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The Growth of Whale Watching in Sydney 2003 - 2004

An IFAW Report
Economic Perspectives
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Executive Summary

The Sydney whale watching industry has demonstrated remarkable growth over the period 2003-04. In 2004, more than 41,000 Australians and tourists participated in whale watching in Sydney. This is a very significant increase considering that, only a year before, the number of whale watchers is estimated at 20,919 (revised upwards from the reported estimate of 18,999). This translates into an annual growth rate over the one year time period of 97%. These figures include estimated numbers for both land and boat-based whale watching. The change in numbers for boat-based whale watchers was even more extraordinary. In 2004, two new and large whale watch operators began work in the region, leading to growth of 626%. There was an estimated increase in numbers of boat-based whale watchers from around 4,000 to 29,000 participants in a single year.

The 2004 IFAW report, *The Growth of Whale Watching Tourism in Australia*, found that New South Wales was the state with the highest growth rate for whale watching, estimated at 37% average annual growth for the period 1998-2003. This follow up research has found that the Sydney region has clearly surpassed this growth rate in the last year.

Alongside the growth in numbers of people participating in whale watching activities, there was an increase in the number of whales seen off the coast in the Sydney region between 2003 and 2004. The National Parks and Wildlife Service counted 519 humpback whales in 2003 and 1094 in 2004 as surveyed from Cape Solander in the Botany Bay National Park. In 2001 and 2002, 800-900 whales were counted at Cape Solander. Clearly increased whale watch numbers are not necessarily due to an increased numbers of whales. It would appear that the Sydney region has a growing appetite for whale watching.

Whale watching brings the benefits of another tourism resource to Sydney. It also places tens of thousands of tourists within easy reach of whales. There is huge potential for this new Sydney attraction - resulting in positive visitor experiences and economic growth. However, stakeholders also recognise the potential for negative impacts on the species themselves if growth is unmanaged. Discussions about the management of this growing industry, whilst important, are beyond the scope of this report.

Introduction

In 2004, IFAW (the International Fund for Animal Welfare) released a report assessing the size and socioeconomic impact of the Australian whale watching industry in 2003ⁱⁱ. The report found significant growth had occurred over the five years since a global review of worldwide whale watch numbers was undertaken in 1998 - the 'Hoyt Report'ⁱⁱⁱ. Between 1998 and 2003 there was an annual average growth in Australian whale watching of over 15%. The report also found that whale and dolphin watching contributed more than \$270 million to the Australian economy in 2003, up from \$42 million in 1998.

The report also included state and Territory analysis of the industry. It found that "NSW has experienced the strongest growth of all the states. It achieved 37% average annual growth in the last five years (1998 - 2003) and has the potential to become a major attraction for domestic and international tourists"^{iv}. This growth is truly remarkable in a period when international tourism in Australia had grown at only 2.7% a year.

In the Sydney region of New South Wales (NSW), anecdotal accounts during 2004 reported significant growth in the number of whale watchers over the course of the one whale watch season since the IFAW report (ie between 2003 and 2004). Coincidentally, the NSW Department of Environment and Conservation was also in the process of drafting revised marine mammal regulations (National Parks and Wildlife Amendment (Marine Mammal) Regulation 2004 under the *National Parks and Wildlife Act 1974*) for the improved protection of marine mammals in NSW. These regulations addressed the management of whale and dolphin watching operations.

In light of this, IFAW recognised the need to quantify the growth of whale watch tourism in the Sydney region. It is believed that vessel-based marine mammal tourism can have an impact upon the animals being watched. There are concerns that, as marine mammal tourism industries grow, the impact of these industries upon the animals themselves can also increase if not managed appropriately. This study was commissioned, therefore, to provide background and context to discussions about the long term, responsible management of marine mammal watching in the Sydney region and beyond. IFAW requested Economists@Large & Associates to undertake this study. This report presents the findings of that study.

For the purposes of this report, the Sydney region has been defined as the area from the Hawkesbury River in the north to Botany Bay National Park in the south, inclusive.

Methodology

Survey of whale watching in Sydney

To assess and evaluate the Sydney whale watch industry for the 2004 calendar year, data was collected and compiled by surveying whale watch operators and reviewing regional tourism research.

Sydney whale watch operators were identified by desktop research and then contacted directly in order to gather data on growth patterns as well as their broader impressions of changes in the Sydney whale watching industry over the 2003-04 period. The intention was to locate and contact the majority of operators conducting whale watch tours in the Sydney region. This review was targeted mainly at sea-based operators but also included aerial operators and those running land-based whale watching.

Once identified and located, operators were contacted directly by phone or email in order to notify them of the research. A targeted questionnaire survey was sent to all identified operators. The survey was designed to cover economic and demographic issues relevant to evaluating the size (economic and geographic across the Sydney region) and value of the industry, its pattern of change over the course of the year as well as the industry's health.

The survey achieved a strong response rate of 43%. As a result we have great confidence in the trends represented by this data set. The absolute numbers involved are subject to a degree of uncertainty but are considered very conservative.

Australia's tourism industry is at a level of maturity where much stringent analysis and research is regularly and consistently undertaken at local, regional, state and national levels. This has led to large amounts of both publicly and privately available tourism data being available. State and national tourism boards were referred to in order to obtain average tourist expenditure details for the Sydney region.

The NSW National Parks and Wildlife Service (NPWS) was also contacted in order to obtain land-based whale watch data for the Sydney region. The data was extrapolated from the various sources, then collated and analysed in aggregate form in order to provide results for this report whilst protecting the confidentiality of individual operators. The methods used in the calculation of expenditure figures from the data are explained below.

Calculation of direct and indirect expenditure

There are a range of issues that need to be clarified in the calculation of the economic benefits of whale watching.

The sale of tickets to travel on a whale watching vessel is a gross financial benefit resulting from whale watching. The purchase of food, accommodation and travel expenses (amongst other things) to attend a whale watching event can also be attributed (subject to conditions) to whale watching on many occasions. These expenses can be called 'direct' expenditure. In the economic literature, 'indirect' expenditure is undertaken when the businesses that earned the direct expenditure spend the money on goods and services as inputs to their activities. 'Induced' expenditure occurs when the employees of these business re-spend direct expenditure in the form of wages and salaries.

The Hoyt Report (against which patterns of growth in this report are being compared) uses a different definition of indirect expenditure. The Hoyt Report, relying on conventions and methods from previous assessments, defines indirect expenditure as expenditure that supports the whale watch trip such as accommodation, transport to the whale watch location, film, souvenirs, food etc. Direct expenditure is expenditure on tickets and items directly related to the trip itself. For the sake of complementarity and comparability, we have adopted the same approach in this research.

In the Hoyt Report a single multiplying factor was applied to direct expenditure levels in order to obtain indirect tourism expenditure levels from whale watching. We have been able to calculate a more precise measure of the indirect expenditure for the Sydney region since we have, for example, per day expenditure and average visitor night data (see below). The calculations in this report were based on the best available existing tourism data.

These two streams of data (i.e. on direct and indirect expenditure) were collated, analysed and, where required, extrapolated from in order to calculate the tourism numbers and contribution of this industry to the economy of the Sydney region.

Value of indirect expenditure

As explained above, this report has defined indirect expenditure as the expenditure by tourists in getting to the whale watching location and sundry expenses associated with participating in the activity. Direct expenditure is expenditure on the purchase of whale watch tickets.

As the following results show, there has been a strong increase in market demand from new whale watchers visiting whales in 2004 compared with 2003. This analysis has not attempted to determine the source of these new visitors. The new whale watchers could be international visitors, regional Australian visitors to Sydney, or Sydney residents. It is likely that the visitors represent a combination of all three sources.

Each source has different 'indirect' costs in visiting whales and hence different expenditure rates. From operator feedback, it appears that most whale watchers in Sydney in 2004 participated spontaneously in the activity whilst already visiting Sydney for other reasons. For this reason we have assumed a very low indirect expenditure is related to this activity. As the industry is relatively young in Sydney, it does not yet appear to be drawing tourists to the region specifically for whale watching.

The research also indicated that large numbers of school children participated in whale watching over the 2004 season^v. For this group also we have assumed a very low indirect expenditure as all costs associated with the activity, such as transport, are shared amongst a larger group.

In order to allow for these assumptions in a conservative manner, we have calculated the indirect expenditure rate assuming that all the new whale watchers in 2004 are local Sydney residents, and hence have a very low additional cost for visiting whale watching sites. This method is a simplification based on the limited information we were able to attain in this short study and ensures that we are not including accommodation as an indirect expense.

This assumption means that the calculation of indirect expenditure will, by nature, be a marked underestimate. Such expenditure would be confined mainly to the cost of fuel and food during a day long excursion. Based on the costs of backpackers (an appropriate representative figure often cited in tourism literature) who average \$75 dollars per day in Australia^{vi}, we have provided for an indirect cost of \$18.75 per day for each whale watch participant^{vii}. This provides a total indirect expenditure of just \$770,000 per annum. This figure would be much higher if the actual split between international, regional and local visitors could be determined since many visitors we have defined as local are probably regional and international visitors. For the moment the assumption that all such visitors are local maintains the conservative nature of this assessment.

Methodological notes

Direct Expenditure:	Direct expenditure is calculated as the average adult ticket price paid to participate in the whale watch activity.
Indirect Expenditure:	<p>This has been calculated by estimating all other expenditures associated with participating in the whale watch activity, e.g. food, transport to the whale watch location (excluding international air travel), film, souvenirs, accommodation.</p> <p>This figure was calculated to accurately reflect the cost differences people are willing to incur in order to view whales.</p> <p>The basis for this calculation was the 2004 Australian whale watch report, with updated figures sourced from state tourism organisations and operator feedback.</p> <p>In order to err on the conservative side, we have added a percentage factor to these indirect expenditures so that all money spent in the region by whale watch participants is not attributed solely to this activity. A tourist will come to a region for many reasons and as part of this will participate in whale watch activities. The expenditure of the tourist is therefore divided proportionally between the activities.</p> <p>For the Sydney region, a very low proportion of indirect expenditure was attributed to whale watching as operator feedback demonstrated that most whale watchers undertook the activity spontaneously, not coming to Sydney specifically for the purpose of whale watching.</p>
Whale Watching:	For the purposes of this report, this refers to viewing activities of any cetacean species from land, sea or air, including whales, dolphins and porpoises.
Whale Watcher:	This refers to the number of whale watch trips undertaken as opposed to the number of separate individuals having whale watching trips. It is assumed that this has very little effect on final whale watcher numbers due to only a very small proportion of people participating in whale watching greater than once in this time period.

Limitations

The aim of this report has not been to compile a comprehensive and exact database of all whale watch operators in Sydney and their activities in 2004. The research is focused on identifying and estimating the trend in growth of whale watching from 2003-04.

The data presented does not reflect the exact numbers of whale watch operators, tourists and expenditures, but rather represents best available estimates of the current industry to the degree that a trend can be identified.

Sydney Whale Watching 2003-2004

State	Operators	Whale Watchers			Direct Expenditure e(\$A)	Indirect Expenditure e(\$A)	Total Expenditure e(\$A)
		Boat Based	Land Based	Total			
2003	3	3,995*	16,924	20,919	\$ 221,882*	\$ 358,615*	\$ 580,497*
2004	5	29,000	12,185 ^{viii}	41,185	\$ 2,158,526	\$ 772,219	\$2,930,744

* - These estimates have been revised up (by an increase of 1920 whale watchers) from the data presented in the 2004 Australian whale watch report. New data came to light during the research for this current study from operators in the region. Due to the small sample, an error margin is to be expected and is allowed for by accepting the lowest possible estimate. The net effect on growth interpretation is minimal for the purposes of trend analysis. We have also adjusted the expenditure data as a result of the sudden increase in whale watch numbers.

Total Estimated Sydney Whale Watchers 2004:	41,185
Annual % increase Total Sydney Whale Watchers 2003-04:	97%
Annual % increase Boat-based Sydney Whale Watchers 2003-04:	626%

Boat-based whale watching in Sydney

The Sydney whale watch industry has witnessed exceptionally strong growth since 2003. The number of whale watchers has nearly doubled in only one year. This breaks down to a 97% increase in the total number of whale watchers, with 626% growth in boat-based whale watchers from 2003 to 2004. The industry appears to have begun to embrace the opportunities of having proximity to consistent whale activity, a large local human population base and large tourist flow through Sydney. The arrival of two new whale watch operators to Sydney's waters in the 2004 whale watch season, both with large passenger capacity vessels above any of the existing vessels, was a significant contribution to this growth.

From the survey undertaken, some key points about the industry in the Sydney region are as follows:

- Whale watch operators now undertake boat-based tours from Circular Quay, Darling Harbour, Rose Bay, Sans Souci in Botany Bay, Manly and Cremorne Point, and include an air-based (helicopter) whale watch operator from Sydney's international airport;
- The northward migration of humpback whales (late May to July) is the peak whale watch season. The whales are much closer to the Sydney coast as they migrate north to their Queensland breeding grounds than on their September to November southward migration as they return to feed in the Antarctic. Only two of the regions operators conduct whale watching tours during the southward migration;
- Whilst the industry has grown rapidly over the past year, it is possible that there is still further potential to expand whale watching in Sydney, assuming it is appropriately managed. Feedback from some operators indicated that, as yet, there were no major concerns about additional competition from new commercial operators in the region and the increased competition for the finite whale watch viewing opportunities.

■ Within the 29,000 boat-based whale watchers in 2004, a conservative estimate of 700 has been included for the numbers of whale watchers that participated informally from recreational vessels⁸. This number was not included in the 2003 assessment due to the absence of reports about recreational vessels visiting whales during that study. That study was based on an estimate of whale watchers undertaking commercial whale watching trips only. It appears likely that with the marked and rapid rise in interest in whale watching in Sydney, recreational boat-based whale watching is a recent phenomenon. Recreational boat-based whale watchers appear to be a relatively small proportion of all whale watchers and no direct or indirect expenditure amounts are accounted for in this report. There are, of course, indirect expenses accrued by non-commercial whale watchers. However, with the limited information about these activities, we have not attempted to estimate expenditures from recreational boat-based whale watching at this time. In the future, as whale watching demand increases, there may be increased competition for the limited whale viewing opportunities each season. The interaction and competition between commercial and recreational boat-based whale watching will need to be assessed further.

Land-based whale watching in Sydney

Communications with the NPWS demonstrate a decrease in land-based whale watching in the 2004 season. This figure is based on interpolation of average park entrance ticket sales to the Botany Bay National Park over a one month period during the whale watch season. The decrease has been explained by a combination of lower levels of media publicity on land-based whale watching⁹, the possibility that some 'watchers' have switched to boat-based viewing, and the possibility that more tourists are entering the park by public transport, and thus not passing through the ticket office. The data for land-based whale watching is from Cape Solander only and hence does not include numbers at Manly (North Head) and Bondi (South Head) for example. This other data has not been included, due to collection difficulties, and hence adds to the conservatism of the result.

Conclusion

This review of whale watching in the Sydney region provides a brief snapshot of the industry, which allows comparisons with the previous assessment in 2003. That assessment found that whale watching continued to grow as an industry across Australia, with an annual growth rate from 1998-2003 of 15% in terms of the number of whale watching trips being undertaken. Over that period, NSW experienced growth of 37% a year, the fastest growth of any State.

Just in the last year alone, the number of whale watchers has more than doubled from approximately 21,000 to over 41,000. This is an increase of 97% in just one year. On this basis, the whale watching industry in Sydney appears to be growing faster than elsewhere in the State. The whale watching industry is also making a growing contribution to the economy of the Sydney. In 2004, conservative expenditure estimates on whale watching tourism totalled more than \$2.9million.

It is clear that the Sydney region is experiencing a major increase in whale watching. The drivers of this increase in market demand are not apparent but may indicate the beginning of a period of high growth. The increase in demand for whale watching is based on the use of whale watch boats. The data shows an annual, boat-based whale watching growth rate of 626%. This indicates some degree of unmet demand to experience whales at close hand.

This study has turned up more unique questions for the industry in this region of Australia. It seems that decisions by tourists to participate in these activities are still rather spontaneous. Further research could be useful to define exactly who is participating in whale watching, whether the activity is beginning to attract tourists to this region specifically for whale watching and to what extent the demand for whale watching continues to grow within the domestic Sydney population. The growth of recreational boat-based whale watching and its interaction with commercial operations also needs to be studied.

It remains to be seen whether the growth rate experienced in 2004 will continue at this level. This may be a one off change. Ongoing assessment of the numbers and activity of commercial tour operators would be the most reliable indicator of growth in whale watching demand. In light of such remarkable growth, it is appropriate to monitor future development and begin discussions about the management of this industry to ensure its sustainability.

End Notes

- i In 2004, Economists@Large estimated that there were 18,999 whale watchers in the Sydney region in 2003. This year we have revised the estimate to 20,919 based on additional data from another source (personal communication with operators).
- ii Economists@Large & Associates (2004), *The Growth of Whale Watching Tourism in Australia: An IFAW Report*. IFAW.
- iii Hoyt, E. (2001), *Whale watching 2001: Worldwide tourism numbers, expenditures and expanding socioeconomic benefits*, IFAW.
- iv Op.cit. Economists@Large (2004).
- v Personal communication with whale watch operators.
- vi Market Insights Tourism Facts, June 2004, Tourism Australia.
- vii \$18.75 is 25% of the daily spend of \$75, and conservatively estimates that 25% of expenditure by participants on the day of their whale watching activities is attributable to whale watching. This low figure allows for those participants that may be school children or family groups with lower average per person expenditure.
- viii NPWS (2004), Cape Solander Whale Migration Study: Draft Report for 2003-04, (with thanks to Geoff Ross-NPWS Cape Solander National Park).
- ix 700 informal recreational boat-based whale watchers is based on operator feedback estimates - 7 boats per day on the weekends during whale watch season (north bound migration only), with 5 people per boat - 7 boats x 5 people x 2 days x 10 weeks = 700 whale watchers.
- x There has, in the past been a clear correlation made between land-based whale watchers at Cape Solander and media publicity of the event, affecting visitor numbers by two or three fold (pers. comm., National Parks and Wildlife Services, March 2005).



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