

## ABSTRACT

**Title: CARRYING CAPACITY OF THE CATALONIAN LITORAL BEACHES**

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Generically, recreative carrying capacity of a beach refers to the amount and kind of users that a beach can afford without producing unacceptable impact is produced from the environmental and social point of view. In the moment of evaluating this recreative carrying capacity two fundamental aspects have to be considered: the biophysics component, that refers to the integrity of the resource base (in this case the beach) and the component related to the perception, which bears in mind the degree of satisfaction of the person that uses the beach.

In beaches subject to an intensive use (it is the case of the majority of urban and semiurban beaches of the Catalan coast) the biophysics component is restricted basically to the physical aspects knowing that normally the environmental value of this type of beaches are low, with the exception of those related to the landscape. On the other hand, the aspects that concern about the perception of the user are less restrictive than in the most natural beaches because they are based basically with the cleanliness of the beaches (water and sediment), the services, the accesses and the surface of available beach. Related to that, the coastal dynamics can play a main role in the determination of the use and the development of the beaches knowing that the emerged surface of the beach constantly reacts to the action of the marine agents and, in consequence, the fluctuations in the surface available for the users is regulated for the most part by the emerged surface.

For this reason it becomes necessary a detailed study of the recreational carrying capacity of the beaches of the Catalan coast by the purpose of managing and planning these beaches as best as possible. Depending on the carrying capacity and of the level of use that can support the beaches (real load) there will have to be established some strategic aims that allow his sustainable development in order that it does not come near to the environmental collapse (degradation of the zone) or economically collapse (overload that affects the users and, in consequence, degrades the tourist sector).

The study area selected in this project is the Catalan coast. The study will be centered on a set of beaches distributed along the whole Catalan coast; representative of all the different types of beaches, urban, semiurban or natural (in strict sense). In this way we will be able to obtain a whole global image of the state or quality level of the set of beaches that shape the Catalan litoral.

To realize the analysis of the recreational carrying capacity some variables have been selected bearing in mind the importance of the variable to evaluate the carrying capacity. Many of the raised variables are very much useful to establish the quality of the beach and not so adapted to evaluate the objective concept of the present study, the carrying capacity. For that reason, there have been some certain variables discarded that at a first view might seem to be indispensable for the development of the study. These select variables can be englobed in three differentiated groups: the variables related to the equipments, the ones related to the accessibility and finally the variables related to the intrinsic characteristics of the studied beaches. From the variables of study there have been developed certain number of indicators (some absolute and some relative) that make possible the realization of a intensive comparison between beaches of different characteristics and origins.

The study of evaluation of the current carrying capacity based on the hypotheses established previously is made with the purpose of evaluating actual condition of the beaches of study selected and the qualitative evolution of the same ones in relation to themselves when they were analyzed in the beginning of the 80s by the Generalitat de Catalunya. And also a beach classification is realized, with the establishment of several models of weighting, assigning different weight to the groups of variables chosen depending on the specific objective of the classification. Hereby it is possible to obtain a more global vision of the recreational carrying capacity of the beaches.