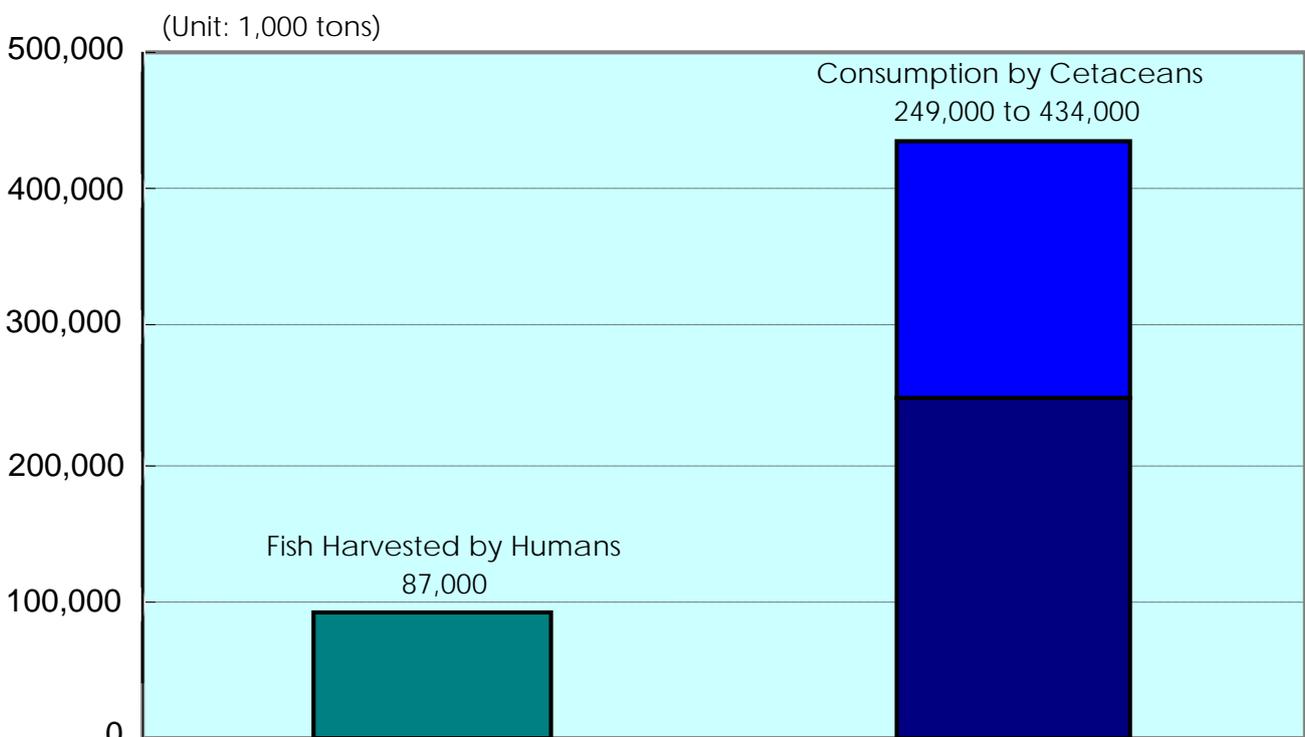


249 to 436 Million tons (Minimum) of Marine Resources

Regional assessments of prey consumption and competition by marine cetaceans in the world

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ABSTRACT – The total annual prey consumption by 45 species (12 baleen whale species; 33 toothed whale species) out of 84 species (13 baleen whale species; 71 toothed whale species) of marine cetaceans in the world was assessed. The assessment was based on: (i) recently available abundance estimates of cetaceans; (ii) daily prey consumption rates of cetaceans estimated using three methods; (iii) estimated biomass of cetaceans by use of average body weight and abundance; and (iv) composition of prey species of cetaceans. The annual prey consumption of cetaceans was estimated for three ocean regions: the southern hemisphere, including the Indian Ocean (120-242 million t); the North Pacific (63-85 million t); and the North Atlantic (55-107 million t). Total annual prey consumption by cetaceans in the world was estimated to be at least 249-434 million t, because the data did not cover all cetacean species nor their whole range. The fish consumption by cetaceans in the southern hemisphere including the Indian Ocean was estimated to be 18-32 million t and equated to 66-120% of commercial fisheries catches in 1996. In the North Pacific, fish consumption was estimated to be 21-31 million t, equivalent to 67-99% of commercial fisheries catches in 1996. In the North Atlantic, the fish consumption by cetaceans was 15-25 million t, equivalent to 87-144% of commercial fisheries catches in 1996. There was probably direct competition between cetaceans and commercial fisheries in the North Pacific and the North Atlantic. However, as the information on the abundance of cetaceans was not included for all species, the actual figures for annual prey consumption by all cetaceans are probably larger than the results presented. More information on abundance, body weight and prey composition of cetaceans in each region is necessary to consider competition between cetaceans and commercial fisheries in order to address a more realistic strategy for fisheries management and the conservation of cetaceans in future.



Comparison between the amounts of fish harvested by humans and consumed by cetaceans in the world.

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