
Urgent Need for Empirical Research into Whaling and Whale Watching

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Introduction

Recent International Whaling Commission (IWC) debate on the interaction of whale watching and whaling provides fertile ground for empirical research (International Whaling Commission 2005). Commentary to date on the relationship between whale watching and whaling has been largely anecdotal, rendering the potential effect whaling might have on whale watching largely uninformed. From this situation emerges the need for empirical research into the relationship between two conflicting and probably mutually exclusive interests related to whaling and whale watching.

Tourism typically develops following a predictable pattern (Butler 1980). After a period of slow growth, visitor numbers often undergo a phase transition of rapid development to reach an equilibrium (Duffus & Darden 1990). Tour operators try to achieve sustainability by maintaining visitor numbers close to the carrying capacity of the whale-watching fleet. The likelihood that sustainability will be achieved is related to many extrinsic and intrinsic factors such as economic viability, competition, and sustainability of the resources on which the system relies. Whale watching relies on whales as the primary attraction for visitors. Activities, such as fishing and whaling, and pollution can affect the number of whales present at a tourism site. These activities can result in fewer tourist visits to a site either as a direct consequence of a decrease in the whale population or because of incompatibilities between competing activities and the values of whale watchers.

A Conceptual Framework

We devised a framework that conceptualizes the relationship that may exist between whale watching and these other human activities (Fig. 1). The framework considers different scenarios under which the evolution of a whale-watching system can interact with other human activities, including whaling. The scenarios incorporated into the framework include optimum growth in the whale-watching system and variations on optimal growth subject to both constructive and destructive human activities. Although effects on carrying capacity are highlighted here, it is possible for the rate of growth to be affected as well.

If a human activity has a positive effect on whale-watching tourism, the carrying capacity of the whale-watching fleet can be increased (not displayed) beyond the optimum carrying capacity (Fig. 1, curve A). The development of new sustainable infrastructures may be one example of human activities that could increase the capacity of the system. If other human activities reduce tourist visits or detract from the experience at the destination, carrying capacity of the whale-watching system may be reduced, but sustainability may not be jeopardized (curve B). The worst-case scenario is that such activities jeopardize the sustainability of the system (curve C). Although a stable local solution may be found (curve D), the resulting carrying capacity may be so low that it lacks the robustness necessary to absorb the consequences of a stochastic event that momentarily decreases the number of tourists that visit the destination. The curves in Fig. 1

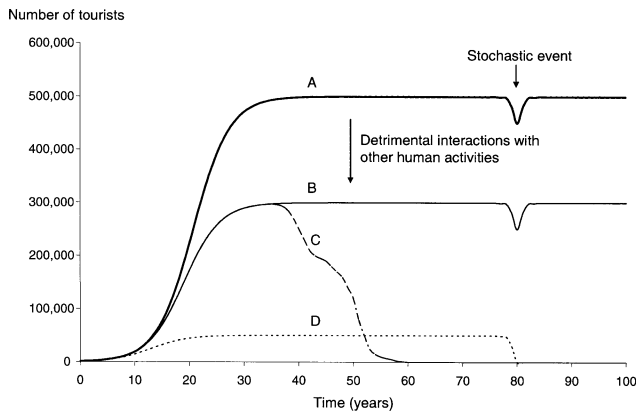


Figure 1. Different scenarios under which the evolution of a whale-watching system can interact with other human activities such as whaling: (a) optimum growth and system capacity; (b) compromised capacity; (c) jeopardized sustainability; (d) stable suboptimal local solution.

depict various situations that may unfold where whale watching coexists with whaling.

Stochastic Events

Any transient event that cannot be predicted but that significantly reduces travel to a destination can affect whale-watching sustainability, depending on how much the industry is already affected by other human activities (Fig. 1). Such events may specifically and directly detract from the attractiveness of a given tourist destination. In recent years such events have included oil spills and political instability. Alternatively a stochastic event may more generally reduce travel to given destinations due to heightened security (e.g., after a terrorist attack) or public health concerns (e.g., outbreak of severe acute respiratory syndrome [SARS]) (Eugenio-Martin et al. 2005). A third scenario is that significant events might severely affect outward travel from tourist-generating regions. Rising travel costs (e.g., oil crises) and deteriorating economic circumstances in tourist-generating regions (e.g., 1998 Asian economic crisis) are also examples of stochastic events that may seriously affect tourism to whale-watching destinations. Although destinations may withstand stochastic events when working at optimum, interactions with other human activities may also jeopardize this robustness and lead to a collapse of the industry (Fig. 1, curve D).

Competing Arguments

As the demand for whale-watching experiences has increased, so commercial whale-watching businesses have proliferated. Cetacean-based tourism now exists in 492

communities in 87 countries (Hoyt 2000). These developments take place in unique environmental, economic, sociocultural, and political contexts. In countries such as Iceland and Norway whale watching takes place within the same local contexts as whaling. Tourists may respond to the whaling activities of countries such as Iceland and Norway in one of at least three ways: (1) whaling and whale watching coexist without one adversely affecting the other; (2) whaling, whether it be commercial or in the name of science or sustainable harvest, is offensive and upsetting and erodes the capacity and therefore viability of whale-watching operators; and (3) whaling, for example, in terms of traditional coastal culture and indigenous rights to harvest, is a valid manifestation of local culture (which may enhance tourist interests in the destination).

Plea for Empiricism

Given the importance of whale watching in many parts of the world, there is an urgent need to understand how tourists feel about whaling. An understanding of the factors that influence tourists' decision making is critical. This includes the reasons underpinning where tourists choose to view whales and equally importantly where they choose *not* to view whales. Thus, it is necessary that empirical research in this field captures all whale watchers, including latent demand, and not just those who actually participate in whale watching in a given local or national context. In terms of the rationale behind this paper, the greatest urgency in terms of empiricism perhaps relates to those who are not present at whale-watching sites that are situated in local or national contexts where whaling also takes place.

Cultural and Environmental Values of Tourists

One approach to exploring the relationship between whale watching and whaling is to understand the cultural and environmental values of tourists who engage in whale watching. It is the values that tourists hold that underpin their travel motivations. An understanding of cultural and environmental values, therefore, is likely to shed light on the extent to which tourists will accept whale-watching experiences in regions where whaling also takes place.

Research in the field of consumer behavior confirms the importance of values as a means of understanding markets (Lawson et al. 1996). Rokeach (1968) defines values as "centrally held and enduring beliefs that guide actions and judgments across specific situations and beyond immediate goals to more ultimate end-states of existence." Values, therefore, may be the basis for travel decisions and tourism behaviors. Values are distinct from attitudes because "values work at a higher level of abstraction [relative to attitudes] and are deeper seated, more pervasive

influences on behavior" (Lawson et al. 1996). Therefore values influence the attitudes tourists hold toward specific objects and situations, as well as their expectations, decision making, purchase choices, and on-site behavior.

The majority of whale-watching tourists are from western countries (Hoyt 2001) and hold western environmental values (Hinch 2001). As such it might be expected that for many the proposition of killing whales is reprehensible. This point is demonstrated in a small number of published articles. Lúck (2003) reports strong environmental values held by swim-with-dolphins tour participants in New Zealand. Similarly Rawles and Parsons (2005) report high levels of animal welfare and environmental concern among tourists engaging in whale watching in Scotland. Parsons (2003) estimates that the introduction of seal culls in Scotland cost the country more than \$150 million in tourism revenues.

Herrera and Hoagland's (2005) study of the economics of commercial whaling and whale watching demonstrates that whale watchers react negatively to commercial whaling, so much so that government planners may consider shutting down whaling altogether as the optimal solution in terms of the overall revenue curve. These reasons, among others, lead Hoyt and Hvenegaard (2002) to describe commercial whaling and whale watching as "incompatible." Results of these studies indicate that tourists who participate in whale watching are likely to be discouraged by activities such as whaling that directly compromise animal welfare. Although these studies explore the environmental values of tourists, none to date has specifically explored how tourists (both actual and latent) with interests in whale watching may respond if commercial whaling also takes place at their destination of preference.

Although the dominant western environmental paradigm views whales as intelligent creatures with a sophisticated communication system, significant divergence from the western paradigm exists in cultural values associated with whales (Ris 1993; Hinch 1998). At some destinations where cetacean-based tourism experiences take place tourists may be exposed to quite distinct cultural values associated with whales (e.g., northern indigenous communities) (Smestad 1997). This diversity may arguably add to the uniqueness of the visitor experience (Hinch 1998). If so, this should also be subject to empirical research. Furthermore, it will be important to distinguish between commercial, aboriginal, and scientific whaling when addressing this need for empiricism.

Dynamics of Whale Watching and Whaling Where They Coexist

A second approach to understanding the scenarios presented in Fig. 1 is to examine how tourists respond to whale-watching opportunities where they coexist with

commercial or scientific whaling. Iceland offers the opportunity to examine the impacts of the resumption of whaling in a context where whale watching already existed. Whaling was initially banned in Iceland in 1985, but in March 2003 the Icelandic government endorsed the resumption of whaling through the use of a permit authorizing the killing of minke whales in support of a specified scientific research program. The resumption of Iceland's whaling activity is conducted legally as part of a government-approved scientific research program.

World Wide Fund for Nature (WWF 2003) notes that "whale-watching companies and the tourism industry as a whole believe that a resumption of whaling is bad news for the burgeoning whale-watching industry." They also note, again anecdotally, that "while governments in countries from which many tourists come do not recognize Iceland's right to hunt whales, this could cause great damage to the Icelandic tourism industry" (WWF 2003). The resumption of whaling in Iceland led to a call among some conservation groups for tourists to boycott Iceland. Anecdotal evidence suggests that numbers of whale watchers visiting Iceland subsequently declined, with cancellations and reduced bookings from within the British and German visitor markets (Reuters News Services 2003, cited by WWF 2003). This outcome is supported by Parsons and Rawles (2003), who demonstrate that 91.4% of whale watchers would not engage in whale watching in a country that hunts whales for commercial benefit.

However, fluctuations in whale-watching activities are complex. It is possible that aside from the resumption of whaling, other factors such as weather and viewing conditions may have affected levels of visitor interest in the short term. Other factors, including competition in the market, capacity issues, business management, and tourist promotions, may also influence the performance of whale-watching businesses (Hoyt & Hvenegaard 2002). Alternatively, if whale-watching numbers remain constant, it is possible that visitor numbers could well have increased had there not been a resumption of whaling (Fig. 1).

A comparison between Iceland and Norway may offer further insights. Whale watching in Norway began in 1988, 3 years earlier than in Iceland (1991). During the 1990s the numbers of whale watchers visiting Iceland quickly equaled (in 1997) and then far surpassed the numbers of whale watchers in Norway (Fig. 2). Norwegian whale watching plateaued at a lower level than Iceland had achieved by 1999. Although Andenes (Norway) has received more tourists overall, numbers engaging in whale watching in Andenes have remained relatively constant in recent years, comparable with the 1998 statistics (E. Hoyt, personal communication). This may in part be due to Norway's standing in the international community as a country that has long supported and currently practices commercial whaling. It would seem that whaling has most

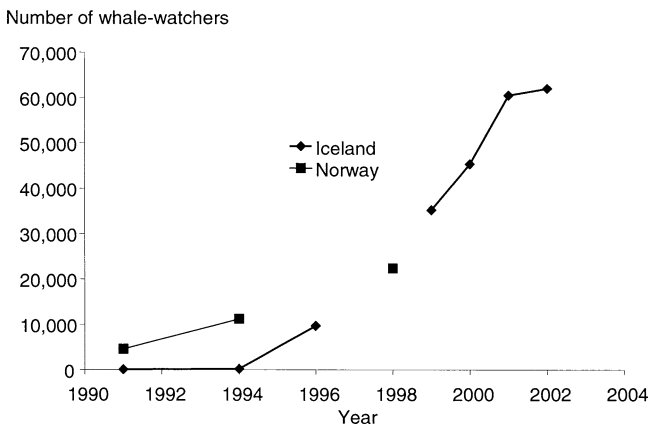


Figure 2. Visitor statistics for whale-watching activities in Norway and Iceland from 1991 to 2003 (Hoyt 2001; WWF 2003).

likely affected the whale-watching industry's carrying capacity in Norway, although this is, again, only anecdotal. If, however, this is the case, then whaling in Norway has rendered the whale-watching industry in that country either economically unsustainable in the long term or it has at the least undermined the capacity for whale watching in Norway to achieve its full potential.

Confounding Factors

A number of confounding factors complicate paired comparisons. Norway, for example, legally whales under an objection to the moratorium, whereas Iceland takes whales as part of a scientific research program. Furthermore, the number of whales taken by Iceland in the last few years is one to two orders of magnitude less than Norway. It may also be important to distinguish between commercial, aboriginal, and scientific whaling in terms of the way tourists respond to whaling activities. These may be pertinent factors influencing the way that whale-watching participants respond to whaling.

A number of factors may also influence tourist demand for whale watching at a destination. The rarity of a species may lead to an increased interest and participation level in tourists who want to see an "endangered" species. Thus, it cannot be assumed that more whales means more whale watching given that the two activities typically center on distinct species of whales. The existence of complementary visitor attractions, including other wildlife viewing opportunities, may also influence levels and patterns of tourist demand. Other factors of relevance may include overall trends in tourism in coastal communities, access to a given whale species, and the costs involved in engaging in whale watching. There are differences between Norway and Iceland (and, indeed, whale-watching

sites within these countries) in terms of accessibility and tourist infrastructure.

It is also possible that whale-watching activities themselves may affect the viability of whale-watching activities. Whales may be subject to adverse impacts from tourism. Similarly, tourists may experience ineffective visitor management first hand and be discouraged by their participation in what may be considered unsustainable whale watching (Finkler & Higham 2004). These confounding factors could be accommodated in research that responds to the call for empiricism that we make here and should be explored in multiple rather than paired comparisons where possible. Nevertheless, our focus centers primarily on the values and attitudes of tourists to animal welfare and may best be studied in isolation of the numerous confounding factors that may influence tourist decision making.

Conclusion

There exists a clear need to better understand what attracts and repels whale watchers. By examining the tourism industry from an ecosystem perspective, it can be shown that rates of growth and carrying capacity of the whale-watching fleet can be affected by extrinsic influences. Knowing who whale watchers are is critical if the growth and carrying capacity of the whale-watching industry are to be understood. It is also necessary if the effects of extrinsic influences, including whaling, on the viability and survival of commercial whale-watching operations are to be understood. Tourism has become a key industry in the economy of many nations (Hoyt 2001; Parsons et al. 2003). Empirical research is needed to address the various elements of our conceptual framework. Until such research is undertaken, the effects of whaling on whale watching, where the two coexist, will remain a subject of pure speculation.

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Literature Cited

- Butler, R. W. 1980. The concept of the tourist area lifecycle of evolution: implications for the management of resources. *Canadian Geographer* 24:5-12.
- Duffus, D. A., and P. Dearden. 1990. Non-consumptive wildlife oriented recreation. A conceptual framework. *Biological Conservation* 53:213-231.

- Eugenio-Martin, J. L., T. Sinclair, and I. Yeoman. 2005. Quantifying the effects of tourism crises: an application to Scotland? *Journal of Travel and Tourism Marketing* **19**:23–36.
- Finkler, W., and J. E. S. Higham. 2004. The human dimensions of whale watching: an analysis based on viewing platforms. *Human Dimensions of Wildlife* **9**:103–117.
- Hinch, T. D. 1998. Ecotourists and indigenous hosts: diverging views on their relationship with nature. *Current Issues in Tourism* **1**:120–124.
- Hinch, T. D. 2001. Ecotourism in indigenous territories. Pages 345–357 in D. Weaver, editor. *The encyclopedia of ecotourism*. CABI Publishing, Oxford, United Kingdom.
- Hoyt, E. 2000. Whale watching 2000: worldwide tourism numbers, expenditures, and expanding socioeconomic benefits. International Fund for Animal Welfare, Crowborough, United Kingdom.
- Hoyt, E. 2001. Whale watching 2001. Unpublished report to IFAW and UNEP, London.
- Hoyt, E., and G. T. Hvenegaard. 2002. A review of whale watching and whaling with applications for the Caribbean. *Coastal Management* **30**:381–399.
- International Whaling Commission (IWC). 2005. Chair's report of the 57th annual meeting. IWC, Ulsan, South Korea.
- Lawson, R., et al. 1996. Consumer behaviour in Australia and New Zealand. McGraw-Hill, Sydney.
- Lúck, M. 2003. Environmentalism and on-tour experiences of tourists on wildlife watch tours in New Zealand: a study of visitors watching and/or swimming with dolphins. Ph.D. thesis. University of Otago, Dunedin, New Zealand.
- Parsons, E.C. M., and C. J. G. Rawles. 2003. The resumption of whaling by Iceland and the potential negative impact in the Icelandic whale-watch market. *Current Issues in Tourism* **6**:444–448.
- Parsons, E. C. M., C. A. Warburton, A. Woods-Ballard, A. Hughes, and P. Johnston, (2003). The value of conserving whales: the impacts of cetacean-based tourism on the economy of rural West Scotland. *Aquatic Conservation: Marine and Freshwater Ecosystems* **13**:397–415.
- Rawles, C. J. G., and E.C. M. Parsons. 2005. Environmental motivations of whale-watching tourists in Scotland. *Tourism in Marine Environments* **1**:129–132.
- Ris, M. 1993. Conflicting cultural values: whale tourism in Northern Norway. *Arctic* **46**:156–163.
- Rokeach, M. 1968. Beliefs, attitudes, and values; a theory of organization and change. Jossey-Bass, San Francisco.
- Smestad, T. H. 1997. Images of whales, whaling and whalers: a rhetorical study of the controversies over Norwegian Minke whaling. M.A. thesis. University of Oslo, University of Maastricht, Oslo.
- World Wide Fund for Nature. 2003. Whale watching: a future for whales? Report. WWF-International Panda House, Godalming, United Kingdom. Available from <http://www.panda.org> (accessed April 2006).

