

Matches and mismatches between the supply of and demand for cultural ecosystem services in rapidly urbanizing watersheds: A case study in the Guanting Reservoir basin, China

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Evaluating the spatial relationship between the supply of and demand for cultural ecosystem services (CESs) in rapidly urbanizing watersheds is critical for landscape planning and the improvement of human well-being. However, few approaches can investigate relationships of multiple CESs in a spatially explicit way and involve different groups of stakeholders. In our study, we developed an integrated approach that combined a survey-driven model (SoLVES) and a text analysis of the social media reviews, using the Guanting Reservoir basin as an example. Three CESs, including aesthetic service, historical and cultural service, and recreational and therapeutic service, were examined. The results showed that 80% of the total area of the basin exhibited a spatial mismatch between CES supply and demand. Among the three CESs, historical and cultural service had the largest mismatched area, which was dominated by a low supply and high demand. For the venue of the 2022 Winter Olympics, Chongli District, all three CESs exhibited spatial mismatches, while the main type of mismatch was low supply and high demand. Urbanization can either promote a match or worsen a mismatch. Therefore, place-based solutions, such as environmental monitoring and promoting tourism, are encouraged to mitigate the mismatch of CES supply and demand in rapidly urbanizing watersheds. © 2020 Elsevier B.V.

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