

## The role of income and ethnicity on Rhode Island residents' preferences for water quality on beach use

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In Rhode Island, racial minorities have a higher proportion of people living under the poverty line than the White population; racial minorities also face inequalities in using the shoreline. For instance, minority groups travel further distances and pay more dollars per trip to access public coastal sites and the nearest clean beach. Therefore, it limits the access of racial minorities and low-income groups to good water-quality beaches, especially in urban areas, where high poverty rates coincide with historical water quality issues. So far, the literature has focused on the relationship between air pollution and environmental justice, and drinking water issues. However, little research has been done on the effect of water quality on equity in the recreational use of water surfaces. Hence, this research aims to examine how water quality affects an individual's recreational site choice according to their income and ethnicity. This study covers a total of 636 Points of Interest (POI) and 813 Census Block Groups (CBG) to model how a Rhode Island resident chooses a POI to visit within the study area. I use cell phone data, a monthly aggregated and anonymized dataset, to measure the volume of visitation in the Summer of 2018 and 2019. I couple cell phone data with satellite water clarity to portray the effect of current beach conditions on an individual's site choice decisions. Preliminary analyses show that the cell phone data has enough racial and income variability based on how each CBG represents different race and income composition levels. Future steps involve examining the heterogeneous effect of water quality for each racial and income group.