



## From catching to watching: Moving towards quality assurance of whale/dolphin watching tourism in Taiwan

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### ABSTRACT

Taiwan has shifted from harvesting whales and dolphins to protecting all cetacean species since 1990. Whales and dolphins have become major tourist attractions. With an eye on foreseeable future growth and increasing concerns about environmental impact, service delivery, and educational efficacy, the government seeks to achieve the overall quality assurance of whale/dolphin watching tourism by introducing an ecolabelling program. The aim of this study is to examine this program by analyzing its impact on tour operators and visitors. A survey method was used to assess the impact. The results showed that the program is having a positive impact on operators by seeking environmental sustainability and has brought about educational benefits for visitors, including: site-based knowledge, awareness of marine conservation and reinforcing intentions to perform environmentally responsible behaviors. However, money cost is a major factor discouraging tour operator's participation, even though ecolabels help to construct an image of responsibility. With potential educational benefits for visitors in mind, the study highlights the need for increasing public awareness of the program, expanding marketing of ecolabelled products, and providing economic incentives for tour operators to engage in ecolabelling.

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### 1. Introduction

In 1982, the International Whaling Commission (IWC) introduced a moratorium on commercial whaling effective from the 1985/1986 whaling season. In 1993, the IWC adopted a first resolution on whale watching that declared its desire to encourage further development of whale watching as a sustainable use of cetacean resources [1]. These two resolutions reflect a growing societal awareness of conservation and non-consumptive use of cetacean resources. Even though the moratorium remains in force today, the debate over whaling is still fiercely contended and continues to be one of the world's most high-profile environmental issues [2]. Compared to whaling, whale watching is much less controversial and has gained wide support from the international community largely due to its non-consumptive use of cetacean resources. This industry has grown from humble beginnings in the 1950s to become an almost universal human passion. The subjects watched include the large species of whales and the smaller species of dolphins and porpoises. In 2008, the industry has continued to grow strongly with thirteen million people participating in 119 countries and territories located at all five continents, generating a total expenditure of US\$ 2.1 billion. The average

growth rate of this industry is 3.7% per year, comparing well against global tourism growth of 4.2% over the same period [3].

It is argued that whale watching generates many benefits, including: providing valuable income to communities, fostering visitors' appreciation of marine conservation, and offering a platform for researchers to study cetaceans [4]. However, while cetaceans have become popular resources for tourist use, there are increasing concerns regarding the negative impact whale watching may have on whales. The detrimental impact on the target animals could compromise the considerable economic and educational promise of whale watching tourism [5]. In addition, there is increasing understanding that to be economically and socially sustainable, tourism must also be environmentally sustainable [6]. Literature relevant to the environmental impact of whale/dolphin watching frequently mentions disturbance impact. Disturbance from the close approach of boats has been identified as a conservation concern for the cetacean population since it may alter whale behaviors. Behavioral reactions include changes in travelling direction, travelling path, travelling speed, feeding time, surfacing intervals, and displacement from the disturbance area [5,7–11]. Concern for environmental sustainability of whale/dolphin watching tourism has led to a plethora of guidelines in recent years, notably in codes of conducts [12]. Guidelines typically include restrictions on the number of boats in close proximity, boat speed limit, minimum approach distances, boat approach patterns, and allowed and non-allowed interacting patterns with whales. It

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stands to reason that proper management of whale/dolphin watching tourism to minimize the environmental impact is essential for the sustainable development of this industry.

In addition to the aspect of environmental impact elucidated in the above literature, numerous studies in other fields examine other aspects of whale/dolphin watching. These aspects include: community-based management through ecotourism in Mexico [13], sustainability of the industry in Scotland [14], environmental education [15,16], and visitor motivation [17] in New Zealand, visitor expectations and experiences in Australia [18], and tradeoffs between whaling and whale watching [19–21]. Each study contributes to a better understanding of whale/dolphin watching. These aspects are economically, socially, educationally, managerially, or environmentally related. This paper aims to add to the preceding studies by presenting the Taiwanese efforts to pursue quality assurance of whale/dolphin watching.

Taiwan, as one of the world's whale/dolphin watching spots in the West Pacific, shifted in 1990 from harvesting whales and dolphins to protecting all cetacean species. Due to a reliable aggregation of cetaceans (predominantly dolphins with some whales) found on the east coast of Taiwan and a governmental policy to promote fisheries diversification into tourism, whale/dolphin watching tourism was developed in the late 1990s. As this industry has grown, in terms of fishing boats involved and participating visitors, the government has recognized that whale/dolphin watching should be conducted in such a way that environmental sustainability will be ensured, positive visitor experience enhanced and visitors' understanding and appreciation of the marine environment fostered in order to enhance the overall quality service of the trip; the ecolabelling program, commonly employed in tourism [22], functions as a quality assurance mechanism to satisfy these needs. The purpose of this study was to examine this program in the Taiwanese context by investigating its impact on tour operators and visitors. The management implications inferred from the program will also be discussed. It is hoped that the insights offered by this paper will contribute positively towards the management of whale/dolphin watching tourism.

## 2. From catching to watching

<sup>1</sup>Before developing whale/dolphin watching tourism, Taiwan had engaged in whaling and viewed whales as consumable resources. The whaling industry was introduced by Japan in 1920 when Taiwan was a Japanese colony (between 1895 and 1945). Whaling in Taiwan was small scale, conducted off the coast of Hengchuen Peninsula, the southern tip of Taiwan. The timeline for the development of the whaling industry can be roughly segmented into three periods: 1920–1942, 1955–1969, and 1976–1980. The first period ended when the Second World War broke out in the Pacific. After the war was over and Japan no longer ruled over Taiwan, whaling was carried out again, but this time, by Taiwanese-owned fishing companies, recruiting Japanese crews in the second period. During this period, the Taiwanese government was also involved in whaling by building a whaling fishing boat which was used as a patrol boat as well. Though both the private and public sectors sought to resume whaling during the post-war period, it was perhaps the declining harvests and decreasing demand for whale meat in local markets that led to the industry dying out again. The harvests during these two periods consisted mostly of blue whales, fin whales, sei whales, humpback whales, sperm whales, and killer whales. In the third period, whaling resumed again with four fishing boats venturing further

south (between 15–30 °N and 120–155 °E) to catch Berde's whales. This period lasted only five years, from 1976 to 1980, since whaling attracted global attention and Taiwan, which was not a member of the IWC, was under tremendous pressure from the United States to stop commercial whaling or at least restrict whaling activity. In 1981, after consulting with various authorities, the fisheries administration stopped whaling and revoked all whaling permits, putting a final end to the whaling industry. The whaling catch data is shown in Table 1. Though the data is incomplete, it solidly indicates that there used to be an abundance of large whales migrating through the southern waters of Taiwan. However, recent research rarely documents whales in such areas, indicating that large species of whales might have been over-exploited in the past.

Although whaling has been outlawed since 1981, fishers continued to harvest small species of dolphins. Perhaps due to the taste being similar to that of pork, dolphins are nicknamed 'sea pigs' by local fishers, and like other catches, are traded and cooked in local villages. The catch data was rarely recorded, but consuming dolphins was normal and a non-controversial issue in Taiwan. However, as cetacean conservation sentiment rose in the West in the 1970s, Taiwanese society began to examine the issues of dolphin killing and consumption. In particular, the driftnet fisheries in the North Pacific, operated by the Taiwanese, Korean, and Japanese industries, were severely blamed for accidentally catching dolphins and salmon in the 1980s, culminating in a global moratorium adopted by the United Nations (the Resolution 46/215) on all large-scale high seas driftnet fishing by 31 December 1992 [25]. The pro-dolphin conservation rhetoric has steadily increased in intensity in Taiwan, reaching its highest point when the conventional dolphin harvesting in Shagong of the Penghu islets, was broadcasted internationally in the spring of 1990 [26]. The media release put Taiwan under fire for the brutal, inhumane destruction of marine mammals. In facing such a high-profile environmental issue, the government had no choice but to take a drastic measure to protect all cetacean animals by

**Table 1**  
Historical whale catch in Taiwan.  
Sources: [23, 24]

First period		Second period	
Year	Counts	Year	Tons
1920	29	1955	5
1921	43	1956	5
1922	45	1957	56
1923	44	1958	179
1924	54	1959	214
1925	45	1960	–
1926	48	1961	73
1927	56	1962	–
1928	57	1963	2
1929	61	1964	0
1930	47	1965	67
1931	39	1966	58
1932	40	1967	23
1933	30	1968	5
1934	17	1969	10
1935	33	Third period	
1936	20	Year	Tons/Counts
1937	22	1976–1980	2439/450
1938	17		
1939	9		
1940	10		
1941	7		
1942	6		

<sup>1</sup> Much information of this paragraph is excerpted from [23, 24].

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