



COMMUNICATING SCIENCE SERIES

CONSERVATION WITH SHIFTING GOALPOSTS: POLAR CONSERVATION AND CLIMATE CHANGE

Tuesday, 13 April 2010

The Meeting Rooms, The Zoological Society of London, Regent's Park, London NW1 4RY

Chair: Dr Alex D. Rogers, Institute of Zoology, ZSL

Flying seabirds and the Southern Ocean ecosystem

Claire Tancell, University of Cambridge

The Wandering albatross is one of seven endangered seabird species breeding at the small oceanic island of South Georgia in the Southern Ocean.

In this talk I will consider the following questions: Is conservation of polar seabird breeding colonies enough? How important is the open ocean, thousands of miles from land? Do we need to conserve this deep-sea environment in order to protect polar seabirds?

New studies of the Wandering albatross can answer these questions and help to inform the difficult process of conserving the seas beyond national jurisdiction as they respond to regional and global climate change.

Antarctic seals – predicting responses to climate change

Dr Iain Staniland, British Antarctic Survey

Critical habitats for wildlife in Antarctica are changing, particularly in the Western Antarctic Peninsula and Scotia Sea where rapid warming is altering food webs. Climate change is increasing seasonal variability in the extent of sea-ice, which provides habitat for pack-ice seals, such as Crabeater seals and for their food, Antarctic krill. The potential loss of habitat and food will have serious implications for these seals.

Conditions around the Antarctic Peninsula have effects at a larger scale, affecting predator populations breeding on the Sub-Antarctic island of South Georgia. The bountiful krill in the waters around South Georgia are not self sustaining but are restocked by young krill advected in currents from the Antarctic Peninsula. In years when recruitment of these krill is poor, Antarctic fur seals breeding on South Georgia suffer high mortality and low pup production. The frequency of these 'anomalous' poor krill years is increasing, which is already affecting the fur seal population.

Seals are constrained in their foraging by their need for access to land or ice, especially whilst breeding, which makes them vulnerable to localised effects. I will discuss how monitoring these seal populations can increase our understanding of what is going on in the marine environment and by studying how they adapt and cope with current changes, we can try to predict their future responses.

Problems with penguins and climate change

Dr Tom Hart, Institute of Zoology, ZSL

The Antarctic Peninsula and Scotia Arc are subject to rapid climate change that has already impacted penguins: we are seeing the creation of new colonies, while many established colonies are declining. If we are to work out an effective conservation strategy for penguins around the Southern Ocean, we need to know how these patterns arise from migration and changes in survival in different areas. In particular, we need to know where to put protected areas such that they are useful for the next 100 years rather than the next 10 years.

We aim to inform policymakers about changes in penguin population structure and pathogens for the first time and the causes of these changes. ZSL has a three-pronged approach to investigating these problems; penguin tracking, penguin population genetics and colony counts with camera traps. This talk will describe how this three-pronged approach has filled some of the gaps in our knowledge about penguin ecology and how we can use the information gathered to find solutions to problems affecting penguin colonies.