

## Can whale-watching convey an important message of conservation?: an initial perspective from British Columbia, Canada

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**Abstract:** Whale-watching is marketed as ecotourism, a non-consumptive, educational activity. The benefits of whale-watching have been primarily measured in economic terms. Educational benefits have been assumed, yet rarely measured. Further, whale-watching, as a marquee of ecotourism, has yet to be proven to develop a conservation ethic among its participants. Whale-watching has three important barriers to cross with respect to achieving the ecotourism goals to which it aspires. These are, inaccurate preconceptions of the whale-watching experience, negative perceptions towards whale-watching, and the ability to deliver a lasting educational impact during the whale-watching trip. These first two elements are discussed, while the third is examined through a pilot study of B.C. whale-watchers. The pilot study indicates that whale-watchers in British Columbia, Canada exhibit tendencies that may make breaking through these barriers difficult and points to areas in need of examination.

### Introduction

As whale-watching continues to grow in popularity as a global industry, the assumed benefits of the practice need to be discussed. The success of whale-watching in terms of industry growth and economic impact is well documented. Globally, whale-watching occurs in 87 countries and is currently estimated to produce US\$1 billion in revenues annually, rising at a rate of 18.6% per year since 1991 (Hoyt 2000). Yet whale-watching is classified as *ecotourism*. Eco-tourism has been defined as “purposeful travel that creates an understanding of cultural and natural history, while safeguarding the integrity of the ecosystem and producing economic

benefits that encourage conservation” (Ryel & Grasse 1991:1). In the case of whale-watching, the economic benefits measure the success of the *tourism* - but how successful is the *eco*? Following Ryel and Grasse (1991), the *eco* portion of whale-watching has two principal qualities: 1) that it is a non-consumptive, sustainable use of cetaceans, and 2) that it provides an educational experience in the form of a connection with nature and an important conservation message.

Whale-watching was accepted as a sustainable use of cetacean populations compatible with Agenda 21 of the 1992 United Nations Conference on the Environment and Development in Rio de Janeiro (United Nations Economic and Sustainable Development 1992). Therefore, the first aspect concerning the *eco* element of whale-watching is assumed. Whether this is so in practice is a continuing controversy that needs to be addressed scientifically through means more complex than superficial behavioural observations, and is not discussed in this paper. However, this controversy plays an important role in the second aspect of the *eco* element of whale-watching.

It is the second aspect of the *eco* that is discussed herein. That important education benefits are derived from whale-watching can not be assumed. Human disassociation with nature is well addressed by authors such as Lovelock (1986), Sheldrake (1991), and Wilson (1984), and is eloquently summarized in relation to whale-watching by Forestell (1993).

This disassociation with nature creates a barrier through which ecotourism education must pass, in order to deliver a conservation message (Forestell 1993). Wilson (1984) places the goal in perspective through his biophilia hypothesis, where he defines biophilia as “the innate [human] tendency to focus on life and life-like processes” (Wilson 1984:1). Wilson believes that this tendency is a human adaptation that has been suppressed since the industrial revolution, resulting in a human disassociation with nature. It is Wilson’s hypothesis, however, that biophilia creates respect for nature, which in turn engenders a nature conservation ethic. Whale-watching, as a flag-bearer for ecotourism, and one which utilizes one of the most emotive creatures on Earth, should adopt the goal of becoming a tool to encourage a conservation ethic.

This perspective is addressed from the point of view of whale-watching in British Columbia, Canada. Three barriers to whale-watching as a route to foster conservation ideals are presented: 1) participants’ false pre-conceptions of the whale-watching experience, 2) the public’s perception of the whale-watching industry, and 3) effectively educating whale-watchers. The first two barriers are discussed and research needs given. The main purpose of this paper is the presentation of a pilot study that explores the third issue of education aboard whale-watching boats. To

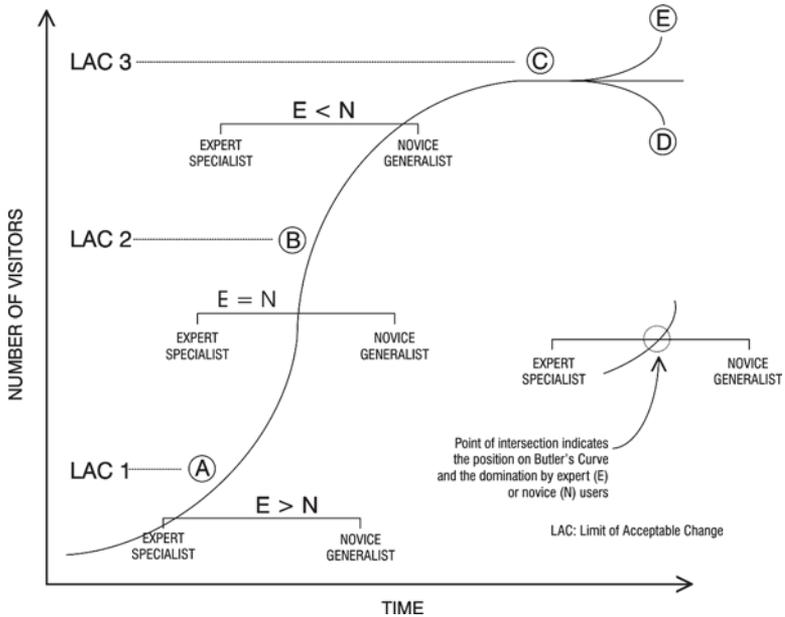


Figure 1: User specialization and site evolution (Duffus and Dearden, 1990).

address the development of a conservation ethic through whale-watching, we first examine the backgrounds of whale-watchers in B.C. Whale-watchers can then be placed on Duffus & Dearden's (1990) continuum from expert-specialist to novice-generalist (Figure 1). Second, we examine what education whale-watchers receive during their experience by asking a recollection question, and link this with their backgrounds. With this type of information effective education programs, which address specific educational needs of the whale-watchers, can be developed.

The pilot study is used to begin to develop the character of the B.C. whale-watcher, in order to direct future research. Ultimately, in the future, we need to understand whether whale-watching can achieve the second component of ecotourism, conservation education.

**Defining the Whale-Watcher:**

In order to address the question of whether whale-watching can engender a conservation ethic in people, we must examine those who go whale-watching. In addition, we must explore the whale-watching milieu that includes the presence of other attractions and level of infrastructure (e.g. accessibility, gift shops, bank machines, restaurants, accommodations, types of vessels utilized).

Duffus & Dearden (1990) present an adaptation of Butler's (1980) tourism site life cycle to illustrate the evolution of the site user alongside the site (Figure 1). When few visitors utilize the site, it is underdeveloped in the sense of infrastructure. At this point, the group is dominated by the "expert-specialist," characterized as a user who has prior experience in the activity, is knowledgeable, knows what to expect, and does not demand extensive infrastructure. As more tourists begin to use the site, additional infrastructure is established and the site eventually becomes dominated by the "novice-generalist." The novice-generalist is a user who has little or no experience, little prior knowledge, has general expectations, and demands a high level of infrastructure. Limits of acceptable change (LACs) represent thresholds where the expert-specialists are no longer attracted to the site due to its development, and search for experiences elsewhere.

Using this model to address the user is important. How expectations, education, demands, and management are addressed will dictate how the curve evolves beyond point C (Figure 1); does the site become encumbered by infrastructure to the detriment of ecotourist demand, resulting in a decline of visitors (Point D), or is the site managed to maximize ecotourist demands, resulting in an increase in visitors (Point E). If ecotourists are interested in conservation education (this is not assumed here) then the site or activity (i.e. whale-watching) must provide this.

As mentioned above, three aspects are important in a discussion of whale-watching as a vehicle to encourage a conservation ethic within humans. The first two deal with perception: 1) false perception of what a whale-watching experience will be, based on their understanding of nature, and 2) their perception of the act of whale-watching. The third aspect is the educational message imparted during the whale-watching trip. The ability to deliver such a message is where a connection with nature has the opportunity to be anchored within the watchers who have experienced wild whales first-hand. The first two aspects are presented and discussed below; the third is examined through the pilot study presented.

### **Preconception of the Whale-Watching Experience:**

The preconception of what a whale-watching experience will be is affected by factors such as television programs and books. There is the potential for these media to contribute to a disassociation with nature by presenting false perceptions in the form of simplified creatures, glamourized research, and shallow messages. Whales are one of the few phenomena on Earth that can inspire awe and strong emotion simply through pictures. However, people may not realize that television programs are the result of hundreds of hours of work, involving waiting for appropriate weather, waiting for whales, and actual filming. Only the best

sequences, which most often involve specialized activities by the animals, and occur on sunny, calm days, are present in the final product. A whale-watching trip may involve a majority of the time traveling or occur during inclement weather and sea states. Whales may be viewed from large distances or may not exhibit exciting behaviours. Similarly, with books only the best shots out of hundreds taken are included. There are no shots of rain, blank seascapes, big waves, or seasick photographers. Underwater footage, both moving and still, may further create false expectations of what one might see on a whale-watching trip. In Victoria, B.C., a whale-watching passenger was once quoted as exclaiming “those aren’t whales, they’re fins!” as she watched killer whales surface (A. Rhodes, pers. com.). What did she expect to see?

Anthropomorphism of cetaceans sometimes occurs in television programs, books and movies. Implying that cetaceans possess human-like behaviours and feelings, such as being “happy” and then showing a breaching whale, or intimating that a whale is “sad” when a member of its pod dies, have no scientific basis and create an unrealistic appreciation of wild creatures.

False expectations of the whale-watching experience are exacerbated by advertising for whale-watching. Whales are often shown breaching very close to the viewer, on calm, sunny days. Often “Guaranteed Sightings,” are advertised next to breaching whales. This type of advertising particularly creates false expectations when breaching whales are used to advertise in areas where whales rarely perform such activities (*e.g.* summering gray whales off the west coast of Vancouver Island, B.C. that are focused on feeding). The adventure and adrenaline of a whale-watching trip is also a common advertising feature (*e.g.* fast, open zodiac-style vessels) minimizing the connection with nature and education goals of ecotourism.

Whale-watching, however, is a competitive business. It would not make marketing sense to utilize a more realistic representation on an advertising brochure of viewing a whale from a distance when others depict close encounters with breaching whales.

### **Perception of the Act of Whale-Watching:**

The second aspect is that of the act of whale-watching itself and thus the whale-watching industry. Whale-watching is marketed as ecotourism, and should be a non-consumptive, sustainable activity alongside the education goals. Thus, it should create the expectation of a unique connection with nature. However, there is a growing perception, whether scientifically founded or not, that whale-watching is harmful to whales. Whale-watchers frequently ask questions during trips that indicate their

concern about whale-watching boats harming the whales (C. Garside, pers. com., J. Jackson, pers. com., author (C.M.) observation). This perception is likely being driven by the news media that headlines stories with titles such as “Can we love orcas to death?” (Henderson, 1998), “B.C whales brace for invasion of the ecotourists” (Gatehouse, 1999), “Eco-tourism excesses are endangering Baja’s whales” (Moore, 1999), and “Watching killer whales die” (Scott, 2000). Incendiary terms such as “death”, “invasion”, “endangering”, and “die” paint a negative picture of whale-watching.

Further, statements are made with no scientific basis:

“How bad can it get? One day last July, 108 zodiacs, kayaks, yachts and commercial boats crammed into Haro Strait, roughly as many boats as whales in the three pods that frequent the waterway in pursuit of salmon. And there are worrying signs that the traffic jams are affecting the whales. This season, four male orcas - Bernardo, 2, Raina, 8, Okum, 39, and Taku, 43 - that should have returned with their pod are missing and presumed dead.” (Henderson, 1998)

The insinuation is that whale-watching caused the deaths of these animals. While there is no reasonable basis on which to make such a statement, the inexperienced reader may attribute whale deaths to whale-watching.

These types of statements are not limited to a few stories: “The public at large is starting to view these whale-watching operations as detrimental” (Weatherbe, 1999), “People say killer whales harassed” (Gatehouse, 1999), “You can basically ruin their [the whales’] whole day” (Schmidt, 1999), “... questions are now being raised about the industry that pursues them [whales] in the wild” (McInnes, 1998), and “Whale-watching boom spurs local feeding frenzy and tourist yahooism” (Moore, 1999).

For an activity that flies a large ecotourism flag, publicity such as this can be damaging, both educationally and economically. There is currently no conclusive evidence that whale-watching harms whale populations. However, in this case, it is not whether whale-watching *does* harm whales – it is the *perception that it does* that is important and potentially damaging. As the global whale-watching industry continues to grow, this perception may grow as well. For whale-watching to be an important tool to help forge a conservation ethic the industry can not harbour a perception that it is harmful.

## Methods

### B.C. Whale-Watcher Pilot Study:

During August 1999 a pilot study to investigate the backgrounds of whale-watchers in British Columbia and what education they retain from their trip was undertaken. The pilot study collected general information to help develop a more specific, in-depth multi-year project. Some of these general characteristics are examined here as they indicate trends that need to be explored, both during the multi-year study, as well as in other locations for comparison.

We administered questionnaires to whale-watchers in Victoria and Tofino, British Columbia. Development of the questionnaire followed principles advocated by Babbie (1995), Dillman (1978), and Ryan (1995). These principles include engaging in *a priori* informal discussions with whale-watchers to aid in design and content, construction of short, single concept questions, and providing an information letter that identified the researchers and assured confidentiality. Questionnaires were administered through the intercept method and returned to the investigator; every whale-watcher on the trips sampled was approached and given the option of participating. As this was a pilot study designed to give us direction for further research, the sample size was not large ( $n=250$ ).

## Results

The first background question sought the participants' participation in "nature-related" activities: "How often do you participate in nature-related activities? (for example: hiking, wildlife viewing, kayaking, rock climbing, etc.)" The response indicated that 77% of the respondents engaged in nature-related activities ten or less times per year (Figure 2).

The second background question asked the importance of whale-watching in the participant's vacation (Figure 3). The greatest percentage of participants in both locations responded that whale-watching was one of several planned activities during their trip. While it is not uncommon for tourists to engage in numerous activities, it is important to know that whale-watching may not be a priority when developing educational programs. The multi-tasking tourist may have the next item on the agenda in mind during the whale-watching trip, especially during the return portion of the trip when important contextual elements of a conservation message are usually imparted.

Combined, there were approximately as many participants who responded "primary reason" as "unplanned activity." However, there was

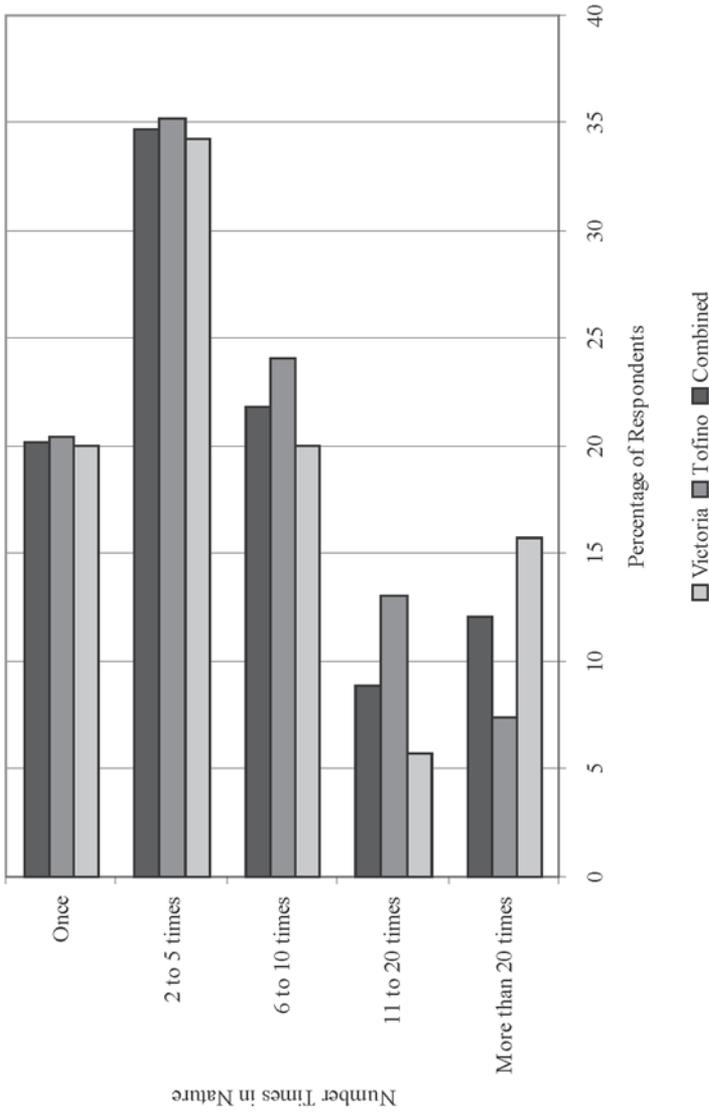


Figure 2: Number of times per year participants engage in nature related activities.

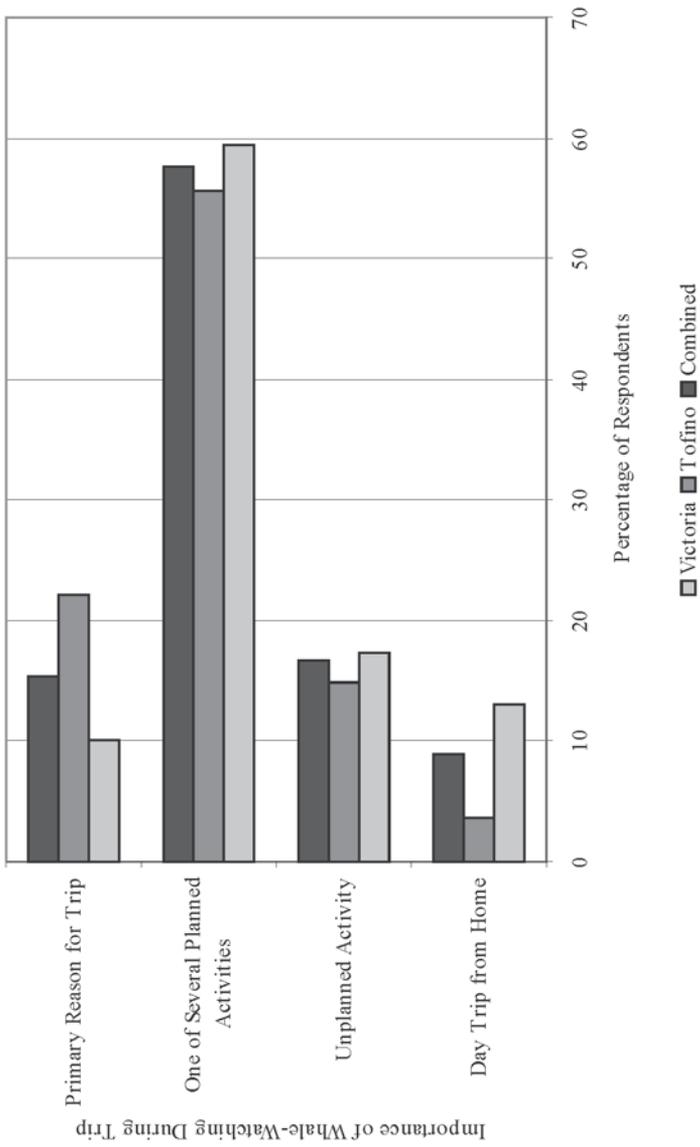


Figure 3: Importance of going whale-watching during trip to whale-watching area.

a significant difference for “primary reason” between Victoria and Tofino (Mann-Whitney  $U=42.0$ ,  $p<0.000$ ). This result reflects that Victoria and Tofino serve as different tourism foci on Vancouver Island. A larger percentage of tourists made the effort to travel to Tofino for the express purpose of whale-watching.

This difference in whale-watcher types is further highlighted by the question: “Before you came whale-watching today, did you spend any time learning about whales?” While 49.1% of Tofino whale-watchers had spent time learning about whales prior to their trip, only 27.1% of Victoria respondents reported having done so. This difference is statistically significant (Mann-Whitney  $U=1474.0$ ,  $p=0.021$ ). Combined, only 36.3% of whale-watchers had spent time learning about whales before their whale-watching trip. Television (69%) and books (66%) were reported as the most popular learning media.

Twenty-nine percent of the respondents had gone whale-watching before, 30% of whom, had gone more than once. There was no significant difference between locations in this response. Lastly, a recollection question was asked. The question asked the participants to place a check beside items they remembered hearing about during the whale-watching trip. The question did not ask for specific facts, only that they remembered hearing about the subjects in the list. This question was restricted to respondents on a large vessel in Tofino. Participants from Victoria were spread over many small, zodiac-type vessels, with different operators on different days. Due to an inability to account for consistent education programs across the various boats Victoria whale-watchers were not included for this question. The Tofino participants were on four separate trips over two consecutive days, had relatively the same viewing experience, and received the same information. Each subject was mentioned during the trips. Information was given over a loudspeaker and included answers to questions asked by whale-watchers during the trip.

Figure 4 compares the percentage of Tofino respondents who remembered hearing about each item to those who did not. Responses indicate that the ability to remember information given during the trip was relatively poor. Approximately half the respondents did not recall hearing about reproduction or social behaviour. Recollection of research and conservation was extremely poor. Only the prey and size subjects were remembered by nearly all participants.

This pilot study starts to develop a profile of whale-watchers in British Columbia. The average whale-watcher here may have little association with nature, little prior knowledge or experience with whales, and may not retain much of the education that they receive during their trip. The data also suggests that there is a difference in the types of whale-watchers

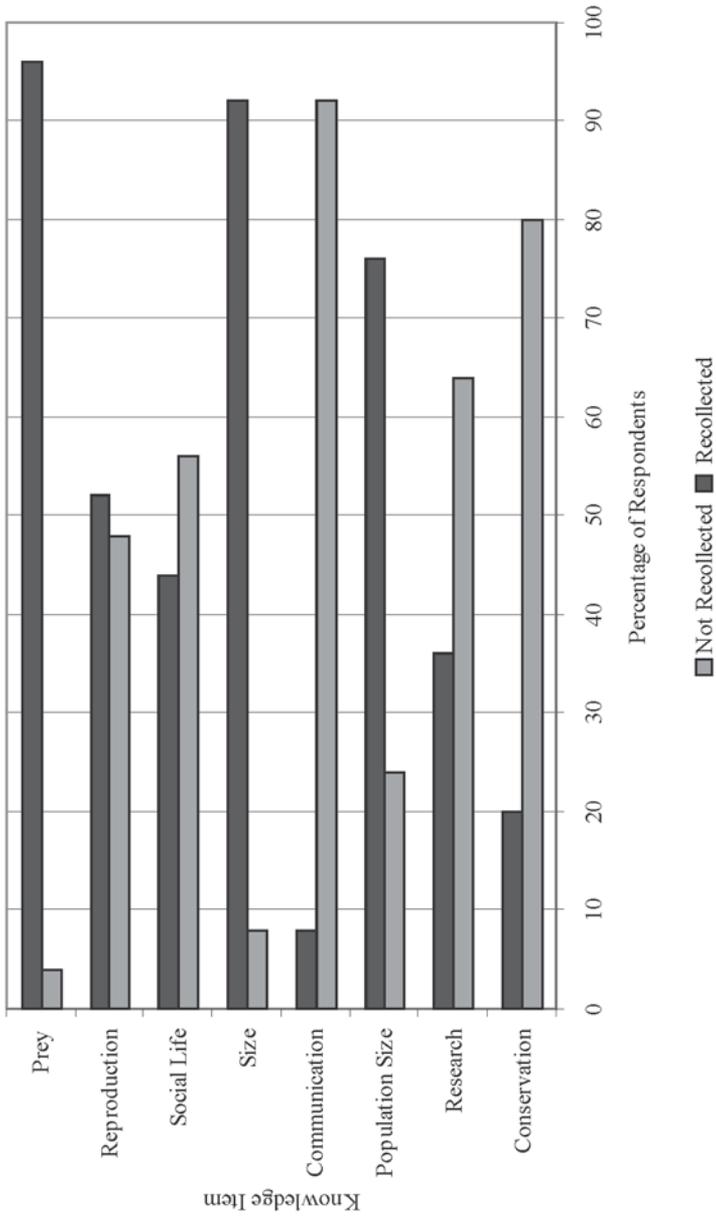


Figure 4: Recollection of information imparted during whale-watching trip.

attracted to different whale-watching locations. In this case, greater proportions of whale-watchers in Tofino report whale-watching as the primary purpose of their trip to the area and appear to have spent more time learning about whales beforehand.

## Discussion

We have presented three main obstacles that face whale-watching as a conservation education tool. The first two obstacles deal with preconceptions of whale-watching. The first is the perception by potential whale-watchers of what a whale-watching experience entails. This perception has the potential to include an unrealistic vision of wild animals and the natural environment. Television, books, movies, and advertising may contribute to this problem by presenting an unrealistic perception of nature. The pilot study reveals that television and books are the main media used for learning by the small percentage of participants who had actually done so. An unrealistic perception of nature likely contributes to a lack of context in which to place conservation messages. Further research is needed to explore what whale-watchers' perceptions of nature are, in order to guide the development of effective education programs. The pilot study gives us an idea that whale-watchers may not have a great deal of knowledge concerning nature.

The second obstacle is the preconception of the act of whale-watching and thus the whale-watching industry. Recently, the news media has presented a negative account of whale-watching. The perception may be growing that whale-watching is harmful to the whale populations it watches. Whether whale-watching is actually harmful or not does not matter in this case. The perception that whale-watching is harmful will damage its ecotourism, non-consumptive character, and diminish its ability to present itself as a means to deliver an important conservation message. Research is needed to assess how whale-watchers are affected by media description of whale-watching. The whale-watching industry itself needs to address the issue as well. An understanding of the perception whale-watchers have of the environmental impacts of the activity will help the industry to do so.

The third obstacle is the ability to deliver that important message in practice. We have started to explore this question through a pilot study of B.C. whale-watchers. The pilot study begins to reveal a novice-generalist type whale-watcher in British Columbia (*sensu* Duffus & Dearden 1990). Almost 80% of respondents reported that they participate in 10 or less nature activities per year. Only 29% of whale-watchers in B.C. had been

whale-watching previously. Almost 60% of respondents identified whale-watching as one of numerous activities for which they traveled to the area and only 36% of participants had spent time learning about whales before. Inexperienced and unlearned whale-watchers who are not exposed to nature likely have little context in which to place conservation messages. Education aboard whale-watching vessels may only begin to introduce whale-watchers to wild whales and their environment.

Here an important question is asked: is the boat the medium for the message? Is it overly optimistic to expect that a message of conservation can be imparted during a three-hour whale-watching trip? It may be, given the novice-generalist character of the average whale-watcher that has begun to be described here. Not only may whale-watchers be too disassociated with nature to be able to ingest such a message, they may be so overwhelmed by unfamiliar, fantastic stimuli during a whale-watching trip that they may be incapable of receiving such a message in any case.

Higham (1998) states that due to a lack of genuine ecological interest within the novice-generalist ecotourist, any information given during an ecotourism experience is simply introductory, rather than supplemental - the insinuation being that most ecotourists do not have basic ecological knowledge upon which to base a novel nature experience. Results from the pilot study discussed here reveal that whale-watchers have difficulty simply remembering some of the subjects they heard about immediately following the whale-watching trip, let alone receiving a message.

There are options in addressing the problem of whale-watching being unable to deliver conservation messages. First, a recognition that the whale-watching trip may not be, in and of itself, able to deliver an important conservation message and foster a strong biophilic connection with nature. Whale-watching can be a catalyst or a confirmation for the message, but it needs additional inputs, either before, after, or both.

These inputs may come in many forms and have been described in various articles. Forestell (1992) discusses environmental education in a whale-watching context and presents a whale-watching model that addresses pre-contact, contact (the whale-watch trip) and post-contact elements. Orams (1996) discusses the possibility of education as the primary management strategy for wildlife watching. IFAW *et al.* (1997) present the results of a workshop focused on the educational benefits of whale-watching for which the potential is concluded to be high if developed effectively.

In practice, these inputs need not be complex. Interactive displays at whale-watching centers could provide a pre-trip context including what whale-watchers can expect to experience, regulations that govern whale-watching, how the vessel will move when whales are present, and research

and conservation that is being undertaken upon the whales they will be viewing. Trying to impart this information on the boat is difficult, as passengers are preoccupied by novel experiences.

## Conclusion

All three barriers to whale-watching as a tool to engender a conservation ethic must be addressed in the future if whale-watching is to be considered true ecotourism (*sensu* Ryel & Grasse 1991). Unrealistic perception of the whale-watching experience as well as the negative perception of whale-watching can be addressed by the whale-watching industry itself, through education advocacy. This advocacy should involve a close alliance with scientific cetacean research and the establishment of a pre-whale-watching context for its customers upon which to base their experience.

The limited ability to provide education that persists beyond the whale-watching moment needs to be addressed through detailed examination of the demographics, previous experiences, and expectations of whale-watchers on a site-by-site basis. The pilot study presented here indicates that in British Columbia education may need to be developed to reach an audience that is disassociated with nature, has little previous knowledge about cetaceans, and is not receiving basic information – i.e. the “novice-generalist” user as described by Duffus & Dearden (1990). However, there is also evidence that whale-watchers with differing levels of experience, and therefore various levels of environmental knowledge, may be attracted to particular sites. A more complex study evolved from the pilot study presented here will investigate these general trends further to aid in the development of more effective education.

## Acknowledgements

The authors thank Springtide Charters, Victoria, and Jamie’s Whaling Station, Tofino, for allowing us to administer the questionnaire to their passengers. Funding for this project was provided by the Society for Ecological and Coastal Research, Victoria.

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