

**The UK and the Antarctic Environment:
Additional written from oral witnesses (Biodiversity), Drs Jasmine R
Lee, Kevin A. Hughes and Tom Hart**

- 1. Greater efforts should be made to quantify the impacts of all human activities in Antarctica, thereby ensuring an understanding of cumulative impacts is available for decision-makers.**

The scientific community has identified the main drivers of Antarctic ecosystem change (climate change and human activities associated with science, tourism and fishing, i.e., non-native species introductions, wildlife disturbance, habitat destruction, pollution). However, we have little understanding of how these drivers interact or if their impacts accumulate over time. For example, climate warming can facilitate the likelihood of non-native species establishment and spread, resulting in a greater impact overall than either warming or non-native species introduction would generate alone. As another example, tourism activities are normally reported each year, but there is little assessment of whether or not tourist impacts at sites accumulate over multiple seasons (e.g., path formation, species introductions, disturbance, etc.). We need to understand cumulative impacts to adequately determine what conservation action is needed.

- 2. Greater monitoring of the impacts of tourism is needed to inform effective management of the industry through the Antarctic Treaty System.**

Tourism activities are growing rapidly in Antarctica, and it is unclear what impacts they are having and will have as numbers of visitors and ships grow. Treaty Parties need information to inform their proactive management of tourism before the impacts become too great. Essential decisions may include whether, or not, a cap on total visitor numbers is needed, or if more restrictive site management is required (e.g., permanently closing sensitive sites to tourism).

- 3. Greater efforts should be made to communicate to world governments the regional and global consequences of climate change in Antarctica.**

Climate change is the greatest threat to Antarctic biodiversity. Current conservation actions are insufficient to secure Antarctica's biodiversity into the future (in its current state) if global action to reduce carbon emissions is not taken.

- 4. Biosecurity across UK operations in Antarctica should be prioritized.**

It would be useful if provision of biosecurity facilities across the BAS supply chain, including at Antarctic gateway ports such as Punta Arenas and in the Falkland Islands and on UK research stations, could be prioritised to ensure compliance with the relevant parts of the Antarctic Act.

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