

Antarctic quarantine management

Australia's framework and practice

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Overview

- Australia's motivation
- Heard Island and subantarctic warnings
- Increasing global concern
- What the Madrid Protocol and CEP say
- Anthropogenic introductions
- Response to natural introductions
- AAD "Statement of Principles"
- Pathways and gatekeepers
- Future action

Madrid Protocol

- Environmental principles
- Annex I: the "minor or transitory" concept.
- Annex II: restrictions, permits
- Review of Annex II (2004): strengthening precautions & responses to introductions
- Annex III: soil, wastes

Whose standards?

National perspectives: pests and diseases

...but...

IUCN: 'All introductions, even those that may not directly be harmful to natives, detract from Antarctica's scientific and intrinsic values' (1998)

Inevitable failure vs measures of success?

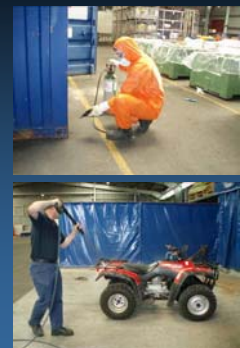
No quarantine service is able to prevent totally the introduction of exotic organisms

(Joint Committee of Public Accounts and Audit 2003)

- leads us to contingency plans

Quarantine Management System features

- Underpinned by certified ISO 14001 EMS
- Involvement of national quarantine authority
- Legislated powers for on-site managers
- Dedicated cargo facility
- Emphasis on training / education
- Reporting, auditing, review



Pathway: ships (top side)

- Rat inspection for every voyage
- Precautionary rat baiting (Heard Is)
- Full ship inspection for conditions of potential quarantine concern

Pathway: ships (wet side)

- Inspections for hull fouling
- Marine gear and equipment cleaning
- Anti-foulants (sub-Antarctic)
- Ballast water management



Photo: Pat Lewis

Pathway: Food

- National and domestic processes (Ausvetplan)
- Cold chain process
- Quarantine inspections
- Ban on high risk items
- Ozone generators
- Washed potatoes

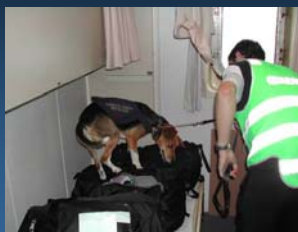
Pathway: general cargo

- Cleaning
- Fumigation of dunnage
- Fumigation of cargo (HIMI)
- Quarantine inspections
- Facility housekeeping & accreditation



Pathway: personnel & personal effects

- Quarantine dogs
- Code of conduct
- Declarations (HIMI)
- Pre-embarkation manual inspections (Heard Is.)
- Pre-landing cleaning



Pathway: waste handling

- Sewage treatment; sludge removal (Davis? Effluent sterilisation?)
- Incineration of organics; ash removal
- Housekeeping practices (e.g. securing food from wildlife)
- Restrictions on poultry products (no poultry products in the field)

Pathway: hydroponics

- Initial Environmental Evaluation (1994)
- Waste incinerated
- Annual clean-out/sterilisation of facility
- Wastewater filtering
- Training
- Sticky traps and pans (invertebrates ok... microbes??)
- Audits



Contracted inspections

- Ship (top side) inspections
- Ship (wet side) inspections
- Cargo clearance
- Fumigation
- Stakeholder confidence in service provider
- Maintaining industry links



Pre-departure interceptions

- invertebrate-infested produce delivered by supplier
- potatoes caked with soil
- shipping containers soiled by bird faeces
- leaf litter, vegetation in cage pallets
- wasp nest on machinery
- bones and feathers in container lifting lugs
- seeds in watercraft and toolboxes
- beetles in pre-fabricated accommodation units
- plant material in mail
- uninspected fruit in expeditioners' baggage ...



Flies at Casey

- Introduced c.1998
- Eradicated 2005
- Confined to buildings
- Impact on operations
- Cost = \$100,000s



[see poster display]

Administrative measures

- Legislation implementing Madrid Protocol
- Codes of behaviour and environmental code
- Clean equipment declarations
- Contractor statement of requirements
- Web-based incident reporting system
- Disease response kits
- Invertebrate collection kits
- Lake sampling protocol

Further risks within Antarctica:

- rapid dispersal by aircraft
- cross-contamination between
 - lakes
 - wildlife concentrations
 - ice-free areas
- response action limited by awareness and logistics

Next steps

- Analyse incident data
- Determine what is viable
- Close off pathways
- Increase vigilance
- Develop links with experts/orgs
- Sustain profile of the issue