

# Protecting Antarctica from intruders

The Tasmanian Quarantine Service and the Australian Antarctic Division (AAD) have recently joined forces to enhance the quarantine integrity of Australian Antarctic Territory, Macquarie Island, and the Territory of Heard and McDonald Islands. Quarantine measures previously applied have focussed on addressing the protection of the main island of Tasmania and mainland Australia from any exotics travelling north rather than protecting our southern interests from intruders.

Efforts by the AAD to reduce the risks posed by the accidental transfer of introduced species to the continent and islands as a direct result of our activities there have been recorded since the early 1980s. The memorandum of understanding (MOU) that has been developed by the AAD and the Tasmanian Quarantine Service is however the first rigorous and documented 'reverse quarantine' program conducted on an operational level. In particular the MOU establishes procedures for both parties to follow in jointly tackling quarantine issues that are an inevitable part of the movement of personnel and cargo.

One aspect of the MOU is the conduct of inspections of AAD-chartered ships prior to every voyage. These involve an examination of the accommodation, storerooms, food preparation and waste management areas, and cargo and machinery spaces for conditions that may constitute a quarantine risk. At the same time, specific checks for indicators of rat presence (droppings, nests, cargo damage and paw prints) are undertaken. Despite this high level of surveillance and the vessels having consistently received 'clean ship' status, *Aurora Australis* and *Polar Bird* are rat-baited as a further precaution.

The AAD's new cargo packing facility at Macquarie 4 Wharf is accredited as 'Quarantine Approved Premises – Class One Sea and Air Freight Depot', requiring it to comply with specified security, hygiene, isolation, and administration standards. Over and above inspections associated with maintaining this status, visual inspections of cargo, including of containers prior to packing with southbound cargo, are now regularly and randomly performed. A program of insect trapping in a 500 m grid pattern around the wharf loading area is expected to provide information to assist in the risk assessment process.

That there are many agencies involved in the packing and transport of goods

and equipment south presents additional challenges. Some items are requested to be treated before they leave suppliers' premises. Gas bottles, and the tracks and wheels of vehicles and movable equipment are among cargo steam-cleaned before dispatch. While the cargo facility is fogged on a monthly basis, the fumigation of cargo is not routinely performed – dunnage and the cargo supporting last season's Heard Island expedition being significant exceptions. The usefulness of treatment with methyl bromide must be balanced against the fumigant's known depletion of stratospheric ozone. There are too, significant practical issues attached to processing a station resupply of three or four thousand cubic metres of cargo. One of these is preventing the cargo's post-treatment contamination prior to loading.

In an effort to minimise the volume of likely high risk items potentially eluding inspection, expeditioners are restricted to carrying 30 kg of gear on board the ships as cabin luggage, the remainder of their personal effects and work equipment being consigned through Macquarie 4 Cargo Facility. Cabin luggage is subject to inspection by quarantine officers, and passive quarantine detection dogs that are trained to react to a wide range of organic scents have become a familiar site at voyage departures. The dogs also play an important educational role in heightening expeditioners' and the wider public's aware-



DANA BERGSTROM

*Quarantine Tasmania officer with AAD storeman inspects southbound cargo in Macquarie 4 Wharf Shed.*

ness of quarantine issues. The same 'sniffers' inspect all mail destined for the stations.

Supplies of fresh fruit and vegetables are required to meet Quarantine Tasmania standards prior to final packing. The sample rate is based on an internationally recognised 600 unit or 2 percent sample of each consignment with a focus on commodities likely to fall into the higher risk categories. The Standards address quality and contamination issues, requiring that fruit and vegetables are intact, clean, free from abnormal external moisture, free from foreign smell or taste, substantially free from disease, and free from insect infestation and foreign matter.

The procedures identified in the MOU are to be regularly reviewed as ongoing research contributes to our knowledge of quarantine issues in the Antarctic context.

*Sandra Potter, Logistics Section, AAD*

## Reducing packaging for cleaning and household goods

The AAD has made a concerted effort over the past two years to reduce the packaging on a range of cleaning and household goods supplied to stations.

Soaps and shampoos, previously supplied to stations in numerous one-litre packs, have been replaced by a range of bulk products called Dermasoft. Fixed dispensers at washbasins and in showers, replenished from bulk supplies, have brought real progress in reduction of product types (deletion of six lines) and the amount of

packaging. These products are being phased in as dispensers are installed.

A patented cleaning system, called Zep, uses a dispenser with four bulk products dispensed through a pre-set measuring mechanism. One product, Supermix, is for kitchen and living area applications, and Aquamix is for bathroom and shower applications. The products, in three-litre plastic bottles, effectively replace 14 associated cleaning products and their retail packaging.

*John Brooks, AAD*