



A critical view of the Blue Flag beaches in Spain using environmental variables



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ABSTRACT

Over the past years, a growing environmental awareness in our society has run parallel with the development and implementation of environmental management systems in tourism destinations. The Blue Flag classification system for beach coastal systems tries to justify environmental quality, even when these areas have long lost their geomorphological and ecologic features. The aim of this project is to test if the Blue Flag management system really ensures an improvement of environmental and natural features of beaches, or if they are just a mechanism for improving the services and benefits to users. Thus, 481 beaches of the Spanish coastline awarded with a Blue Flag have been analyzed over the period 2007–2012 using different environmental variables. ACP and Cluster (Bray Curtis similarity) analysis show that the beaches are not characterized for their naturalness; instead they show high levels of human influence and artificialization. The concession of Blue Flag award is strictly focused on services offered to the users of the beach, and they do not take in account environmental and ecological issues related to the behavior of beaches as natural and fragile systems.

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1. Introduction

The past few decades the occupation of the coastline has altered its natural dynamics, increasing fragility and causing serious changes in its natural evolution (Brown and McLachlan, 1990; Nordstrom, 2002). The interaction of environmental factors occurring in coastal areas determines a variety of processes that make them areas of high environmental sensitivity (Andrés and Gracia, 2000). There are many factors acting on the evolution of coastal beach systems that are different in nature and magnitude (Martín-Prieto and Rodríguez-Perea, 1998). The preservation of coastal beaches is directly related to the ability to adapt to dynamic change, that can have a natural cause, anthropogenic or a combination of both (Pye, 1982). The increase of artificial features on coastal areas has often created a complete degradation and a permanent dependence on hard engineering regeneration (Rodríguez-Perea et al., 2000).

Coastal areas are a complex physical interface system between marine and terrestrial environments, and the interaction between dynamic and fragile subsystems. Actions on these areas tend to

ignore this interaction, mainly relying on the application of criteria related to urban development, conceiving the coastal environment as a static summer space that originates services for bathers. This creates a misleading picture of the use of this space, which applies both to users and managers. When operating with misconceptions, the results obtained in the last decades are, in most cases, artificial beaches with unsuitable management conservation (preservation) measures. With this scenario, the concept of coastal areas as a tourism product, regardless of its size and fragile natural ecosystem, leads to a modification of the environment, which can be destabilizing. The answers to this situation are not usually found in the system itself, people usually chooses to treat the beaches as 'a profit business' and apply management measures that have nothing to do with its natural dynamism.

Since the expansion of sun and beach tourism as a strategic economic activity, coastal areas have been claimed as key points for promotion, and exploited in most cases for their maximum profitability. The past years have seen new strategies in "coastal marketing", and one of the most useful tools are quality certifications that highlight the environmental quality of beaches and other coastal areas. The main objective of this work is to analyze, through the application of 15 environmental variables, a total of 481 Spanish beaches with the Blue Flag certification in 2012, in order to verify or demystify whether these awards known as eco-labels, really fits in

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beaches with good environmental status as natural systems, or if it is more related and influenced by the infrastructure service associated with them, focusing on their social and economic use.

1.1. The offer of littoral space as a touristic resource

Sun and Beach tourism has flourished extensively in coastal areas, usually in sand and beach-dune systems. Very soon incompatibilities emerged derived with the continued increase of visitor flows and the resulting increase in the supply of accommodation and services, in relation to land development and construction housing for tourist use (Vera, 1992). Tourism activity and associated real estate industry has often denatured and modified the coast in all its aspects (Yepes, 2002), with a systematic negligence of the dynamic processes and environmental values (Roig-Munar et al., 2005). Changes of these natural areas into functional areas to meet massive attendance have brought serious problems in conservation and stability of some systems (Roig-Munar, 2002).

Some authors advocate a beach management based in the provision of services, facilities and infrastructure to meet consumer coastal environment, making it a diverse space in leisure facilities, understanding the satisfaction of user expectations as quality service (Yepes et al., 1999). In this sense, government and administration understood the concept of coast as a mere support to the tourism industry, prevailing concepts of standardized quality systems used in urban areas. Yepes and Medina (1997) define that coastal tourism management as a set of actions in order to achieve certain tourism purposes in the coastal area, by combining material and social resources. Roig-Munar (2001) believes that more attention has been given to visitors than to the state and needs of the coastal ecosystem, often due to lack of knowledge of the managed environment. Complementing the two previous visions, Berenguer (1990) understands that the coastal area must be suitable for use, but suggests the suitability of applications and services adapted to the environment.

1.2. Beach quality systems

The trend to perceive beach spaces as a tourist and/or economic resource is the main reason behind the creation of standard mechanisms to certify their “environmental quality”. According to Zeithaml et al. (1993), the quality of the service perceived by users is based on the discrepancies between their expectations and the disagreements often linked to a scale, that does not necessarily takes in account environmental aspects (Roig-Munar and Martín-Prieto, 2002).

Physical, biological and sociological parameters are studied in order to establish beach quality indicators and segregate “high quality beaches” compared to those with “less quality” (Leatherman, 1997). This process is based on a personal perception that excludes areas that have low recreational value, due to factors such as distance, lack of publicizing, or lack of services, among others, relegating them as secondary-beaches. Management standards and quality indexes have been designed to advocate beaches certification (Williams and Morgan, 1995; López, 2003), although authors such as Buckley (2002) argue that these measures are just eco-labels and are not necessarily adjusted to the environmental qualities and management measures awarded. Other authors such as Morgan (1999) proposes classification systems for beaches based on different aspects that are important to users, attending on sociological studies derived in each one of the beaches. Breton et al. (1994) finds that the quality of a beach will depend on the user's perception. These arguments show that the usual specifications for the coast are determined according to the needs of different user groups, and therefore the quality of the beaches will depend on

whether it meets the needs and expectations of its users and of social and economic agents. Roig-Munar (2001) understands the perception of users as a management tool that affects the coastline and proposes that instead of offering the users what they demand, users should be guided to the correct expectations. Thus, according Roig-Munar et al. (2005) there are alternative systems for beach

Table 1

Variables used through Blue Flag criteria according to the beach certifications (www.blueflag.org/menu/criteria/beaches).

Variables and items used according to the Blue Flag criteria	
Environmental education and information	Information about the Blue Flag must be displayed Environmental education activities must be offered Information about bathing water quality must be displayed Information relating to local eco-systems phenomena A map of the beach indicating different facilities must be displayed A code of conduct reflecting laws governing the use of the beach
Water quality	The beach must be fully comply with water quality samples The beach must be fully comply with standards and requirements for water quality analysis No industrial, waste-water discharges should affect the beach area The beach must comply with the Blue Flag requirements for the biological parameter faecal coli bacteria The beach must comply with Blue Flag requirements for physical and chemical parameters
Environmental management	The local beach operator should establish a beach management committee The local beach operator must comply with all regulations affecting the location and operation of the beach Sensitive area management The beach must be clean Algae vegetation or natural debris should be left on the beach Waste disposal bins must be available at the beach in adequate numbers Facilities for the separation of recyclable waste materials should be available An adequate number of toilet facilities must be provided The toilet or restroom facilities must be kept clean The toilet or restroom facilities must have controlled sewage disposal There should be unauthorised camping, driving or dumping of waste on the beach Access to the beach by dogs and other domestic animals must be strictly controlled All buildings and beach equipment must be properly maintained Coral reefs in the vicinity of the beach must be monitored A sustainable means of transportation should be promoted in the beach area
Safety and services	An adequate number of lifeguards and lifesaving equipment must be available at the beach First aid equipment must be available at the beach Emergency plans to cope with pollution risks must be in place There must be management of beach users and events to prevent conflicts and accidents There must be safety measures in place to protect beach users A supply of drinking water should be available at the beach Wheelchair access and accessibility features must be in place for at least on Blue Flag beach in each municipality

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