



COMNAP Training Module 2:

Non-Native Species



Photo: L. Frost



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 opened 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.



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).


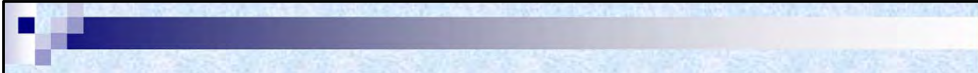
Principles for Preventing the Introduction of Non-Native Species

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?

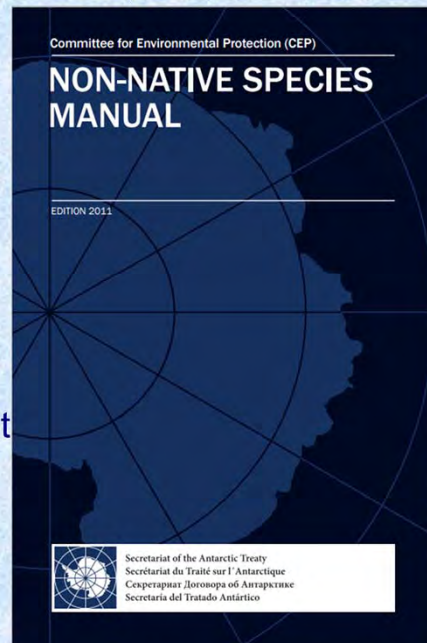
Main reasons

- 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.

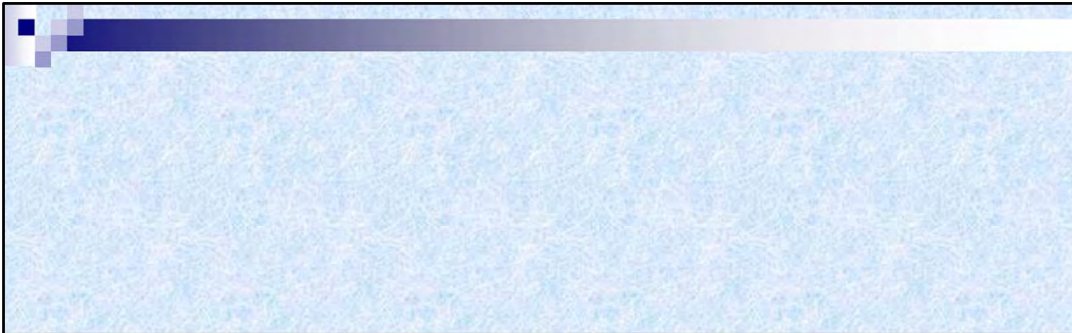
The Committee for Environmental Protection's (CEP)

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: Antarctica New Zealand



Photo: Dirección Nacional del Antártico



Photo: O. Hourcade

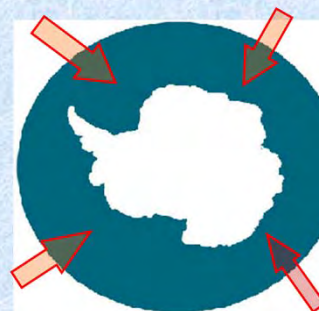
Non-Native Species

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”



Photo: L. Pertierra



Photo: Antarctica New Zealand



Photo: Antarctica New Zealand



Photo: Antarctica New Zealand

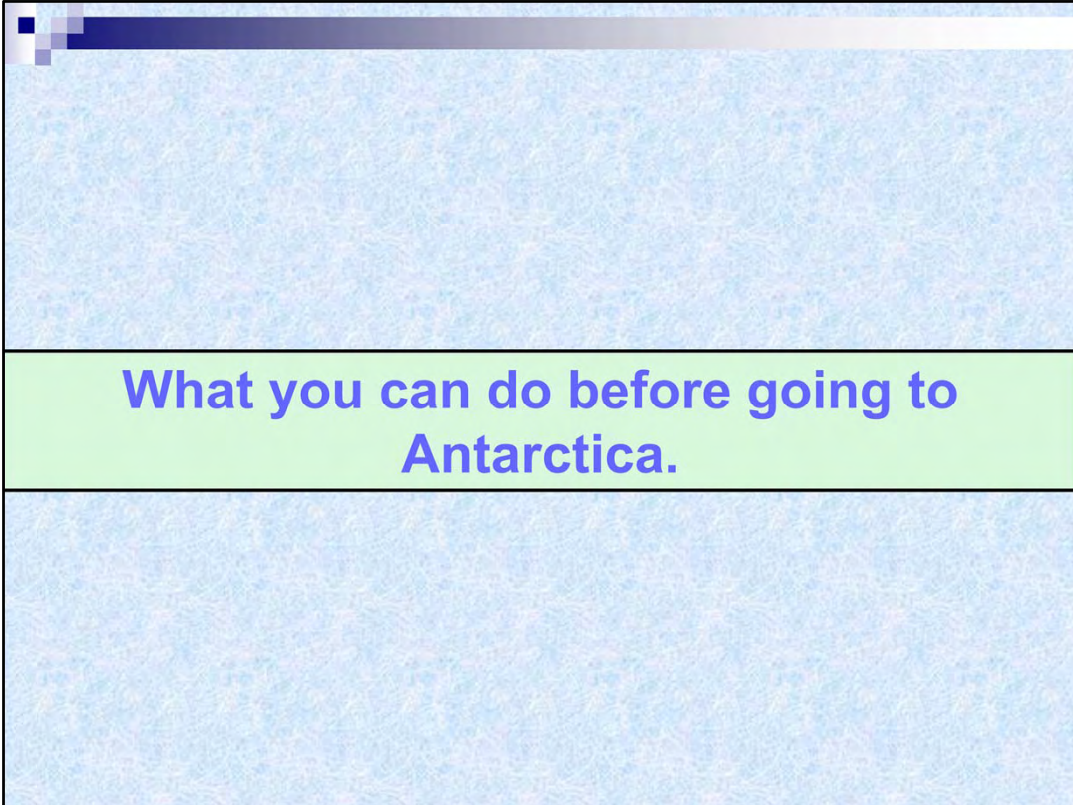
Algae
Fruit flies
Grasses
Microorganisms
Midges
Seeds
Spiders
Worms



Some vectors are...

<p>People</p>  <p style="font-size: small; transform: rotate(-90deg); position: absolute; left: -40px; bottom: 0;">Photo: D. Bergstrom</p>	<p>Equipment</p>  <p style="font-size: small; transform: rotate(-90deg); position: absolute; left: 50px; bottom: 0;">Photo: P. Selkirk</p>	 <p style="font-size: small; position: absolute; top: 285px; left: 655px;">Photo: Comité Polar Español</p>
<p>Vehicles & Ships</p>		

“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).



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.



Photo: Dirección Nacional del Antártico



Photo: L. Frost

How are seeds carried?



-On ships, aircraft and in stores.



☒

Action	Importance	✓
Put guards in place on moving lines	★★	
Get guards lifted at night or, if allowed, fit with flood lights	★★	
Extend doors and windows closed whenever possible	★★★	
Insert traps in place in food storage areas	★★	
Old food removed from food storage areas at the end of each voyage	★★	
Hold fumigation	★	
Inspect watercraft cleaned	★★	
Hulls of watercraft cleaned before loading	★	

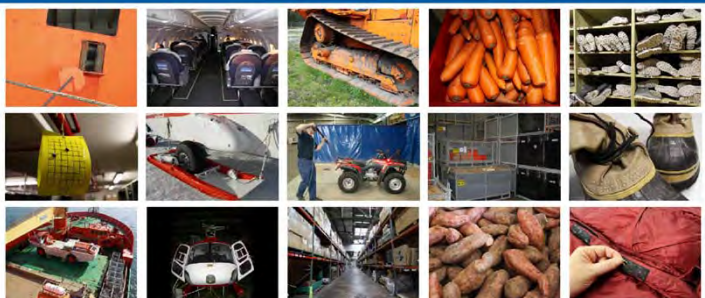
Action	Importance	✓
Inside aircraft clean	★★★★	
Landing wheels or skids clean	★★★★	
Doors closed whenever possible	★★★	
Lighting minimised during night time landing	★★★★	
First-aid kit available in case insects etc. are discovered in flight	★★★	

Action	Importance
Area surrounding store free from weedy plants	★★★★
Shipping containers washed inside and out	★★★
Loose and palletised cargo minimised	★★★★
Wooden crates and pallets meet International Plant Protection Commission standards	★★★★
Ticks and wheels of all vehicles clean	★★★★
Warehouse doors closed where possible	★★★
Cargo stored inside where possible	★★★

Action	Importance
Designated clean area for packing food	★★
Packing area is rodent-free, packaging is rodent-proof	★★★★
Flying and crawling insect traps in place	★★
Produce is free of soil	★★★★
Quality checks on hand to ensure no insect or fungal infestation before loading	★★★★
Refrigerates fresh produce	★★
Avoid sourcing out of season produce	★

Action	Importance	✓
Supply new clothing where possible	★★★	
Supply clothing and footwear not previously used in polar or alpine climates	★★	
Ensure all clothing and footwear is washed to remove organic material	★★	
Visually check all bags, footwear and clothing (particularly socks and over trousers) and remove entrained seeds	★★	
Pay particular attention to items with Velcro®	★	

An information video outlining cleaning procedures

[illegible]

19



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

Checklists

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



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

Don't Pack a Pest to Antarctica!

**KEEP ANTARCTICA
PEST FREE**

**KEEP ANTARCTICA
PEST FREE**

**NO
INTRODUZCA
ESPECIES NO
NATIVAS EN LA
ANTÁRTIDA**