

The threats to the environment of Antarctica

By Alan Hemmings

comes as something of an unpleasant surprise to find that we really have made quite a mess in many places.

Firstly, despite the fact that the Antarctic covers some 17 million square kilometres, a mere 2 percent of this is ice-free in the summer, forming biological "oases" around the edge of the continent. These vital ice-free areas, where the teeming wildlife and rather sparse vegetation of Antarctica is found, are, of course, also the places best suited for human activities, and herein lies a fundamental conflict.

Antarctic expeditions and their bases have invariably interfered with the local wildlife. The earliest expedition reports are full of accounts of molestation by man and dogs and although most individuals are now more sensitive to animals, the increased scale of our activities has certainly made things worse. The station I spent two and a half years at, Signy, was established in 1947 and very quickly caused the locally nesting giant petrels to desert, despite the best efforts of the few personnel. The mere presence of dogs and human activity across the bay from the breeding area was sufficient disturbance.

Over the past five years in particular, the increased number, size and complexity of modern stations has dramatically increased human impacts in Antarctica. On King George Island, off the Antarctic Peninsula, there are now year-round stations operated by different nations, giving that one small island probably the highest density of scientific stations anywhere in the world! Clearly, the scientific merits of such duplication are limited. Those stations exist primarily to stake a claim in Antarctic decision making, and King George Island has been picked because it is comparatively easy to get to. The history of



Paint flaking off a building at the Soviet base of Bellingshausen – bad news for sensitive lichens.
Photo: Alan Hemmings

recent human activity on King George Island exemplifies many of the environmental impacts seen elsewhere in Antarctica.

Following establishment of the US Palmer station at Anvers Island in the mid-sixties, the Soviets built Bellingshausen on the Fildes Peninsula of King George Island. The Chileans, who, like the British and Argentines, claim the area, felt obliged to build a station right alongside the Russian station. Both stations were built in a biologically rich area then being designated as a Specially Protected Area. Construction and base activities,

such as pollution of the area's lakes, caused that designation to be reduced and then lost. None of the Antarctic Treaty countries moved to uphold the theoretically binding Agreed Measures of 1964 which set up Specially Protected Areas. The Chileans built an airstrip and a second station behind the first, allowing Hercules flights from Punta Arenas and constructed a Hotel-cum-Conference Centre and housing for a small colony of Chilean families.

Chinese Ran Amok

In the 1984/85 summer, during the establishment of their Great Wall station, Chinese personnel ran amok, smashing birds' eggs, breaking skuas' wings, placing broken glass in nests and so on. This was carefully documented by a West German scientific group, whose own equipment was also interfered with. This occurred just before the Chinese applied to join the Antarctic Treaty, yet their application was accepted without murmur of protest at these actions, which constituted a clear breach of the theoretically binding Agreed Measures for the Conservation of Antarctic Fauna and Flora.

Similarly, the construction of an airstrip by France at its Dumont d'Urville station has proceeded without any serious protest from other Antarctic Treaty states. Indeed, a recent



Tit for tat diplomacy: Chilean and Soviet bases adjacent to each other on King George Island. The area they are built on was in the process of being designated a Specially Protected Area in the 1960s but desecration of the environment put paid to that. Photo: Alan Hemmings