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The present status of western Atlantic harp seals:
a management consideration

by

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During the last two years a number of attempts have been made to assess the present status of harp seals, Pagophilus groenlandicus, in the western Atlantic (e.g. Allen, 1975; Benjaminsen and Øritsland, 1975; Ronald and Capstick, 1975; Lett and Lavigne, 1975; Lavigne, 1975, 1976; Lavigne et al., 1975; Ricker, 1975; Benjaminsen and Lett, 1976; Winters, 1976). To date, there has been no general agreement on the size of the present population, or on the number of pups produced annually off eastern Canada. Estimates of pup production at the present time vary from perhaps less than 200,000 (Lavigne, 1975, 1976; Lavigne et al., 1975) to more than 300,000 seals (Benjaminsen and Lett, 1976; Winters, 1976).

In the early 1950's Fisher (1955) estimated that the western Atlantic stock of harp seals numbered about 3.3 million with pup production in the order of 645,000. Later estimates suggest a marked decline in pup production until about the time quota management was introduced in 1971 (Øritsland, 1971; Sergeant, 1975; Lavigne et al., 1975). The present question is whether this decline has continued despite the introduction of quotas, as suggested by a recent aerial census (Lavigne, 1975, 1976; Lavigne et al., 1975), or has the population begun to stabilize or even increase in numbers in recent years (Benjaminsen and Lett, 1976; Winters, 1976). There is, at present, no general agreement on this question either.

In 1974, the International Whaling Commission (IWC), which has been widely criticized for its management of large whale stocks, implemented a new scheme for whale conservation (IWC, 1976a, 1976b). All whale stocks are now classified either as protected stocks, initial management stocks, or as sustained management stocks, according to their relative abundance (IWC, 1976a).

Sustained management stocks are those species whose stock sizes are between 10% below and 20% above the level of their maximum sustainable yield (MSY). Initial management stocks are "those species whose abundance is more than 20% above the MSY level" (IWC, 1976b). Protected stocks "are those

species which are more than 10% below the level of their maximum sustainable yield". For protected stocks "there is complete and automatic protection and the species may not be hunted" (IWC, 1976a, 1976b).

One conclusion about the present status of the harp seal stock in the western Atlantic for which there seems to be general agreement, is that stock size has been, *and still is*, below the level producing MSY. In fact, the *most optimistic assessments* suggest that the present stock size is more than 20% below the MSY level. *The implication of this, of course, is that if harp seals were whales, they would be classified as a protected stock, and there would be "complete and automatic protection" until such time that they could be reclassified as a sustained management stock.*

An immediate reaction to this implication might be to reject it as being totally irrelevant to the management of pinniped populations. Seals are obviously not whales! Nevertheless, the IWC classification scheme is applied to both mysticete and odontocete whales, mammals which as a group exhibit considerable diversity (Gaskin, 1976). Seals and whales, although distantly related in an evolutionary sense (they are mammals!), are usually lumped together as "marine mammals". There are obvious reasons for this; marine mammals share physiological, behavioural, and ecological adaptations associated with life in the ocean. Both seals and whales are large, long-lived mammals with relatively low and constant reproductive and mortality rates. Consequently, unlike most fish populations, seal and whale populations are quite stable and are not subject to marked natural fluctuations on an annual basis. Both seals and whales are often rather easy to exploit because their annual movements are predictable and they tend to congregate in certain areas so that their contagious distributions may give the impression of more animals than actually exist in the population. This latter point has been noted previously for whales (e.g. Gaskin, 1968, 1972) and certainly applies to the harp seal (Lavigne *et al.*, 1975). Furthermore, Bartholomew (1974) has already demonstrated the utility of applying information on the biology and commercial history of a pinniped, the norther fur seal, Callorhinus ursinus, to a discussion of possible exploitation strategies for the sperm whale, Physeter catodon.

Perhaps, then, it is not unreasonable to suggest that the IWC criteria be considered when formulating management policy concerning future exploitation of western Atlantic harp seals.

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