SUSTAINABILITY OF THE COMMERCIAL WHALE-WATCHING INDUSTRY IN THE LOWER BAY OF FUNDY, NEW BRUNSWICK

Summary Report to:

Fisheries and Oceans Canada
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Introduction

This report summarizes the results of a study undertaken of the commercial whale-watching businesses in the Lower Bay of Fundy region, specifically in St. Andrews, Deer Island, Campobello Island and Grand Manan Island. The aim of the study was to assess the sustainability of the whale-watching industry in the Lower Bay of Fundy region by ascertaining areas of strength and vulnerability within the industry based on the perspectives of the tour operators and whale-watching customers. Semi-structured personal interviews with the operators were undertaken and self-administered questionnaires were distributed to a sample of customers.

Tour operators’ interviews

In total, there were 11 dedicated boat-based commercial whale-watching operations in St. Andrews and the Fundy Isles at the time of the data collection in 2006: six in St. Andrews, two each on Grand Manan and Campobello Islands, and one on Deer Island.

The questions for the semi-structured interviews were constructed with guidance from previous relevant research and to reflect the core objective of the research—all questions were open-ended. The interviews began with simple, general questions about the tour operator’s background and company history, but then explored issues related to vessel maintenance and repair, the nature of a “typical” whale-watching tour,
characteristics of customers (e.g. within season and between season trends in customer numbers, customer expectations and behaviour during tours), perceptions about the variability of the natural environment, (e.g., trends in the number and species of whale sightings, ecosystem changes in the ecosystem of the Bay of the Fundy, and weather conditions), views concerning the management of the industry (including perspectives on

### Description of commercial whale-watching vessels for St. Andrews, Deer Island, Campobello Island and Grand Manan Island, New Brunswick

<table>
<thead>
<tr>
<th>Tour company and Location</th>
<th>Name of whale-watching vessel</th>
<th>Passenger Capacity</th>
<th>Vessel type</th>
<th>Vessel length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Island Quest Marine Ltd. St. Andrews</td>
<td>Island Quest</td>
<td>44</td>
<td>Partially enclosed motor boat</td>
<td>38 ft.</td>
</tr>
<tr>
<td>Quoddy Link Marine Inc. St. Andrews</td>
<td>Quoddy Link</td>
<td>47</td>
<td>Catamaran</td>
<td>55 ft.</td>
</tr>
<tr>
<td>Surge Tours St. Andrews</td>
<td>Noteworthy</td>
<td>6</td>
<td>Open motor boat</td>
<td>24 ft.</td>
</tr>
<tr>
<td>Tall Ship/Jolly Breeze of St. Andrews St. Andrews</td>
<td>Jolly Breeze of St. Andrews</td>
<td>40</td>
<td>Sailboat</td>
<td>72 ft.</td>
</tr>
<tr>
<td>Triton of the Bay Boat Tours St. Andrews</td>
<td>Triton Tours</td>
<td>12</td>
<td>Zodiac</td>
<td>25 ft.</td>
</tr>
<tr>
<td>BillyMac Tours Deer Island</td>
<td>The Craig C.</td>
<td>12</td>
<td>Open motor boat</td>
<td>40 ft.</td>
</tr>
<tr>
<td>Captain Riddle Campobello Island</td>
<td>Brandello</td>
<td>10</td>
<td>Open motor boat</td>
<td>25 ft.</td>
</tr>
<tr>
<td>Island Cruisers Campobello Island</td>
<td>The Mr. Matthew</td>
<td>20</td>
<td>Open motor boat</td>
<td>37 ft.</td>
</tr>
<tr>
<td>Sea Watch Tours Inc. Grand Manan Island</td>
<td>Day’s Catch</td>
<td>47</td>
<td>Open motor boat</td>
<td>45 ft.</td>
</tr>
<tr>
<td>Whales-N-Sails Adventure Ltd. Grand Manan Island</td>
<td>The Elise Minota</td>
<td>46</td>
<td>Sailboat</td>
<td>Estimated 63 ft.</td>
</tr>
</tbody>
</table>
the conduct of vessels in the region, and the operators’ awareness of and endorsement for management initiatives), and issues related to the economic or financial aspects of running a commercial tour business, including questions on marketing and advertising and the effects of competition from the other whale-watching operators in the region.

**Customers’ questionnaires**

In addition, questionnaires were distributed to adult customers of the whale-watching businesses. The 22-page customer questionnaire was partitioned into two: a pre-tour segment of questions and a post-tour segment. Likert-style scales were used to elicit customer ratings of various aspects of the whale-watching tour, including: motivations to participate in whale watching; the importance of seeing a whale; how well the tour experience matched expectations; how well the tour was managed by the operator; the quality of information received about the wildlife; and the overall satisfaction with the tour. Open-ended response formats were used for questions on the customers’ general awareness and knowledge of management practices and customer perceptions of the conduct of the whale-watching vessels.

The pre-tour component of the customer survey probed the customers’ views on the environment and their concern for whales, previous commercial and non-commercial (recreational) whale-watching experience, awareness of management practices, motivations in participating in whale watching and their beliefs, preferences and expectations regarding the species and behaviours of the whales they would potentially encounter. The post-tour section asked the respondents to relay their experiences on the
tour and rate various aspects of the tour (e.g. how well the tour met their expectations, tour operator management of the tour and their satisfaction with the tour). Demographic information was requested at the end of the questionnaire.

A convenience sampling method was employed. The researcher (EB) approached the customers as they gathered at the wharf or offices of the whale-watching businesses prior to a tour. Consenting customers were asked to complete the pre-tour component of the questionnaire immediately (i.e. before the whale-watching tour began or as the vessel was leaving the dock before the first whale encounter). The participating customers were then asked to complete the second part of the survey after the whale-watching tour ended (i.e. on the way back from the tour as the vessel docked again or in the offices of the whale-watching businesses after docking).

A total of 274 questionnaires were distributed. Of these, 11 were never returned and three were returned entirely incomplete, thereby producing a sample of 260 questionnaires (95 percent return rate). However, nine of these questionnaires were returned partially incomplete.
Summary of Key Results from the Customer Questionnaires

Profiling the Customers

In the sample:

- Female respondents outnumbered males: 56.1% to 43.7%;
- The population was generally well-educated survey population: more than 80% reported that they had college, university or post-graduate university qualifications;
- Most of the respondents were visitors to St. Andrews and/or the Fundy Isles, with the largest proportion traveling from Ontario;
- The minority of respondents were traveling with children;
- About a quarter (27.1%) of the respondents can be classified as excursionists (i.e. reported that they were visiting the region for less than a day).

Travel Patterns and Choices

- Nearly half of the respondents (44.9%) indicated that whale watching was the primary purpose of their visit to the region;
- Results indicate that the whale-watching industry is fairly well marketed outside the local region:
  - Most (87.7%) knew about the whale-watching opportunities in the region before their arrival,
  - Nearly half (48.1%) of the respondents booked their tour before arriving in the region;
Highest level of education completed
- Primary school: 0.8%
- Secondary school: 15.5%
- Post-graduate university: 32.9%
- College: 26.8%
- Undergraduate university: 24.0%

Travel origin of respondents
- Ontario: 28.26%
- Western Canada: 7.0%
- NE USA: 19.6%
- USA, excluding NE: 10.0%
- Rest of the world: 2.17%
- Within New Brunswick: 20.0%
- Elsewhere in Atlantic Canada: 5.22%
- Quebec: 3.04%
- Local resident: 4.78%
• A significant number of visitors are repeat customers:
  o 48.8 percent had some previous experience with commercial whale-watching,
  o 22.5 percent had previous experience with commercial whale-watching specifically in the Bay of Fundy,
  o 10.2 percent had previous commercial whale-watching experience with their particular tour operator;
• Friends/family was the most common source from which the respondents first became aware of whale-watching opportunities in the region;
• Tourism brochures/booklets were the most common sources from which respondents first became aware of their particular tour operator (30.7% of the total responses), reflecting the importance of advertising;
• The wildlife, scenery and “always wanting to go whale watching” were the most important to the respondents’ decision to go whale watching;
• The most common reasons why respondents chose their particular operator were:
  o recommendation from someone (14.7% of the total responses),
  o advertising in tourism brochure/booklets (13.8%),
  o the type of vessel (12%);
• Interestingly, having the lowest price for a tour was not an important factor in why the respondents chose a particular tour operator: choosing a tour because it was the least expensive represented less than 1% of the total responses
• Only 4.9% of the respondents chose a particular operator specifically because they offered a whale guarantee.
Customer Expectations and Preferences

For the most part, customer expectations and preferences regarding the species and behaviours of the whales were fairly realistic. They were generally aware of the whale species likely to be encountered: of the responses where a particular whale species was preferred, 84% were for a locally occurring species. Moreover, the majority of the respondents (69.2%) indicated that they would be satisfied with 1-5 whale sightings, which was the lowest numerical category listed in the survey.

However, expectations about how close whales would be approached were less realistic. The majority of the respondents (75.4%) indicated that they would be satisfied with minimum distances to the whales that would be in violation of the Code of Ethics and the DFO guidelines. These findings confirm what many of the tour operators relayed about the customers often asking to get closer to the whales. The results suggest that better management of expectations about the proximity to the wildlife may be needed.

Customer Awareness of Management Practices

The questionnaire probed the customers’ awareness of management initiatives (i.e. Code of Ethics and DFO guidelines). They demonstrated at best modest knowledge about current management programs. The proportions of respondents who indicated that they were aware of the DFO whale-watching guidelines and the Code of Ethics were comparable: 37.0% were aware of the DFO whale-watching guidelines, 33.7% were aware of the Code of Ethics.
Overall, a tour operator’s endorsement of the Code of Ethics did not appear to have a major impact on the customers’ decision to go with a particular operator (e.g. the majority of respondents (65.7%) did not know if their operator endorsed the Code or not). A greater educational outreach may be necessary to raise the level of public awareness about management practices.

**Perceptions of Whale-watching Management and Vessel Conduct**

The majority of respondents felt that the tour was “very well managed” by the operator. However, nearly 14% of the respondents indicated that they witnessed vessel conduct (e.g. vessels too close to wildlife, vessels following wildlife) that raised concerns about the welfare of the animals—these respondents were mainly critical about the conduct of the vessel that they were on (Table 2).
It is recommended that operators outline the specific stipulations of current management guidelines (e.g. approach distance standards) and the need to follow them in their pre-tour briefing to the customers to raise the level of awareness about whale-watching management.

Distribution of the whale-watching customer respondents regarding vessel conduct

During the tour you just completed, did the conduct of the vessel you were on and/or other vessels in your vicinity raise any concerns at all about the welfare of the marine life being viewed? (N = 244)

Yes……………………………………13.9%
No…………………………………….86.1%

Which vessel’s conduct raised concerns about the welfare of the wildlife? (Percentage of those who answered affirmatively to the above question) (N = 30)

1. Conduct of the vessel I was on only………………………………..53.3%
2. Conduct of other vessels in vicinity and the vessel I was on……………..40.0%
3. Conduct of other vessels in vicinity only…………………………………6.7%

Which type of vessel conduct raised concerns? (Top three responses) (N = 32)

1. Vessels too close to wildlife……………22.1 % (percentage of total responses)
2. Vessels chasing the wildlife………..15.4 %
3. Vessels following the wildlife………..15.4 %

Customer Satisfaction

The results here were generally very positive. For the large majority of customers the tour experience did meet their expectations. There was a high sighting success rate: 100 per cent from 61 vessel trips surveyed during the study. Overall satisfaction was especially high:
• 96% of the respondents said they were either satisfied or very satisfied with their overall experience on the tour with the majority (54 percent) indicating that the trip was above their expectations;

• only 5.8% of the respondents felt that their experience was “definitely not worth” and “somewhat not worth” the cost of the tour.

Not surprisingly, customer satisfaction is not solely based on the number of whales seen nor the quality of sightings. There is perhaps some room for improvement in terms of providing more scientific/natural history information about the wildlife: 16% of the respondents felt that such information was lacking during their tour.
Overall satisfaction with experience on tour

- Very satisfying: 67.5%
- Dissatisfying: 2.2%
- Neither dissatisfying nor satisfying: 2.44%
- Satisfying: 28.5%
- Very dissatisfying: 0.4%
Key Observations from Operators’ Interviews

Profiling the Whale-watching Operations

The whale-watching business in the Lower Bay of Fundy are small-scale operations. Six businesses support five or less full-time and/or part-time staff. The remaining five businesses employ five to ten full-time and part-time individuals. The biggest businesses, in terms of vessel capacity and number of staff, are in St. Andrews and Grand Manan Island.

The businesses in the region are fairly well-established: at the time of data collection, the mean number of seasons in operation for all the operators interviewed was 8.2. Most of the tour companies (N=10) are in operation for only three to four-and-a-half months per year to coincide with the tourist season and the prevalence of the whales in the region. In addition to running whale-watching trips, eight of the operators also offer other forms of marine tours, such as scenic or sunset tours, fishing trips, bird-watching tours, and ferry trips from the mainland to the islands either throughout the season or at the beginning of the season before the arrival of whales in the region.

The most frequent reasons why the operators entered the whale-watching industry were that: they had a history in the local fisheries, but due to the struggles of the fishing industry or lack of interest in continuing fishing, whale watching presented a new opportunity to own a boat and be on the water; and due to an entrepreneurial spirit to own a business, they saw an opportunity in whale-watching as a means to do so.
Environmental Sustainability of the Commercial Whale-watching Industry

Most operators expressed concerns over the continued ecological viability of the whale-watching industry in the Lower Bay of Fundy (N=9). The future of the industry is clearly dependent on the continued migration of the whales into the coastal waters of the Bay for foraging and feeding. This, in turn, is dependent on human activities in the region (e.g. the siting of the LNG terminals in Maine, fishing effects on the health of herring stocks), and on the human response to regional environmental changes that may potentially affect the occurrence and distribution of whales in the region. Responses from the tour operators, in conjunction with the findings from the literature, suggest that the Bay of Fundy region has experienced significant historical changes in its ecosystem and may still be experiencing a period of ecological change (e.g. a warming trend in the surface water temperature). As indicated by many of the operators (N=6), these changes may be affecting whale encounters. The perceptions of operators is that, to date, number and species of whales encountered have remained the same over time, although a small majority (N=6) indicated that there had been a shift in finback whale numbers and distributions.

Financial Sustainability of the Commercial Whale-watching Industry

The results indicate that the region has, to some extent, has become economically dependent on whale-watching. However, the Lower Bay of Fundy region has experienced a downward trend in tourist visitation in recent years and with a shift towards dependence on domestic travelers. The sustainability of the industry is important to the region’s tourism sector. However, the results of the operators’ interviews
(supported in part by the customers’ surveys) suggest that there are two potential views regarding the financial sustainability of the whale-watching industry in the region.

One hand, some indications suggest a sustainable whale-watching industry. This is backed by the high level of customer satisfaction, the diversity in the tours offered by the operators, the variety in vessel styles and in the local area attractions which bring added value to the tours, and the positive comments made by the majority of the operators about the robustness of competition in the region. Competition can be manifested on shore and/or during tours. In the Bay of Fundy region, especially where there are several operators in close proximity, the perception is that there has been an increase in the level of competition, but that it is limited to on-shore situations when competing for customers. The general cooperation among operators during tours in spotting and viewing whales is a decidedly positive aspect.

Although generally operators conveyed a sense of an industry that was doing “well,” “okay,” “alright,” “pretty good” or “fairly busy,” the interviews also suggest that the financial sustainability of the industry is somewhat fragile or “precarious.” This conclusion is drawn from several particular observations:

- Tour operators had a general sense of uncertainty regarding the future economic health of the industry: several of the operators perceived that their business and/or the industry as a whole was/were not thriving. The vulnerability of the industry is particularly pronounced on Deer Island and Campobello Island due to a weaker tourist base and inconsistency in the customer flow.
• Year-to-year variations in the volume of business may be considerable.

• The benefits from on-shore competition for customers are not evenly distributed between the operators.

• The seasonality of the industry and small scale of some operations requires that the majority of the operators (N= 7) have supplemental sources of income.

• Those tour businesses which have recently entered the marketplace appear to be at competitive disadvantage.
Industry Recommendations

In summary, both “agents of strength” and “agents of fragility” can be identified with respect to the commercial whale-watching industry in the Lower Bay of Fundy. Specifically, the industry’s strengths lie in:

- the generally positive evaluation of vessel conduct;
- the high sighting success rate;
- high customer satisfaction;
- the tourist appeal of the region;
- the diversity of tours offered; and
- operator cooperation on the water during tours.

One the other hand, the agents of fragility in the industry are:

- the general need to improve management, operator compliance and involvement;
- the apparent spatial shift in finbacks (requires further research);
- on-shore competition;
- the present downturn in tourist visitation;
- the need for improved marketing; and
- the somewhat fragile financial profile of the industry (particularly on the islands).

Marketing Responses

Based on the available information, it appears that the potential for financial sustainability (and, potentially, growth) in the industry lies in improved marketing (e.g. a
consolidated marketing strategy, where the tour operators market the whale-watching businesses in the region as a whole). Particularly, it may be possible to:

- **Establish a single website for all the operators.** Given that the majority of the operators already advertise on the internet, establishing one ‘Bay of Fundy Whale-watching’ portal which links all the operators’ websites could provide efficiencies in access to customers and in marketing.

- **Promote and market diversity.** The diversity in the tours offered by many of the operators (e.g. bird watching, scenic tours, sunset cruises), in local area wildlife (e.g. porpoises, seals, marine birds), in the variety of attractions (e.g. fishing weirs, lighthouses), and in the variety of whale-watching vessels (i.e. sailboat, zodiac, catamaran, open motor boat, partially enclosed motor boat) is an attractive character of the industry and should be promoted in the marketing effort. The diversity may be part of targeting niche markets (e.g. birdwatching, adventure tours, personal experiences vs larger groups).

- **Market the industry responsibly.** At least a minority of customers found some basis of complaint about the experience vis-à-vis vessel conduct. There may be benefits, not just in responding to such concerns, but also in marketing the industry as responsible. Responsible marketing should also involve effective communication of management practices and expectations to the customers through websites, brochures, signs and other forms of advertising.

There is no evidence, from either a financial or an ecological perspective, that the industry would benefit from an increase in the number of operators at present. The need
for regulation to license and limit the number of tour vessels was generally well-accepted by the current operators.

**Management**

The tour operators were asked about the conduct of the commercial whale-watching vessels in the region in terms of their interaction with the wildlife. In response to this question, virtually all gave generally favourable reviews of vessel conduct. However, one or more tour operators raised the following concerns in relation to poor whale-watching vessel conduct:

- Certain vessels quickly viewing or going from whale to whale in order to stay within the time constraints of the tour;
- There is a high level of high operator endorsement for the local Code of Ethics; however, some lack of adherence to the Code was noted (i.e. the number of vessels viewing a whale at the same time);
- Certain vessels being “aggressive” during viewing (e.g. in terms of proximity to whales);
- Certain vessels following/coming close to other vessels to find or get close to whales.

It is difficult to ascertain the frequency of such issues, but in conjunction with the minority of customers who found reason for complaint re vessel conduct, it seems that to some extent a concern exists. Operators also expressed concerns about recreational boaters and their interaction with the marine wildlife, often asserting that recreational boaters were more problematic than commercial whale-watching vessels.
There was a high level of operator awareness of and endorsement for the Code of Ethics. All the operators indicated that they were aware of the Code. However, the Code is seen as serving a greater function as a marketing tool rather than a management strategy. The large majority (N=9) indicated that do advertise their endorsement of the Code to their customers.

At the time of the interviews, the DFO Whale-watching Guidelines were not as well known to the tour operators as the local Code of Ethics. Indeed, four of the operators were not aware that the DFO had whale-watching guidelines and one operator had heard of the DFO guidelines but had never read them. Three of the operators also felt that the guidelines were unnecessary given that there already is a Code of Ethics in place to manage whale-watching activities in the region. The strong sense from operators was they sought emphasis placed on building collaborative relationships in ensuring enforcement rather then any threats of punitive action.

Only four of the operators interviewed indicated that they regularly record their encounters with whales and the other marine wildlife. This suggests that there is room for improvement in terms of encouraging more operators to monitor the whale populations they target (e.g. including a monitoring program as a condition of the “Marine Mammal Watching License” currently being proposed). Gathering long-term information on the status of the focal wildlife populations would help develop a baseline of information to understand the relationship between the focal organism(s) and the particular tourism site. Critical baseline information to collect include: population size, habitat use, home range
and behavioural ecology. Such information will ultimately be beneficial in informing and adaptively amending management programs.