# Estimating the Value of Beach Use on Padre Island: Monetary and Restoration Equivalent

# Abstract

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**Ami K Kang**

Padre Island seashore is one of the most popular tourist attractions in America. People enjoy various recreational activities in those islands, including fishing, bird-watching, horse-back riding, swimming, etc. Therefore, it is economically meaningful to estimate the value of Padre Island beaches not only for the beach management but also for future planning.

We have a valuable data set on the Gulf Coast of Texas with the help of Natural Park Service funding. The data set includes the characteristics of 65 beaches, demographic information of visitors, their visiting date, the natural condition of that day, and other information that can be used for research.

My research is composed of two main parts. One is to make an advance of the current Random Utility Model (RUM) and the other is to apply the idea of the restoration equivalent into the model. 'Travel Cost RUM' will be used as a main methodology to understand main components in valuing beach usages. We use the hypothetical scenario that 6 main beaches of Padre Island seashore are closed by oil spill or other human activities, to assess the day-user value of the Padre Island beaches. Reduced choice options from 65 to 59 (=65-6) beaches can cause a decrease of expected utility. The economic value that is related to the change of expected utility will be estimated through the nested-logit and the mixed logit.

Converting the change in utility into the monetary terms is the general way to appraise the recreational value of the nature. However, evaluating the environmental resources is not necessarily done only in terms of money. Restoration equivalent or non-monetary values will be applied into the model to assess Padre Island beaches. The appropriate criteria to compensate the users who have different levels of losing utility, by providing various services will be also considered in this study as well.

This research will assist the efficient management by providing objective economic values of beaches and by suggesting restoration equivalents for various management options. And also, this research will intrigue the necessity of finding the appropriate or new criteria to provide restoration equivalent to various user groups.