

Commercial whaling, tourism, and boycotts: An economic perspective[☆]

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Abstract

Commercial whaling is highly contentious, angering animal rights groups and conservation organizations, who threaten boycotts. Proponents of whaling argue that many whale stocks are plentiful enough to support sustainable harvests. In terms of economic efficiency, a nation's decision to engage in whaling depends on rents from the whaling industry, ecological and market linkages, and the potential for boycotts. We analyze the tradeoffs involved in a nation's decision to engage in whaling, whale-watching, and fishing. Scenarios exist in which whaling is economically rational. Indeed, sometimes it makes economic sense to subsidize whaling. In other circumstances, market pressures make commercial whaling inefficient.

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1. Introduction

Large marine mammals, such as the great whales, are valued by human beings for many different reasons. Beginning with the Basques in the 11th century, whales were viewed historically as a resource to be exploited for whale oil and a variety of other products, including the harvest of their meat as a source of food protein. Overexploitation of many of the world's whale stocks led to a series of increasingly stringent conservation measures in the 20th century, culminating in a worldwide moratorium on commercial harvests, beginning in 1986. At the time nations were debating the imposition of the whaling moratorium, a new ecotourism industry began to take shape, focused on viewing whales in their

natural habitats. This industry grew from a minor activity from as early as 1955 to a \$1 billion industry worldwide by the late 1990s [1]. Whale-watching now is offered in nearly 500 communities around the world, with more than nine million trips taken annually.

As whale stocks begin to recover, whaling advocates continue to pressure the International Whaling Commission (IWC) to relax its moratorium. The IWC was established to manage dwindling whale stocks, and the moratorium was implemented as a conservation measure, not as a permanent prohibition of whaling. Regardless of this management role, the resumption of whaling on recovered stocks is by no means assured. The political reality of the situation is that some nations favor sustainable harvests and others favor preservation [2]. In the meantime, small numbers of whales of some species continue to be taken by nations refusing to sign onto the moratorium, and, under IWC rules, by special permit to further scientific research and by indigenous peoples for subsistence.

Those who promote the growth of whale-watching as a non-consumptive use of whales are concerned about

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the threat of future relaxation of the whaling moratorium and the resumption of commercial whaling by some nations [3]. If the moratorium is lifted, it seems unlikely that whale stocks will be threatened significantly by the resumption of commercial whaling, because limits would be placed on allowable catches. Whale-watching proponents are concerned as much about the *notion* of whaling as they are about the level of whaling *effort* or the *numbers* of takes [4]. They worry that just the knowledge that whaling is sanctioned by a nation might discourage ecotourists from making visits [5]. Indeed, in some small countries like Iceland, most whale-watchers are foreign tourists, and there are concerns that the larger tourist industry could be affected adversely [6].

In this article, we analyze the tradeoffs between commercial fisheries, whaling, ecotourism—including whale-watching and other parts of the economy. We develop a bioeconomic framework for determining the efficient intensity of whaling—if indeed maintaining a whaling industry is cost-effective at all—in the presence of market forces that affect the sustainable rents emerging from such an industry.

2. Whaling and tourism

Table 1 presents data on average catches of large baleen whales by several countries during the fifteen year period 1988–2002 [7]. Only Norway, exercising its legal right to object to the IWC moratorium, has reported commercial catches of large whales (minke) in recent years. Small artisanal fisheries for baleen and toothed whales, including dolphins, occur in many locations, but there are few published reports on these fisheries. For example, in the Danish Faroe Islands, the Faroese Museum of Natural History has compiled statistics showing that on average about 1000

long-finned pilot whales, a small toothed whale species, have been killed in the drive fishery during 1988–2000 [8]. Other artisanal fisheries certainly exist, such as those in the Philippines and in Indonesia for Bryde's whales, but the existence of such fisheries often is difficult to validate, and catch data are virtually nonexistent.

Most of the countries listed in Table 1 are permitted under IWC authority to catch a limited number of large whales for aboriginal subsistence purposes. For example, the Alaskan Eskimo and the native peoples of Chukotka (Russia) are allowed to catch up to 280 bowhead whales during 2003–2007. Annual bowhead catches are limited to 67 per year, and unused quota of up to 15 whales may be carried over from year to year. During 2003–2007 a quota of 620 eastern North Pacific gray whales is allowed (with no more than 140 in one year); most of these are taken by Russian native peoples, but a few are now being taken by the Makah people of Washington State.

Several Caribbean Island countries, including St. Vincent and the Grenadines, St. Lucia, Antigua and Barbuda, Dominica, Grenada, and St. Kitts and Nevis, are permitted by the IWC to harvest small toothed whales and dolphins for aboriginal subsistence purposes. Data on these harvests are reported infrequently, if at all. Much of the whaling in these small island nations is virtually unregulated, and reports sometimes surface of the killing of larger whales, including orcas, Bryde's whales, and sperm whales [9]. The Bequians of St. Vincent and the Grenadines are allowed to harvest up to four humpback whales per year for aboriginal subsistence purposes. Concerns have been voiced over the killing of females with calves, which is not permitted. Japan has argued unsuccessfully for many years for an IWC allocation of aboriginal subsistence quota for the residents in four of its coastal villages.

Table 1
Countries involved in the harvest of large baleen whales during 1988–2002

Country		Average catches during 1988–2002								Total
		Fin	Humpback	Sperm	Sei	Brydes	Gray	Minke	Bowhead	
Japan	S	0	0	1	3	10	0	429	0	442
Norway	S,C	0	0	0	3	3	0	307	0	313
Greenland (Denmark)	AS	14	<1	0	<1	0	0	135	0	150
Russia	AS	0	0	0	0	0	102	<1	<1	102
United States	AS	0	0	0	0	0	<1	<1	49	49
Iceland	S	9	0	0	1	0	0	0	0	10
Saint Vincent and the Grenadines	AS	0	1	0	0	0	0	0	0	1
Canada	AS	0	0	0	0	0	0	0	<1	<1
Total		23	2	1	7	13	102	871	50	1068

Data on whale catches are average numbers of catches of whales of each species over the fifteen year period from 1988–2002. *Source:* International Whaling Commission [7]. Key: S = scientific whaling; C = commercial whaling; AS = aboriginal subsistence whaling. Norway engaged in scientific whaling from 1988 to 1992 and in commercial whaling thereafter. The IWC distinguishes between aboriginal subsistence fisheries in East and West Greenland, which have been combined together in this table. The majority of Greenland takes occur in the West Greenland fishery.

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