NEWS

Overfishing imperils fish in deep waters

By RANDOLPH E. SCHMID, AP Science Writer
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With declining catches close to shore, commercial fishing is turning to deeper waters, threatening species that live and gloom of the deep oceans, according to researchers.

A panel at the annual meeting of the American Association for the Advancement of Science said Sunday that over deep waters is putting at risk the least sustainable of all fish stocks.

"We're not really fishing there. We're mining there. We're taking what appears to be a renewable resource and turr nonrenewable one," said Elliott Norse of the Marine Conservation Biology Institute in Bellevue, Wash.

"The number of people who want fish is not going down, but the number of fish is," Norse said.

The shift to fishing at depths of more than 600 feet is new. These areas began to be exploited after overfishing cau decline in catch in more shallow coastal waters, said Norse.

Much of the deep water fishing occurs around seamounts, extinct volcanoes that rise from the seafloor to within se hundred feet of the surface.

Many species tend to congregate at seamounts because they can find food and mates there, making them also ea said Norse.

Selina Heppell of Oregon State University said slow growth and reproduction makes deep-living species particular because they are slow to replenish their stocks.

Some deep species don't mature until they are 40 years old and then may live 240 years, Norse said.

Such fish reproduce slowly, Heppell said — for example while skipjack tuna may spawn every day in summer, dee orange roughy spawn only every two years.

"Never eat anything that could be older than your grandmother," she said, quoting Milton Love of the University of Santa Barbara.

Hempell agreed with Norse that congregating together increased their vulnerability and noted these fish are the lea and protected in the oceans.

In addition, Heppell said, rising market value of fish has led to marketing campaigns to increase sales, such as ren slimehead fish orange roughy and the toothfish Chilean sea bass.

Krista Baker, a graduate student at Memorial University of Newfoundland, Canada, reported that about 40 percent species in Canadian waters are either endangered or show significant decline.

She estimated that because of slow reproduction it would take 12 to 90 years for stocks of roughead grenadier fish fishing were halted, and 13 to 130 years for roundhead grenadiers.

Grenadiers have a lifespan of over 60 years, she said, and they are still being fished.

On the Net:

American Association for the Advancement of Science: http://www.aaas.org

William R. Waddell
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Questions for News Story:

1. **What is the focus of the news story?**
   Possibility of over fishing the pelagic zone of the ocean where some fish species may take several years to reach maturity and spawn. These species are susceptible because of the long length of time it takes to replenish their stocks.

2. **How is the story related to fish ecology?**
   Some fish reproduce less often than others resulting in a higher recruitment rate. Some fish also take longer to reach maturity than others.

3. **Who are the main human and nonhuman "players" in the story?**
   The commercial fishing industry is the main human player in the story. The nonhuman players are the deep water and pelagic fishes.

4. **What socioeconomic issues are imbedded in the story?**
   The rising market value of fishes has led to marketing campaigns to increase sales. This results in the fisherman taking more fish from the population to make more profit.

5. **Does the reporting of the story appear to be accurate and unbiased?**
   Yes, but it is focused more on the fishes more sensitive to over fishing than those that aren't.

6. **What kind of fish ecology knowledge would help in this situation?**
   Knowing the life histories of the fishes being caught would help determine how many fish or size of fish that could be harvested from the species without having a large impact on recruitment.

7. **What could/should a fish ecologist do to help resolve the issue?**
   The fish ecologist should observe what fish and how many are being harvested and research to find out how the population or species is being affected. The fish ecologist should focus on how fast the species matures and how many times it spawns a year. Then, working with management officials, help set harvest regulations to prevent a collapse of the species being harvested.