COMISION INTERAMERICANA DEL ATUN TROPICAL INTER-AMERICAN TROPICAL TUNA COMMISSION

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The Editor Nature 968 National Press Building 529 14th St NW Washington, DC 20045-1938

Dear Sir/Madam,

The article by Myers and Worm "Rapid worldwide depletion of predatory fish communities" is disappointing because it does not give us the answers that we need to manage tuna and billfish populations. There are several questions that need to be answered before any conclusions can be made about the effect of declines in large pelagic predators: 1) has the catch per unit of effort (CPUE) declined substantially, 2) is the CPUE proportional to abundance, 3) what portion of the abundance is represented by CPUE, 4) what effect does the decline have on the species, 5) what effect does the combination of declines in all large pelagic species have on the ecosystem?

Myers and Worm have answered the first question, a trivial point, as it is generally recognized by fishery scientists that CPUE often substantially decreases in the initial phases of a fishery, especially for tuna longline fisheries. A substantial decrease is required based on currently accepted sustainable fisheries management practices (maximum sustainable yields occur at about 30-40% of the unexploited population size, with 40% chosen by many management agencies as a precautionary measure). It is also commonly believed that during this initial period of exploitation, CPUE decreases more rapidly than abundance. This is supported by the fact that the large declines during periods of often low catches and the recent large catches taken from populations at low CPUE levels are inconsistent with realistic population dynamics. In fact, if Myers and Worm plotted the catches on their Figure 1, much of the substance of their argument would disappear. In addition, catches and population abundance have been sustainable over several decades for many of the populations, corroborating current assessments of stock status.

Myers and Worm have not increased our understanding of world fishery stock status. They have only sensationalized the declines in CPUE (in many cases using unrepresentative selections of species and spatial strata). At best, they have motivated stock assessment scientists to focus more on exploring the reasons behind the large declines in CPUE in the initial stages of exploitation. Unfortunately, Myers and Worm did not provide us any insight into this problem. We still need to reconcile the inconsistency between CPUE, catch, and our understanding of population dynamics (see http://www.soest.hawaii.edu/PFRP/ for more details about various hypotheses). As indicated by Myers and Worm, we also need to investigate the consequence of declines in groups of species, rather than just focusing on the species themselves. For example, what is the consequence to the ecosystem if we exploit all commercially-important species at their maximum sustainable yield levels? This is an important point that is fully recognized and increasingly studied by tuna scientists.

Sincerely,

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