

## Background

The COMNAP/SCAR workshop on Non-native species was held on Sunday 8 August, at the Panamericano Hotel, Buenos Aires, Argentina.

## Participants

27 participants (see Annex 2):

- 5 scientists involved in the SCAR-IPY program "Aliens in Antarctica" from 4 countries: Australia, France, The Netherlands, South Africa,
- 21 COMNAP Members from 13 countries: Argentina, Australia, Brazil, Chile, France, Germany, Korea, New Zealand, Russia, Sweden, The Netherlands, Uruguay, USA.
- 1 representative of IAATO.

## Objectives

### 1) to gather scientists involved in the IPY SCAR project "Aliens in Antarctica" and COMNAP members

"Aliens in Antarctica" project is an IPY-SCAR project conducted during the 2007-2008 period and led by Ad Huiskes (The Netherlands) and Dana Bergstrom (Australia).

The study of non-indigenous organisms in the Antarctic has focused mainly on the ecological effects of species which colonized these regions successfully. Apart from a few pilot experiments, this project was the first study to obtain a comprehensive insight in the extent of propagules (e.g. spores, seeds, eggs..) which are unintentionally imported by persons entering the region (for scientific reasons or as a tourist) by their clothes, shoes, or hand luggage, or by cargo and fresh food.

### 2) to analyse the outputs of the Non-Native Species ICG presented at CEP XIII at Punta del Este

At CEP XII (Baltimore), the Committee endorsed the establishment of an open-ended intersessional contact group in order to 1) develop a suggested overall objective and key guiding principles for Parties' actions to address non-native species concerns, 2) Develop a suggested set of generally applicable measures to prevent the introduction of non-native species, including the transfer of species between sites in Antarctica, and 3) Identify particular aspects of Antarctic operations for which further work might be required in order to develop specific guidance.

During the workshop, the preliminary report including the outputs was presented and discussed.

### 3) to present examples of measures put in place by the National Antarctic Programs to prevent or minimize the risk of introduction of non-native species in Antarctica or subantarctic islands.

Some participants presented examples of measures minimizing the risk of introduction of non-native species, covering different aspects of the prevention (awareness, operational procedures...).

The morning session, dedicated to objective 1, was chaired by Prof. S.L. Chown and the afternoon session, covering the two other objectives, was chaired by Y. Frenot (See annex 1 the agenda of the workshop and the list of presentation).

## Main outputs

### 1) “Alien in Antarctica” program

Whereas 30 % of the **visitors** in Antarctica carry seeds, belonging to more than 250 species, the “Alien in Antarctica” projects identified the most common vector is the field scientists and tourist support personnel (> 50%). The most contaminated gears are footwear, backpacks and camera cases. As a conclusion, it was recommended to discourage the reuse of items used before except if carefully cleaned.

Concerning the **cargo**, the Aliens projects demonstrated that:

- Propagule loads are patchy across cargo
- Propagules which become entrained in cargo are often locally sourced, usually close to the warehouses where cargo is temporarily stored
- Common invaders are commonly transported
- Most drop off happens in areas of intense cargo handling
- Soil, fungi and invertebrates are transported with fresh produce

In the context of this study, the following mitigations measures were successfully applied:

- Eradication of local propagule sources (manual removal, herbicide, clean cargo storage area, stringent cargo biosecurity checks, dedicated environmental/biosecurity officer)
- Use of easy clean cargo containers (simple design, pressure wash containers)
- Focus monitoring in areas of intense cargo handling (monthly/annual surveys)

The supply chain management was also improved by:

- Reduction /elimination of unwashed produce
- Refrigeration/cold storage for soft fleshed produce
- Careful sourcing of leafy produce
- Invertebrate trapping in food storage and preparation areas

Similar introduction and establishment of alien species also occur in the **Arctic** and similar patterns of introduction are observed in Svalbard (pathways are identical) and the invasive species are the same. The lesson learnt from the Arctic experience indicated that educating visitors and conducting inspections to their gear proved to be very useful practices to minimize the alien species load.

Finally, a **list of potential measures** to reduce the risk of introduction of alien species in Antarctica was presented, dealing with visitors, cargo and means of transportation.

A discussion was engaged on the usefulness, and likely content and format of a **manual on good practices and procedures**.

- Such procedures should be easy to implement and be adjusted to the constraints of each national program. It was noticed that the work on bioregionalisation, especially the Environmental Domain Analysis, would be useful to determine the best procedures for certain regions.
- It was also suggested to adopt a very simple format, like the site guidelines format.
- Different fields of expertise are needed to cover the different aspects of the NNS issue, i.e. awareness programs, operational procedures, monitoring and responses programs.
- The use of the web to publicize such information was recommended and it was also suggested to explore the use of other web-based platforms like social networks to optimize the dissemination of the information and to mobilize different experts who would be able to respond rapidly to any request from the “users”.

## **2) NNS Intersessional Contact Group**

It appears that most of the conclusions of the first year of the NNS ICG are close to the recommendations issued from the results of the "Aliens in Antarctica" project. It was noted that awareness programs should be essential and that several procedures would be simple and not expensive. The difficulty will be to include these new procedures in the management chains already in place for a long time. The role of COMNAP in the promotion of such changes should be extremely useful, as well as the involvement of SCAR, providing scientific advices.

The importance of the active participation of COMNAP in the discussions held during the second year of the NNS ICG has been underlined.

## **3) Example of measures in place**

Iain Miller made a presentation on the new strategic risk based approach developed by New-Zealand. It was emphasized that the NNS issue must be approached from different angles (awareness, risk assessment, procedure for field works, for handling cargo, incident response etc...) and ensure that we are working on high priority areas with the greatest potential to minimise consequences for the Antarctic environment, science values, intrinsic values, human health, and uninterrupted operations.

Sandra Potter presented on behalf of Australia, China, India, Romania and Russia the current management of the NNS issue in the Larsemann Hills ASMA.

Sandra Potter presented also the Australian Antarctic Program quarantine management practices which provide a good example of efficient measures to reduce the number of propagules transported to Antarctica.

Finally, Kim Crosbie presented a poster on IAATO guidelines on boots, clothing and equipment decontamination for small boats operations. A leaflet also produced by IAATO on the non-native species in Antarctica was distributed.

## **Conclusion**

This 1 day workshop was very successful and all participants appreciated the presentations and the discussions. It was a great opportunity for SCAR scientists and COMNAP members to share their knowledge, recommendations, sometimes their concerns, and to establish a true dialogue between the two communities. It was concluded that it would be useful that SCAR and COMNAP continue to contribute to this discussion through the current NNS ICG in order to actively participate in the elaboration of a manual on non-native species, as requested by the CEP

# Annex 1: Agenda

**9h00 – 9h10 Opening of the workshop** (Yves Frenot)

## **Morning**

### **Aliens in Antarctica: Findings and Meanings**

Convenor: Professor Steven L. Chown (University of Stellenbosch, South Africa)

- 9h15-9h30 Dr Yves Frenot (French Polar Institute)  
*Aliens in Antarctica: background*
- 9h30-9h45 Dr Dana Bergstrom (Australian Antarctic Division)  
*Aliens in Antarctica: genesis and implementation of the project*
- 9h45 -10h15 Dr Ad Huiskes (Netherlands Institute of Ecology)  
*Findings of the Aliens in Antarctica Project: the sampling of visitors clothing and equipment and possible prevention measures – discussion included*
- 10h15-10h45 Dr Jen Lee (University of Stellenbosch)  
*Findings of the Aliens in Antarctic Project: Cargo, food and new buildings – discussion included*
- 10h45 -11h00 *Break*
- 11h00-11h30 Dr Dana M. Bergstrom (Australian Antarctic Division)  
*Findings of the Aliens in Antarctic Project: Are our findings unique? - comparable data from the Arctic – discussion included*
- 11h30-12h00 Prof Steven L. Chown (University of Stellenbosch, South Africa)  
*What does this mean for COMNAP? – discussion included*
- 12h00 -12h45 Time for more general discussion if needed  
*Aliens in Antarctica instructional video - Take it new or take it clean!*

## **Afternoon**

### **CEP Intersessional Contact Group on Non-Native Species: First outputs and involvement of COMNAP**

Convenor: Yves Frenot (France)

- 14h00-14h20 Report on the first year of the ICG (Yves Frenot)
- 14h20-15h00 Discussion on the outputs of the ICG and on the COMNAP involvement in the 2<sup>nd</sup> year of the ICG
- 15h00-16h00 Examples of management of the NNS issues (10-15 minutes presentations)  
Iain Miller (New-Zealand) - *Analysing and Managing Non-native Species Risks in Antarctica*  
Sandra Potter (Australia) - *Protecting Antarctica from non-native species: an East Antarctic case study*  
Sandra Potter (Australia) - *Australian Antarctic Program quarantine management practices*  
Kim Crosbie (IAATO) - *Boot and clothing decontamination (poster)*

**16h00- Conclusions and closing**

## Annex 2: Participants

Name	Country
<b>SCAR: 5</b>	
Dana Bergstrom	Australia
Marc Lebouvier	France
Jennifer Lee	South Africa
Steven Chown	South Africa
Ad Huiskes	The Netherlands
<b>COMNAP: 21</b>	
Luciana Motta	Argentina
Rodolfo Sanchez	Argentina
Sandra Potter	Australia
Cordélia Machado	Brazil
Marco Amaral	Brazil
Jose Retamales	Chile
Veronica Vallejos	Chile
Claire Le Calvez	France
Yves Frenot	France
Fritz Hertel	Germany
Heinz Miller	Germany
Hong Kum Lee	Korea
Dongmin Jin	Korea
Lou Sanson	New Zealand
Iain Miller	New Zealand
Slava Martyanov	Russia
Victor Pomelov	Russia
Ann-Sofie Rickby	Sweden
Dick van der Kroef	The Netherlands
Juan Abdala	Uruguay
Adrian Dahood	USA
<b>IAATO: 1</b>	
Kim Crosbie	