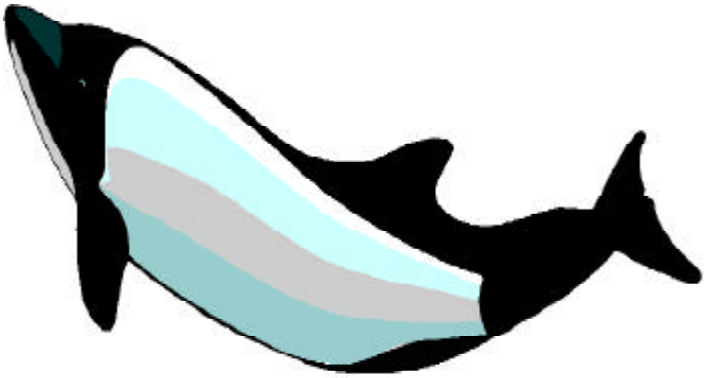
New Guidelines Proposed for the Zero Mortality Rate Goal

The MMPA Amendments of 1994 call for a reduction in the incidental serious injury and mortality of marine mammals in commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate within seven years, or by April, 2001. The proposed rule to implement Section 118 of the MMPA proposes a series of biological objectives to determine when the Zero Mortality Rate Goal (ZMRG) has been met.



Now that a definitive deadline has been imposed for attaining the ZMRG, the fishing industry, other interested constituents, and the government must develop objective standards to determine when the ZMRG has been reached, as well as gauge any progress toward its attainment. Developing specific objectives raises three fundamental questions: 1) what does insignificant mean? 2) how close to zero do we need to approach? and 3) what rate should we use as the measurement?

First, in determining what is insignificant, it is helpful to review what is meant by significant. For example, a statistician may think in terms of probabilities, whereas an economist may focus on the level of additional effort versus output as significant in determining an optimum level of efficiency. On the other hand, many people may regard "a lot" of something as being significant. NMFS has proposed that the ZMRG should address the biological significance of levels of incidental mortality and serious injury to marine mammal stocks.

The next step is to identify the level of loss that could be considered biologically insignificant to a marine mammal stock. The MMPA gives us an important starting point with the Potential Biological Removal level, or PBR. The PBR is the maximum number of marine mammals that could be removed from a stock (by other than natural causes) and still allow that stock to reach and maintain its Optimum Sustainable Population (OSP). Therefore, NMFS concluded that the removal of a small portion of a stock's PBR could be considered insignificant to the stock's ability to reach and maintain OSP.

In December, 1992, NMFS proposed to Congress that a level of mortality or serious injury that would delay recovery of a severely depleted stock of marine mammals by no more than 10% could be considered biologically insignificant. Modeling exercises confirmed that limiting incidental removals to 10% of a stock's PBR would cause the population to delay achieving OSP by no more than 10%. Therefore, NMFS proposed that if total fishery-related mortality and serious injury is less than 10% of PBR for a marine mammal stock, it will be determined as "insignificant" for that stock. In addition, fisheries that interact with declining, depleted, threatened, or endangered stocks of marine mammals will be examined more closely to ensure that any incidental loss from these stocks is, indeed, insignificant.

In cases where the total loss for a given stock exceeds 10% of PBR, some fisheries may still contribute only a small (or insignificant) amount of that loss. Therefore, NMFS proposes a second tier of consideration for individual fisheries when total incidental loss exceeds 10%. A fishery contributing removals of no more than 1% of a stock's PBR, even when total loss due to all fisheries exceeds 10%, would be determined to have an insignificant effect on that stock. It is important to note that the proposal for ZMRG is the same as the criteria for determining Category III fisheries in the proposed list of fisheries.

Second, incidental losses must "approach a zero rate". Some have argued that "zero means zero". Others have argued that incidental losses are accidental and despite a fishery's best efforts, some marine mammals may still get caught incidentally in their nets. NMFS proposes to control incidental loss of marine mammals through regulation or restrictions only to the point that these losses are biologically insignificant to marine mammal stocks. However, NMFS would continue efforts with the fishing industry to design, refine and use technologies and methods that are more "marine mammal friendly".

Lastly, what rate should we use? Since the 1988 Amendments to the MMPA were passed, NMFS has looked primarily at the number of marine mammals caught by an individual vessel over a 20-day period. An alternative is the number of marine mammals killed by a given fishery in a year. Unfortunately, these rates are not directly related to biological significance. In the first case, a fishery with a large number of vessels would remove more marine mammals than a small fishery if the per-vessel rates were the same. In the second case, the mortality of one right whale, an endangered species, has more biological significance to a population than the mortality of one California sea lion.

The proposed definition for attaining the ZMRG has been developed around the biological significance of the magnitude of the incidental mortality and serious injury of marine mammals of a particular stock. This approach is biologically justifiable, and progress toward it would be based upon the best available scientific information. NMFS looks forward to receiving your comments on the ZMRG and other aspects of the proposed regulations. For more information, call Tom Eagle at 301/713-2322.