



COMNAP Training Module 2:

Non-Native Species



Photo: L. Fröst



Photo: Comité Polar Español

Release notes (version 1: 22 April 2015)

- This presentation was prepared by the COMNAP Training Expert Group.
- This presentation was made on the basis of training material provided by the National Antarctic Programs of Argentina, Australia, China, India, New Zealand and Spain.
- The International Association of Antarctica Tour Operators (IAATO) also made contributions to the presentation.
- It is intended that this presentation will be kept open for development and input from all COMNAP members and should evolve to incorporate staff feedback in later versions.
- It can be used freely by anyone wishing to learn more about preventing the introduction of non-native species to Antarctica.
- For further information see www.comnap.aq and www.ats.aq.



Non-Native Species

**How can we define
non-native species?**

Non-native species are those species that do not naturally occur in an area and have been introduced either intentionally or unintentionally. A wide range of non-native species now occur in the Antarctic region. These introduced species include microbes, algae, fungi, vascular plants, invertebrates, fish, birds and mammals.



Photo: O. Volonterio

Photo: G. Jacobson

Photo: Australian Antarctic Division

Note: Non-native species are also sometimes referred to as “alien species”. Definitions vary, however the key points are that the species has been introduced to an ecosystem, introduction can be intentional or unintentional, into an area where the species is not native. The IUCN World Conservation Union defines alien species as a “species, subspecies, or lower taxon occurring outside of its natural range...” and defines an “invasive alien species” as “an alien species which becomes established in natural or semi-natural ecosystems or habitat, is an agent of change, and threatens native biodiversity” (IUCN 2000).

Principles for Preventing the Introduction of Non-Native Species

The Protocol on Environmental Protection to the Antarctic Treaty *:

- **Prohibits the introduction of non-native species, except those authorized by permit. This permission also records the obligation to remove or destroy the introduced species, if they pose risks to native flora and fauna.**
- **Provides an exception for food.**
- **Encourages precautions to be taken against introducing microorganisms, such as viruses, bacteria, fungi, yeasts and parasites.**

* Annex II "Conservation of Antarctic Fauna and Flora", Article 4 "Introduction of non-native species, parasites and diseases"

Environmental Protocol 1991, Annex II "Conservation of Antarctic Fauna and Flora", Article 4 "Introduction of non-native species, parasites and diseases", paragraph 1: No species of animal or plant not native to the Antarctic Treaty area shall be introduced onto land or ice shelves, or into water in the Antarctic Treaty area except in accordance with a permit.



Why provide training in preventing the introduction of non-native species in the Antarctic region?



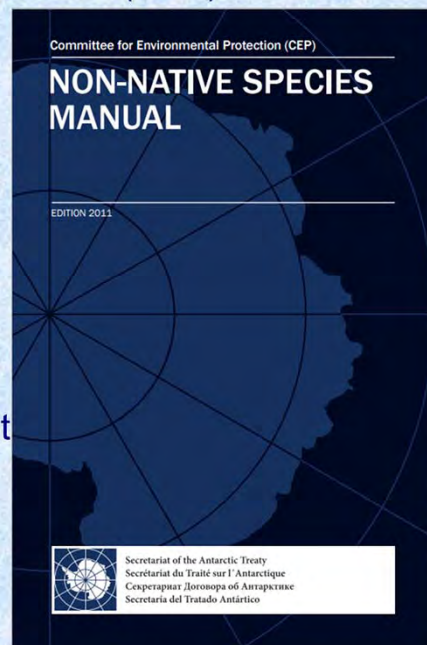
Main reasons

- To **conserve** Antarctic biodiversity and intrinsic values.
- To **minimise** the risk of accidental or unintentional introduction of non-native species.
- To **prevent** the movement of species within Antarctica from one biogeographic zone to any other.
- To **raise awareness** of people's responsibilities.
- To **comply** with the principles of the Environmental Protocol.

The Committee for Environmental Protection's (CEP)

Non-Native Species Manual was developed with the objective of conserving Antarctic biodiversity and intrinsic values by preventing the unintended introduction to the Antarctic region of species not native to that region, and the movement of species within Antarctica from one biogeographic zone to any other.

See ATCM XXXIV Resolution 6 (2011)



The CEP Non-native Species Manual presents guidelines to assist with meeting obligations under Annex II of the Environmental Protocol.



Who is this Module 2 on non-native species designed for?

This Module is designed for all people travelling to and working in Antarctica



Photo: O. Hourcade



Photo: Antártica New Zealand



Photo: Dirección Nacional del Antártico



Photo: O. Hourcade

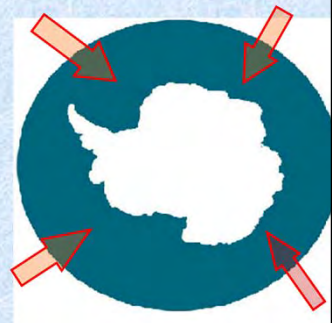
Non-Native Species

There are two main risks

Internal



External





Non-Native Species

INTERNAL

What to do?

“The movement of species within Antarctica from one biogeographic zone to any other”

Keep it clean! If moving between ice free areas, whether it is between wildlife colonies or different stations in Antarctica, you must ensure that your gear is clean.

Watch your step! Be careful when walking in areas that contain organic matter. Make sure to clean it off before leaving a site.

Non-Native Species

EXTERNAL

What types of non-native species have already arrived in the Antarctic region?

“Alien introductions are one of the highest environment risks for Antarctica”



Algae
Fruit flies
Grasses



Microorganisms



Midges
Seeds
Spiders
Worms



Some vectors are...

People

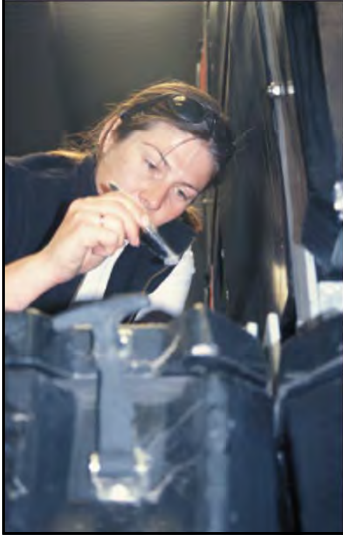


Photo: D. Bergstrom

Equipment



Photo: P. Selkirk



Photo: Comité Polar Español

Vehicles & Ships

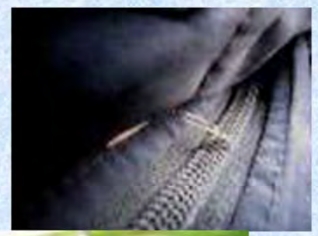


“Vectors” are the people or things that can move or transport a species from place to place. A vector can be natural also (wind, birds are two examples).



**What you can do before going to
Antarctica.**

How are seeds carried?



Photos: Dirección Nacional del Antártico



Photos: Antarctica New Zealand



-On clothing, shoes and equipment.

Some suggestions...

- ✓ **CLEAN** shoes soles with biocide products or disinfectant.
- ✓ **WASH** all your clothing before going.
- ✓ **VACUUM** inside your pockets, bags, backpacks, seams, Velcro fasteners, shoes, wool clothing, cuffs.
- ✓ **REMOVE** dust or dirt from equipment, tripods, walking sticks, ice axes, etc.
- ✓ **STERILIZE** scientific equipment.



How are seeds carried?



-On ships, aircraft and in stores.



Suggestions to reduce risk of transfer in the COMNAP Checklists

Checklists

for supply chain managers of National Antarctic Programmes for the reduction in risk of transfer of non-native species

for ships traveling to Antarctica

Action	Importance
Repairs to place in monitoring line	★★★
Camp check (fuel at right or if burned, with food lights)	★★★
External doors and windows closed whenever possible	★★★
Leave traps or plates in food storage areas	★★★
Old food removed from food storage areas at the end of each voyage	★★★
Hold ramped closed	★★
Inside watercraft cleaned	★★
Hulls of watercraft cleaned before loading	★

for aircraft traveling to Antarctica

Action	Importance
Land in wheel or sock clean	★★★
Diets closed whenever possible	★★★
Lighting removed during flight time	★★★
Handcuffs available in case checks etc. are discovered in flight	★★★

for stores supplying cargo to Antarctic destinations

Action	Importance
Wash everything down the front entry	★★★
Choppy containers washed inside and out	★★★
Carose and palletised cargo disassembled	★★★
Woolen coats and plastic coat	★★★
International Plant Protection Commission standards	★★★
Ticks and wheels of all vehicles clean	★★★
Woolhouse coats cleaned where possible	★★★
Cargo stored inside where possible	★★★

for stores supplying food to Antarctic destinations

Action	Importance
Designated clean area for packing food	★★★
Packing area and other food packages used in place or above Cleanroom	★★★
Piling and stacking food bags in place	★★★
Produce in line of call	★★★
Quality checks on food to ensure no insect or fungal infestation before loading	★★★
Autoguard fresh produce	★★★
Food securing out of frozen produce	★★★

for expeditioners' gear sent to Antarctic destinations

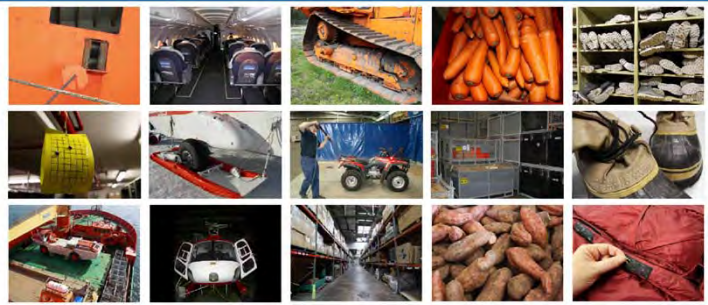
Action	Importance
Supply new clothing where possible	★★★
Supply clothing and footwear not previously used in place or above Cleanroom	★★★
Ensure clothing and footwear is washed to remove organic material	★★★
Visually check of bags, footwear and clothing (particularly socks and over trousers) and remove where needed	★★★
Pay particular attention to items with Velcro®	★★★

An information video outlining cleaning procedures can be found at http://www.comnap.gov.au/old_videos/cleaning_videos/20070101.wmv

Background

Non-native species are one of several major threats to biodiversity globally. They have already proliferated throughout the Antarctic continent, and are increasing their presence in the region. Indeed, the threat of non-native species introductions has been identified as a priority Antarctic conservation programme by the Committee for Environmental Protection (CEP) within the Antarctic Treaty System. The Scientific Committee on Antarctic Research (SCAR) and the Council of Managers for National Antarctic Programmes (COMNAP) are working with the CEP to reduce the risks posed by non-native introductions to the Antarctic region.

Clearly, comprehensive clean ship and clean aircraft is the introduction of non-native species to the most appropriate means of reducing the risk posed by them. The objective will be to eliminate the risk of species being introduced to the continent. This document provides actions that the many operators can take to reduce the risk of non-native species being introduced to the continent. The actions are grouped into three categories: pre-departure, on-ship/aircraft, and post-arrival. The importance of each action is ranked in terms of the number of non-native species that can be introduced to the continent, and the probability of introduction to reduce the risk of introduction of non-native species requires, these checklists will reduce.



These are available as a brochure and in poster size from: <https://www.comnap.gov.au/SitePages/checklists.aspx>



Pre-deployment training



Research



Photo: Australian Antarctic Division. Kit to collect specimens evading biosecurity systems.

Sampling potential non-native species helps quantify the nature of the issue and to take actions to prevent reoccurrences.

Awareness



Image: Antarctica New Zealand

Report anything unusual!

If you have any concerns about what you see whilst you are in Antarctica, however small the issue may seem, you should report it immediately before it becomes a bigger problem.



Take it new or take it clean

Ayúdenos a proteger la Antártida de las especies no nativas

Help Protect Antarctica's Pristine Environment from Non-native Species



Checklists

for supply chain managers of National Antarctic Programmes for the reduction in risk of transfer of non-native species




Don't Pack a Pest to Antarctica!

KEEP ANTARCTICA PEST FREE

