

Protecting Heard Island's environment

Botanist, Dana Bergstrom, removes excess packaging.



ANNIE RUSHTON

A range of environmental mitigation strategies and actions were employed to protect Heard Island's environment during the 2003-04 expedition. In particular, a detailed environmental assessment was prepared prior to the expedition, pursuant to the Heard Island Wilderness Reserve Management Plan. The assessment identified a number of possible environmental impacts:

- the introduction of alien species to the island;
- disruption to wildlife populations;
- trampling of vegetation and disturbance to soil;
- pollution from chemicals and wastes;
- effect of human activity on cultural heritage; and
- temporary loss of wilderness and aesthetic values from the establishment of base camps.

Specific actions to mitigate these environmental impacts included:

- strict quarantine measures such as the purchase of new equipment, non supply of fresh fruit and vegetables, and rigorous cleaning and inspection regimes on all cargo;
- presence of restricted areas and controls on vehicle movements, field camp locations and wildlife approach distances;
- deployment of Unusual Animal Mortality Response Kits in the event of a disease outbreak;
- deployment of field fuel spill kits to prevent and clean up fuel spills;
- reduced packaging on all cargo to minimise waste prior to departure;
- removal of solid waste from current and previous expeditions, and proper disposal of liquid waste;
- preparation of an Environmental Code of Conduct
- a comprehensive environmental training programme for all participants; and
- an environmental reporting regime while on the island and upon return.

For more information contact the Operations environment advisor at opsenviro@aad.gov.au.

—SHAUN WALSH
Environment Advisor – Operations Branch, AAD

Weathering the furious fifties

Life in a tent on Heard Island can be challenging. But the most vulnerable to the weather in this zone of strong and persistent westerly winds – the 'furious 50s' – are those working the decks and laboratories on the *Aurora Australis*. We had budgeted for a loss of at least one-third of the ship days to poor weather, but, by being adaptable in the survey design, managed to collect usable data on most days. *Aurora Australis* voyage leader, Dick Williams, describes the difficulty of conducting marine science in the Southern Ocean:

' January 19-24, 2004. As always in the Heard Island region the weather is the dominant factor affecting plans. Trying to finesse the weather, taking calculated risks on what the wind and sea will do in the ensuing couple of days so that something productive can be done during bad or marginal conditions, is a constant feature of trying to do marine science in this area and getting the maximum value out of the always limited time available...'

As it happened, we had our most extensive period of bad weather for the whole voyage. Although the wind was not always in the extreme range (although we did experience periods of wind over 45 knots), the constant westerly or north westerly winds over 30 knots, since leaving the king penguin box, built up very large swells which precluded any work. This meant that after completing two of the 10 CTD (conductivity, temperature and depth) casts on the western oceanographic transect, we were dodging west and east during Friday and Saturday, trying to stay near the transect line and waiting for the weather to abate...'

By Saturday afternoon we knew we would not be able to complete either the western oceanographic transect or the juvenile icefish survey because the forecast was for continuing strong westerly winds. We headed for Heard Island to give us some respite from the heavy rolling that the ship was experiencing and to put us in a position to start the southern oceanographic transect as soon as the weather allowed.'

The ups and downs of the marine science group can be followed in the Heard Island online newsletter at <http://www.aad.gov.au/default.asp?casid=13133>.



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