On-site and laboratory soundscape evaluations of three recreational urban spaces - DTU Orbit (12/04/2019)

**On-site and laboratory soundscape evaluations of three recreational urban spaces**

Soundscape quality was evaluated using four subjective psychological rating factors in three recreational urban spaces in which water and a variation of other natural and anthropogenic sound sources were present. The noise level was measured at each site during occupant peak flows and recordings for listening experiments were made simultaneously. Listeners answered questionnaires either on site or following playback of the recordings in the laboratory, with or without access to each site’s visual context. They rated their perception of loudness, acceptance, stressfulness, and comfort, along with their preference toward eight sound sources. The comfort ratings were negatively correlated with loudness and stressfulness and positively correlated with acceptance. The sound level was found to be a good predictor of these subjective parameters in the laboratory, but not on site. Moreover, the availability of the visual context in the listening experiment had no effect on the ratings. The presence of trees and water was also found to increase on-site comfort. Generally, the participants were more positive towards natural sound sources on-site. Overall, the results suggest that on-site context plays an important role for evaluating acoustic comfort in urban recreational areas.

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