

# Role of the community in the granting of blue flag certification at Tombo beach (Guarujá, Brazil)

## Abstract

In 2009, Tombo Beach in Guarujá (Brazil) received Blue Flag Certification, an ecological seal granted to beaches that meet environmental conservation requirements. Tombo Beach's certification was the third in the program's history in Brazil. Started in 1987, the Blue Flag Program is one of the most critical ecological seals created for the sustainable development of beaches and marinas that adopt careful water quality treatment, environmental education and information, environmental management, security, and other services. Thus, the objective of this study was to evaluate the knowledge of the requirements above by visitors to Tombo Beach to determine their participation in maintaining certification. To this end, structured questionnaires were used in interviews carried out in April in Tombo Beach, resulting in 300 interviews. Analysis of the data obtained through interviews (n=300) indicated restricted knowledge on the part of attendees regarding the requirements set out in the Blue Flag Program, demonstrating critical deficiencies, especially about environmental education programs. Furthermore, we sought to discuss the benefits of certification in increasing the attraction of visitors to disseminate the culture of accreditation on Brazilian beaches.

**Keywords:** environmental education, environmental management of beaches, stamps environmental, sustainability

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## Introduction

Coastal areas represent one of the biggest challenges for the country's environmental management, especially when approached together and from the perspective of the Union scale. In addition to the considerable length of the coastline and the highly diverse physical-biogenic formations, the main vectors of pressure and flows of all kinds compose a broad and complex mosaic of typologies and patterns of human occupation, use of land and natural resources, and economic exploitation.<sup>1</sup>

The beauty of the beaches and constant sunshine in some regions of the country help Brazil establish itself as a tourist destination for the local community and national and international tourists.

### Preservation of coastal zones

The coastal environment comprises two interactive and independent subsystems: natural and socioeconomic.<sup>2</sup> The main interest of coastal managers is to establish and maintain a sustainable relationship between the components of these two subsystems. The preservation of coastal zones is directly related to the ability to adapt to dynamic change, which may have natural, anthropogenic causes or a combination of both.

Tourist activity and related real estate development have often affected the location's nature and modified the coastal zone in all aspects. Changes in these natural areas into functional areas to meet the needs of the masses of tourists have caused severe problems for the conservation and stability of specific systems.<sup>3</sup> In this sense, the creation of classification methods becomes an essential tool in the economic exploitation of coastal areas in synergy with the environmental protection necessary for the functioning of ecosystems. According to Micallef and Williams, beach classification systems are highly effective management tools, allowing a better-informed option

for potential users and a technique for accessing aspects that require improvements to improve the recreation product quality.

### Blue flag certification

The "Blue Flag" Program is a voluntary ecological seal created in 1987 by the non-governmental, non-profit organization Foundation for Environmental Education (FEE) to work for the sustainable development of beaches and marinas that adopt careful treatment of water quality, environmental education, and information, environmental management, security, and other services.

In Brazil, the Blue Flag Program has been operated by *Instituto Ambientes em Rede* (IAR), based in Florianópolis, since 2004. The institute defined its objectives as raising awareness among citizens and decision-makers of the need to protect the marine and coastal environment and encouraging actions that resolve existing conflicts. The operationalization of the Program is developed by several institutions directly involved with the Program: International Operator, National Operator, National Partner, Promoting Agent, and Local Agent.

Blue Flag certification is awarded to the municipality where beaches that meet all criteria are located. The City Hall is the faithful guardian of accreditation and, in this process, is designated as a Local Agent. In the Blue Flag, four criteria are divided into sub-criteria, totaling 33 assessment items in the case of Tombo Beach, 32, as the location does not have coral reefs (Table 1).

In Brazil, Jurerê Beach in Florianópolis was the first beach in Brazil and South America to receive the Blue Flag. Four beaches are certified in the country: Prainha Municipal Natural Park (PNM) in Rio de Janeiro, Palmas, Lagoa do Peri in Santa Catarina, and Tombo Beach in Guarujá, São Paulo State.

Guarujá is one of the main tourist destinations in the State of São Paulo, with its population quadrupling at specific periods of the year. Given this, it is necessary to have a greater understanding of the factors that led to the Certification of Tombo Beach with the Blue Flag in the

last five years so that there are subsidies for the management of other coastal areas of the municipality, expanding conservation efforts and the involvement of the municipality's fixed and variable population with the criteria established by Blue Flag certification.

**Table 1** Blue flag award criteria for beaches

Environmental education and information	<p>(I) Information about the Blue Flag Program posted.</p> <p>(I) Carrying out at least 6 Environmental Education activities. (I) Information on the quality of bathing water must be posted. (I) The existence of information on sensitive areas and ecosystems in the beach area, as well as on behavior to be assumed by them, is posted on the beach and included in the material for tourists. (I) A map indicates the various facilities and equipment on the beach. (I) The existence of entities that post the code of conduct for the beach and publicize this information to the public that requests it.</p>
Water quality	<p>Compliance with all standards and legislation, namely Directive 7/2006/EC on Bathing Water Quality.</p> <p>(I) Compliance with standards and legislation regarding sampling and frequency of the quality of bathing water. (I) Compliance with standards and legislation regarding analysis of bathing water quality. (I) Guarantee that any wastewater discharges from industrial or urban areas in the beach area do not affect its quality. If they exist, it must be demonstrated that the water from these discharges does not affect the environment. The community in which the beach is located must comply with the standards and legislation relating to wastewater treatment, namely the Urban Waste Water Directive (91/271/CEE).</p>
Environmental management and equipment	<p>(I) Compliance with the requirements of the Blue Flag Program about the parameters, fecal Coli bacteria / E.coli, and fecal enterococci/streptococci.</p> <p>(G) Compliance with the requirements of the Blue Flag Program about physical-chemical parameters.</p> <p>(G) A committee should be established to take charge of beach management and conduct frequent audits.</p> <p>(I) Existence of a Beach Management Plan complied with by the local responsible entities and beach managers. (I) The beach must be kept clean. (I) No accumulation of algae or remains of plant material washed away by the sea on the beach, except when said vegetation is intended for a specific use, is located in a location designated for that purpose, and does not disturb the comfort of beach users.</p>
Security and services	<p>(I) Existence of waste containers, safe and in good maintenance conditions, regularly emptied on the sand and at the beach entrances. (I) On the beach, there must be equipment for the selective collection of plastic, glass, cans, and paper packaging.</p> <p>(I) Existence of a sufficient number of sanitary facilities.</p> <p>(I) Existence of sanitary facilities in good hygiene and maintenance conditions.</p> <p>(I) Existing sanitary facilities with an appropriate final destination for wastewater. (I) Lack of the following activities on the beach :</p> <p>Circulation of unauthorized vehicles; Car or other motor vehicle competitions; Dumping of rubble; Unauthorized camping. ( I ) The permanence and movement of domestic animals or others outside authorized areas is prohibited. (I) All buildings and equipment on the beach must be in good condition. (NA) The coral reefs in the beach area must be monitored. (G) The local community must promote sustainable means of transport in the beach area, such as cycling, public transportation, and pedestrian areas.</p> <p>(I) Existence of lifeguards on duty during the bathing season with the respective rescue equipment. (I) The existence of a first aid service on the beach duly marked. (I) Existence of Emergency Plans, local or regional, regarding pollution accidents on the beach. (I) No conflict of uses on the beach. If there are sensitive areas surrounding the beach, measures must be implemented to prevent adverse impacts on them resulting from their use by users or traffic to the beach.</p>
	<p>(I) There must be security measures in place to protect beach users. Existence of safe access to the beach. (G) Existence of a duly protected source of drinking water. (I) At least one of the Municipality's beaches must have ramps and sanitary facilities for disabled people, except when the location's topography does not allow it. In cases where the Municipality only has one beach with a Blue Flag, it must meet the abovementioned requirements.</p> <p>The criteria are, for the most part, "Imperative" (I) (mandatory), meaning the beach must comply with them in full to obtain the Blue Flag award. The remaining criteria are "Guide" (G), meaning they should preferably be fulfilled. Some requirements are not applicable (NA) in some areas and may vary slightly from region to region.</p>

Source: FEE, 2010

The present study aims to analyze the aspects of the Blue Flag certification granted to Tombo Beach in Guarujá, particularly the community's role in preserving and protecting the environment.

## Materials and methods

The research used qualitative research in the bibliographic modality based on the interpretation of the thoughts of specialized theorists. The information obtained through contact with the theorists above was collected by preparing records constructed by ABNT standards. Quantitative research in the form of field research was used to get data through interviews carried out with users of Tombo Beach do Guarujá from April 15 to 22, 2016, using a structured research form with 29 questions.

## Results

### Frequenter profile

Three hundred people were interviewed, 54% female and 46% male. The age range of interviewees was distributed as follows: 22% between 18 and 24 years old; 26% aged 25 to 34; 28% aged 35 to 44; 18% in the 45 to 59 age group; and 6% over the age of 60. Regarding the interviewees' education level, 40% had completed higher education, 28% had completed secondary education, 18% had incomplete higher education, 11% had incomplete primary education, 2% were illiterate, and 1% had completed primary education.

Among those interviewed, 52% are employed, 28% are self-employed, 11% are retired, 5% are interns and 4% are unemployed. The income of the interviewees was collected, and 36% did not respond; 19% have an income between R\$1300.00 and R\$2600.00, 17% have an income between R\$788.01 and R\$1300.00, 11% have an income between R\$ 2600.01 and R\$5200.00 and more than R\$7800.00, 5% have income between R\$5200.01 and R\$7800.00 and 1% have income up to R\$780.00.

The number of times the interviewee frequents Tombo Beach was also asked, 36% said they frequented it "a few times" (5-10 times a year), 28% "a few times" (1-4 times a year), 24% "always" (more than 20 times a year) and 12% "very often" (11-20 times a year). Among those interviewed, 79% do not live in the municipality of Guarujá.

### General knowledge about blue flag certification by the user

Most interviewees stated they were unaware of the Blue Flag Certification (59%). However, 62% knew that Tombo Beach was certified despite being unaware of the requirements in the obligations to be fulfilled by Praia to receive such certification (80%). When analyzing the responses from residents and non-residents of the municipality, an essential change in users' knowledge regarding the certificate can be seen, as 82% of residents said they knew the "Blue Flag," with 45% saying they were aware of it. Of the requirements for granting the ecological seal. Furthermore, all residents said they knew that Tombo Beach is certified.

### Environmental education and information

More than half of those interviewed stated that they had not seen any information regarding the Blue Flag Certification in Tombo Beach (55%). Among those who viewed such data (45%), most said they saw the Flag raised on the beach and the information station on the boardwalk (Figures 1, 2, and 3).



Figure 1 Information panel - Praia do Tombo, Guarujá/SP.

Source: Own archive



Figure 2 Water quality control at Praia do Tombo between 01/11/2015 and 03/01/2016.

Source: Own archive



Figure 3 Beach strip (Praia do Tombo, Guarujá/SP).

Source: Own archive

Regarding the environmental education activities at Tombo Beach, 84% stated that they had not witnessed any activities of this nature. The 16% who said they saw actions in this regard cited activities developed with school groups. In the case of city residents, 45% witnessed environmental education actions. However, the primary citations also referred to school group visits.

Around 80% of those interviewed stated that they did not have access to information about the water quality of Tombo Beach and the sensitive areas and ecosystems in the beach area and how to act on them (85%). Data is the same when it comes to residents of the municipality. Another issue addressed was user access to the map indicating facilities and equipment on the beach. Around 80% said they had not seen the indicative map; 67% said they could not access the Tombo Beach code of conduct (Table 2).

**Table 2** Data regarding education and environmental information available in Tombo Beach, Guarujá - SP

	Yes	No
Do you know what the blue flag is?	41%	59%
Do you know that Tombo Beach received the Blue Flag certification?	62%	38%
Do you know what the requirements for Blue Flag certification are?	20%	80%
Have you seen any information from the Blue Flag certification on Tombo Beach?	45%	55%
Have you seen any environmental education activity?	16%	84%
Did you have access to the water quality conditions of the beach?	22%	78%
Did you have access to information from the sensitive areas and ecosystems of the beach and how to act in these places?	15%	85%
Did you have access to the information and equipment of the beach facilities and equipment?	22%	78%
Did you have access to the beach conduct code?	33%	67%

### Perception regarding water quality

Those interviewed stated that they were delighted with the water quality in Tombo Beach (30%). In comparison, 69% indicated that they were satisfied, 1% were dissatisfied, and none of the interviewees stated that they were very dissatisfied.

### Environmental management and equipment

Most visitors say they are satisfied with the cleanliness of the beach (65%), delighted (29%), dissatisfied (4%) and 2% miserable. The perception of beachgoers regarding the safety and state of maintenance of beach waste containers located in the sand and at beach entrances is that the equipment is in good condition and is regularly emptied (56%). Regarding selective collection equipment for plastic, glass, cans, and paper packaging, 66% of those interviewed understand that the beach does not have sufficient infrastructure for collections. The same perception applies to the number of sanitary facilities, considered by 67% of those interviewed to be insufficient to meet demand. However, the majority (55%) say they are satisfied with the hygiene conditions and maintenance of sanitary facilities. The permanence and movement of domestic animals or others outside authorized areas were highlighted by 63% of those interviewed. To conclude, 88% of respondents stated that the buildings and equipment on the beach, in general, are in good condition.

### Security and services

Respondents pointed out the presence of lifeguards during the bathing season with the respective life-saving equipment (90%).

Regarding the ramps (Figures 4, 5, and 6) and sanitary facilities for disabled people, 74% stated that the beach has the necessary structure to serve the user. Security was another topic covered in the research; in this sense, 93% consider Tombo Beach a safe place, and 86% evaluate the accesses as safe.



**Figure 4** Ramps for people with disabilities at Praia do Tombo, Guarujá/SP.

Source: Own archive



**Figure 5** Ramps for disabled people (b) at Praia do Tombo, Guarujá/SP.

Source: Own archive.



**Figure 6** Ramps for disabled people (c) at Praia do Tombo, Guarujá/SP.

Source: Own archive

## Discussion

Tourist activity is one of the primary sources of income in the municipality of Guarujá. December and February represent the city's most significant economic dynamism. Tourist activity has shown apparent growth in recent years, becoming, in many countries, a vital development alternative with the generation of jobs, income, and social inclusion. Due to its importance, this activity must be worked on from the social, economic, ecological, spatial, and cultural sustainability perspective and monitored so that it does not become another environmental threat.<sup>4</sup>

Therefore, the conservation of natural environments is essential for attracting tourists. "The basic need for ecotourism is that the exploited environment remains unchanged to preserve the direct resource on which it depends and ensure long-term investment and profitability."

In this sense, environmental certifications such as the "Blue Flag" become, in theory, powerful marketing instruments by highlighting the ecological quality of certified areas. This becomes evident if we consider articles published by tourism experts in specialized magazines and academic papers.

In the case of the "Blue Flag," certification is perceived as a "symbol of quality recognized by tourists and tour operators".<sup>5</sup> The position is corroborated by Botterill, who states that the Blue Flag, among all existing certifications, is by far the most recognized by users. However, they do not know the real meaning of the quality certificate.

The media coverage of consecutive certification renewals (Tombo Beach was certified in the last six years) demonstrates the environmental seal's appeal. Thomsen stated, "An increasing number of tourists are asking about blue flags before choosing their destinations."

However, a survey conducted in the United Kingdom by Mckenna et al.<sup>5</sup> regarding the importance of certifications as an attraction for choosing beaches for tourism demonstrated that few users use such information to select their tourist destination.

Blue Flag certification came in second to last among the parameters used in the research as attractions for beaches. The parameters used were: (1) General beach attractions, (2) Scenery, (3) relaxing and friendly atmosphere, (4) Beach and water activity, (5) Cleanliness, (6) Proximity, (7) Safety, (8) Tradition and local connections, (9) Things to do/places to visit (10) Ease of access and parking, (11) Good climate, (12) Adequate accommodation, (13) I like the area, (14) Friendly to families, (15) Reputation and recommendations, (16) A new place to visit, (17) Blue Flag and (18) Others (*Ibidem*).

Mckenna et al.<sup>5</sup> carried out the same study in Hollywood Beach, Florida, USA, and the results demonstrated a more significant public perception regarding Beach Certification, classifying it as the 11th reason for choosing the location as a tourist destination. The parameters used were the same. According to the survey, the influence of beach certifications on visitor generation can be summarized as follows: In the study areas in Ireland, beach certifications ranked 17th among 18 factors related to visitors' choice of locations, in the United States 11th out of 18. The study was also conducted in Wales, where certifications ranked 8th out of 10 and Turkey in last place (*Ibidem*). Tudor and Williams<sup>6</sup> suggest that user awareness of certification systems is deficient, not a good sign for those promoting them.

The results achieved by the study by Mckenna et al.<sup>5</sup> somehow align with those of this research since, despite recognizing Tombo

Beach's certification, many people are unaware of the requirements that justify such classification and do not use this information as a determining factor for choosing of the beach as a destination. However, the main factor in choosing the destination beach in the surveys mentioned was the cleanliness of the beach, one of the prerequisites for granting certification; that is, despite not knowing precisely what leads to certification of the beach in question, it indirectly contributes decisively to attracting tourists.

According to Mir-Gual et al.,<sup>7</sup> "Blue Flag Certification confirms the excellent quality of the water and coastal zone, the safety of services and equipment, as well as environmental education." the latter, as this research demonstrates, is a deficient factor in Tombo Beach.<sup>8-12</sup>

Beach cleanliness proved to be another differentiator, demonstrated by the level of user satisfaction. The equipment for waste disposal was of good quality and in good condition. However, people made their dissatisfaction with the quantity of equipment for selective collection clear.<sup>13-16</sup>

The number of sanitary facilities is insufficient, especially during high season. Although relatively subjective, this data points to a perception regarding the quality of the environment since, without the necessary number of sanitary facilities, people start to use their environment.<sup>17,18</sup> On the other hand, hygiene and maintenance conditions were highlighted as a positive factor.

The presence of animals in the beach region is one of the main factors in contamination and disease transmission. Most interviewees witnessed the presence and movement of domestic animals or others outside authorized areas, creating a potential risk of contamination.<sup>19-23</sup>

The candidacy and consequent certification of Tombo Beach led to a revitalization of buildings and equipment on the beach, a fact highlighted by most interviewees who stated that they are in good condition. Safety is essential in the perception of those who go to Tombo Beach. It is worth highlighting that the municipality of Guarujá is one of the most violent in the Metropolitan Region of Baixada Santista and the State of São Paulo. In this sense, security is a fundamental factor in the tourist appeal of Tombo Beach, as well as access structures for disabled people and protection for users. According to those interviewed, the beach offers ideal conditions from the point of view of safety for visitors.<sup>24-27</sup>

## Final considerations

Blue Flag Certification is a seal of international prestige that generates interest and demand from users worldwide, even indirectly, since the prerequisites necessary for applying for and maintaining certification generate significant results in conserving the environment.

Tombo Beach is a clear example; its structure is the best in the Metropolitan Region of Baixada Santista. This structure was developed to adapt to the requirements imposed by Blue Flag managers. Factors such as cleanliness and water quality were highlighted as significant differences by visitors, all directly related to environmental conservation, in line with studies carried out worldwide, confirming these factors as the main ones when choosing a beach for tourism.

It is also evident that the "luck" component is essential in achieving and maintaining certification since Tombo Beach benefits from its geographical position, not receiving rainwater emissions responsible for beach contamination. Due to illegal sewage connections throughout the municipality, the neighborhood primarily comprises low-rise buildings and houses.

The major flaw identified in this study was environmental education actions. Many aspects covered in the official requirements of the “Blue Flag” Program do not have the desired effects. Resident visitors demonstrated more excellent knowledge regarding the precepts of certification. However, tourists, those who inflict the most significant environmental degradation during the season, demonstrate little knowledge.

Tombo Beach was certified once again, for the sixth consecutive year, demonstrating that many of the proposed actions serve their purposes; however, the need for investment in environmental education practices that can further increase awareness of the community about environmental issues, resulting in more certified beaches and more areas of environmental protection and conservation.

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## Conflicts of interest

The authors declare that there are no conflicts of interest.

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