

Impact of the 2011 Japan earthquake and tsunami on the marine leisure use and indirect effect on the coastal ecosystem: a case study in inner Tokyo Bay.

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From a historical viewpoint, there has been a close interrelationship between human activity and the natural environment in coastal areas. Most large cities were built in coastal areas and benefitted from the natural resources there, including living aquatic species, and water-oriented transportation. Although there was no special attention paid to such a human-nature relationship during the era of high economic growth, it has recently been reevaluated and better understood. These relationships were also emphasized in the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), which was established to mainstream biodiversity conservation and build a sustainable society after the decision of the 10th Conference of Parties of the Convention on Biological Diversity (CBD-COP 10) in 2010 and the 2007 meeting of the G8+5 Environment Ministers in Potsdam, Germany.

However, damage from the 2011 earthquake and tsunami in Japan might have damaged those relationships. In order to investigate the effects of the earthquake and tsunami on the use of tidal flats, we used questionnaires to evaluate changes in the number of users for each type of usage of the Sanbanze tidal flat at the innermost part of Tokyo Bay.

As a result, we found that clamming and walking or jogging were the most common uses of the survey area. However, clamming activity decreased after the earthquake. The decrease was confirmed by a field survey, which also showed a greater decrease in the number of visitors (80% decrease) than that suggested by the questionnaires (64%). Many people were anxious about the seawall failure and about land liquefaction, which physically damaged infrastructure. Because other regions showed similar trends in attitudes and usage, we suspect the ultimate cause of the anxiety caused by physical damage which spread universally. Correspond to the change of the human use larger sized Japanese littleneck clam are increased. However the number was decreased subsequently.

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