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The effects of noise emanating from an adjoining architectural space on beluga whale audition in an aquarium exhibit

Katie Starke^a and Peter Scheifele^b

^aUniversity of Connecticut, 70 Pinney Hill Rd., #95, Willington, CT 06179, USA

^bUniversity of Cincinnati, French-East 345A, Cincinnati, OH 45221, USA

Aquaria must have regulations regarding the intensity levels of anthropogenic noise that make their way into their captive belugas' tank, thus affecting the animals' ability to hear and vocalize naturally. My research focuses on the sound transmission across the acrylic and cement boundary that separates the beluga tank from the ballroom in the Georgia Aquarium. This ballroom hosts many social events which are often accompanied by high levels of noise that cross the barrier into the animal enclosure. I focus on the intensity range of 90-100dBA and experiment with a variety of frequencies, specifically those that are included in the range of beluga hearing. Though the data will be specific to the Georgia Aquarium, the results will apply to all aquaria that keep beluga whales, as high intensity sound will always travel through the exhibit boundaries and affect the animals living on the other side.