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## **Analyzing the Role of Vessel-Based Tourism on Masking on Antarctic Humpback Whales: A Petition for Management Solutions for Underwater Noise and Regulation of Antarctic Tourism**

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Antarctica has been an iconic representation of the last true wilderness, terrestrial and marine. However, the enticing nature of this pristine wilderness may unfortunately become a culprit for its demise. Increasing interest in Antarctic tourism has intensified vessel activity in and around the Western Antarctic Peninsula, a critically vulnerable habitat for many polar species. Antarctica was designated as a “natural reserve to promote peace and science” by the Antarctic Treaty establishing a legal framework for environmental protection. This legal framework implemented regulations and management to protect this vulnerable ecosystem, which are being inadequately incorporated and enforced by the tourism industry. Due to this influx of vessel-based tourism, underwater noise must be incorporated into the threats mitigated and managed through an eco-system-based management approach. Anthropogenic noise has become ubiquitous throughout the world’s oceans, elevating the acoustic energy and creating noise characteristically different than natural sound sources. Strategies to combat issues with ocean noise call for the characterization of acoustic habitats to quantify changes in the quality of the habitats and properly assess their impacts. Marine animals have capitalized on the physics of the ocean as they have evolved the use of sound as a primary sensory modality. Marine animals use sound to forage, find mates, communicate, navigate, and avoid predators. Vessels emit sound frequencies that overlap with frequency bands used by animals, leading to potential masking of vital acoustic cues and loss of communication space. Disrupting these behaviors with anthropogenic noise has been shown to cause significant impacts.

### **Biography:**

Prof.dr. Claire Atkins-Davis is a Experienced Researcher skilled in Habitat Mapping and Monitoring, Remote Sensing, Marine Mammal Behavioral Ecology, Ocean Acoustics, Project Planning and Restoration, Data Analysis, Data Wrangling and Visualization, Geographical Information Systems and Unmanned Aerial System Operations.