

Response to the editorial on porpoise management, Vol. 2, No. 2.

Your recent editorial, "In Support of Rational Porpoise Management" (*Fisheries*, Vol. 2, No. 2), does much to further the exposure of the tuna-porpoise issue before our professional fisheries society. I am hopeful that you will receive many letters on this subject in response to your editorial. As the scientist responsible for the National Marine Fisheries Service's (NMFS)

tuna-porpoise research program, but not speaking for NMFS, I heartily support much greater discussion of this issue as well as of marine mammal management generally under the Marine Mammal Protection Act (MMPA) before professional resources management societies. However, in my opinion your editorial could promote some misunderstandings or misconceptions and I would like to offer several observations to your readers.

The MMPA is a remarkably novel piece of conservation legislation that embodies an ecosystem approach to management. However, despite the MMPA's primary objective to "... maintain the health and stability of the marine ecosystem ..." the MMPA clearly and, in my opinion, unfortunately views the ecosystem from a strong bias in favor of only one component of the ecosystem—marine mammals. This bias undoubtedly resulted from the strong public outcry over such events as the clear overexploitation of many whale stocks and the harvesting with clubs of fur seals and harp seal pups which was perceived publicly as inhumane. The tuna-porpoise problem was a grafting onto the main bill. Implementation of the multiple management objectives of the MMPA has been very difficult, as has the conducting of research and the rendering of management advice. Partly this is because the management objectives of the MMPA, despite the word "PROTECTION" being prominently displayed in its title, are vague, contradictory, and partially incomprehensible (through the lack of precise and concise or generally accepted definitions and the grafted nature of the tuna-porpoise provisions). A rather wide range of actions is supportable under various sections and provisions of the MMPA.

Your first contention that heavy, one-sided pressure from "protectionist organizations and many private individuals" has tended to steer the current course of porpoise management within the sea of alternatives is undoubtedly correct because of the lack of a significant number of other voices on the issue; the exception of course is the tuna industry, but it is perceived as the "culprit." Also, a number of well-meaning, but perhaps over-zealous mammal scientists have helped to guide the present course. There is an obvious need for greater participation by professional resource management societies in the public debate over the issues created by the MMPA. As an indictment, not one such society has ever sent a representative to make an appearance at the hearings conducted by NMFS which establish the management procedures each year, and very rarely have any appeared before the many Congressional hearings held since passage of the MMPA. Those components of human society should be providing the support for a steady hand on the tiller. More communication and open discussion is the key to more effective representations of rational management.

The MMPA avoids use of the word "yield" as if it were some kind of taboo. The MMPA embraces a complex and ill-defined concept of an optimum sustainable population, for which NMFS has had to adopt an interim definition that is presently sufficient for working purposes. If a waiver of the general moratorium it places on taking¹ marine mammals is obtained, the MMPA permits and in fact may encourage harvesting to achieve the optimum sustainable population; in this context, the harvest is an optimum yield. However, for taking marine mammals incidental to commercial fishing operations (specifically tuna purse seine fishing in this issue) as opposed to a directed and purposeful harvesting, the MMPA has a totally

¹"Taking" under the MMPA is defined as harassing, hunting, capturing or killing or attempting to do so.

different goal, that of reducing the incidental mortality and serious injury rate "... to insignificant levels approaching zero." This is a superbly humane and admirable goal from the viewpoint of preserving as much as possible an animal which is endeared to many people. On the other hand, it could be argued that the primary objective of the MMPA, "... to maintain the health and stability of the marine ecosystem," is being compromised by protecting as much as possible only one component (porpoises) of a complex ecosystem while harvesting large quantities of another very closely interrelated component, yellowfin tuna. Furthermore, there is the question of what is "insignificant"? (One animal per year? Low enough so that all significantly affected populations are growing? Low enough so that the optimum sustainable populations are maintained? Low enough so that certain people stop complaining?) Clearly more professional input to the public, Congress, and the management organizations would be extremely helpful.

As you pointed out, our progress in reducing incidental porpoise mortality by U.S. fishermen has been very good. The correct figures, however, are an estimated 104,000 mortalities in 1976 as opposed to 310,000 in 1971 and higher in previous years. For 1977 the stock-by-stock quotas total 62,429 animals. The kill of porpoises per ton of yellowfin tuna caught this year stands at 0.26 as opposed to 0.9 for the same period in 1976 and 3.8 in 1971.

NMFS has declared the eastern spinner dolphins to be legally depleted under the MMPA, but at 55% of their initial size they show no signs of the "serious" depletion you mentioned. According to our current assessment the stock is healthy and is growing at a good rate. To further correct several statements in your editorial, the status of coastal spotted dolphins and Costa Rican spinner dolphins is unknown—taking in currently prohibited for both stocks. However, your statement on the status of offshore spotted dolphins, whitebelly spinners and the other 10 species or stocks of marine mammals involved in the tuna fishery are correct. While these assessments are the "best available scientific evidence," as required by the MMPA, I fully agree with you that further extensive research is absolutely required to evaluate several rather critical assumptions and to greatly improve our precision before we can be certain that our assessments are correct.

Your suggestion for the tuna fleet to retain and land all porpoises killed incidentally for use as food makes sense from the perspective of world food needs. This suggestion would also apparently satisfy many people who claim their only opposition to the porpoise mortality is that no apparent use is made of the dead animals; unfortunately they apparently do not care much about all the other creatures and plants of the sea which use and are "benefiting" by the mortality. However, the 5,000 to 7,000 tons round weight realized from 100,000 animals and considerably less in terms of edible weight would hardly be noticed in the world shortage of protein. From the perspective of health and stability of the ecosystem, could it be better to retain the material assimilated by porpoise in the eastern tropical Pacific ecosystem rather than to haul the insignificant amount away to North America or Asia? Additionally, U.S. policy is established by the MMPA and it prohibits, except for scientific purposes, the landing of incidentally caught porpoises without obtaining a waiver of the general moratorium.

Unfortunately, your statement, that landing the dead porpoises would not be an incentive to kill more and that the

converse is true, is probably not correct. The U.S. tuna purse-seine fleet currently consists of about 121,000 tons of fish-hold capacity which makes about four trips per year for a potential annual capacity of nearly 500,000 tons. This fleet landed only about 300,000 tons of tuna and tuna-like fishes in 1976 (actually a record high) so a considerable tonnage in excess of the sustainable kill of porpoises could be brought in as an incidental catch without even denting the excess effective capacity of the fleet, much less denting the amount of capacity used to land the "high-value" tuna (yellowfin now brings 41¢ a pound landed value). The real benefit of landing all the incidentally killed animals is to research. We would have very precise estimates of the kill by species and stock, age and sex compositions, and health and reproductive conditions. This would greatly aid in rational management and take a lot of wind out of sails of others who want the fishery completely stopped using the excuse that "we do not know enough."

Our current point estimate of the aggregated population levels of marine mammals involved in the eastern Pacific tuna fishery is 8.1 million, with an interval estimate of 4.4 to 12.1 million. With a few exceptions, these species are also found throughout the tropical and temperate latitudes of the world's oceans. Your calculations of the food consumption of marine mammals worldwide did not include the large whales, but serve to point out the need for considering—especially in the case of direct competitors for fishery resources—the marine mammals, an ecosystem approach to management of living marine resources. This concept is boldly emblazoned in the policy section of the MMPA, but is sadly misconstrued and misdirected in other sections of the MMPA, by protectionist organizations, by over-zealous mammal scientists, occasionally by our courts, and elsewhere.

The U.S. has achieved a remarkable record in reducing excessive harvesting of large whales and porpoises and in obtaining protection for certain heavily over-exploited marine mammal stocks. While there is still much to accomplish in this area, I believe that fisheries, wildlife and forestry scientists, long involved in rational management of living resources, should become involved professionally in the marine mammal issue to a significantly greater degree than they have in the recent past. The ecosystem tenet of the MMPA and the management objectives of the Fisheries Conservation and Management Act of 1976 need to mesh cleanly to provide for rational management of all living marine resources.

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