCN, WWF, NRDC and Conservation International. M. Gianni, High Seas Bottom Fisheries and their Impact on the Biodiversity of Vulnerable Deep-Sea Ecosystems. (IUCN/NRDC/CI/WWF 2004) www.iucn.org/themes/marine/pubs/pubs.htm

5. For a list of RFMOs go to: http://www.fao.org/fi/body/body.asp

6. UNGA Resolution passed in 2003: A/RES/58/240, paragraph 52. For full text go to: http://www.un.org/Depts/los/general_assembly/general_assembly_resolutions.htm

7. Decision VII/5 of the Seventh Conference of Parties to the Convention on Biological Diversity on Marine and coastal biological diversity, paragraph 61. See also paragraphs 57-62. February 2004. Full text is available at: http://www.biodiv.org/decisions/default.aspx?m=COP-07&id=7742&lg=0

8. UNGA Resolution passed in 2004:A/RES/59/24 on Oceans and the Law of the Sea, paragraph 73.

9. Report ref. RESWCC3.066. Congress ref. CGR3,RES051_Rev1. Full text is available on: http://www.iucn.org/congress/members/adopted_res_and_rec/RES/RESWCC3066%20-%20RES051-Rev1%20Final.pdf

An electronic version of this document (with hyperlinks to all footnoted web sites) is available at: www.savethehighseas.org

DSCC

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DSCC for a moratorium before it's too late

The Deep Sea Conservation Coalition, an alliance of over 40 international organizations, representing millions of people in countries around the world, is calling for a moratorium on high seas bottom trawling.

For further information about the Coalition visit www.savethehighseas.org

"In a matter of a few weeks or months bottom trawl fishing can destroy what took many thousands of years to create."

Take action now – before it is too late

[illegible] bottom trawling has been building steadily in recent years. Over the past two years, the UNGA has issued Oceans and Law of the Sea Resolutions calling on the international community to take urgent measures to manage the risks to vulnerable deep sea ecosystems. Its 2003 resolution urged relevant global and regional organizations "to investigate urgently how to better address, on a scientific basis, including the application of precaution, the threats and risks to vulnerable and threatened marine ecosystems and biodiversity in areas beyond national jurisdiction."

In February 2004, the Conference of the Parties of the CBD (COP 7 CBD) urged the UNGA to stop destructive practices harming deep sea ecosystems. Referring to marine areas beyond the limits of national jurisdiction that have seamounts, hydrothermal vents, cold water corals and other vulnerable ecosystems and features, the Parties called on the UNGA to "urgently take the necessary short-term, medium-term and long-term measures to eliminate/avoid destructive practices, consistent with international law, on a scientific basis, including the application of precaution, through, for example, on a case by case basis, the interim prohibition of destructive practices adversely impacting the marine biological diversity associated with [these] areas..."

In the same month, the 1136 scientists released their statement of concern calling for a moratorium on bottom trawling on the high seas to protect imperiled deep sea coral and sponge ecosystems. They urged that the precautionary principle be used to ensure that the deep sea environment is protected and "to avoid the very real threat of serious or irreversible damage to them by bottom trawling".

In June 2004, The United Nations Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) report to the General Assembly explicitly acknowledged the threat to deep sea ecosystems by bottom trawling, but fell short of recommending a moratorium on the practice as States could not reach consensus.

The UNGA did not, therefore, impose a moratorium on high seas bottom trawling in November 2004. The Oceans and Sustainable Fisheries resolutions urged [illegible] individually or through RFMOs to take action and established an Ad hoc, Open-ended Informal Working Group to "study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction." As we have seen, RFMOs coverage on the high seas is fragmented and inconsistent, and establishing RFMOs with the required competence to regulate high seas bottom trawl fishing, let alone setting up new RFMOs, is a long-term process. A review on progress is scheduled for 2006, allowing another two years of destruction in the deep seas to pass unchecked. When bottom trawling is estimated to devastate an area twice the size of the United States each year, these strong statements of concern do not go far enough.

A week after the UNGA finalized its resolutions, the IUCN World Conservation Congress adopted a resolution calling for more specific and urgent action than that recently agreed by the UNGA. More than 100 governments and 800 NGOs (including several DSCC members) that are members of IUCN participated in the World Conservation Congress in Bangkok from 17–25 November. The resolution specifically called on States, RFMOs and the UNGA to protect seamounts, deep sea corals and other vulnerable deep sea habitats from destructive fishing practices, including bottom trawling on the high seas, particularly through immediate prohibitions on bottom trawling in areas where there is no RFMO and by 2006 in other areas unless effective conservation measures are in place.

To protect deep sea biodiversity on the high seas from continued indiscriminate destruction the Deep Sea Conservation Coalition is joining with the 1136 international scientists who signed the Statement of Concern by calling on the UNGA to adopt an immediate moratorium on deep sea bottom trawl fishing on the high seas until legally binding regimes for the effective conservation and management of fisheries and the protection of biodiversity on the high seas can be developed, implemented and enforced by the global community.

FOOTNOTES: See over page

Orange Roughy on the processing line of a factory bottom trawler.