

IUFRO Unit 7.03.12
Alien Invasive Species and International Trade

Inaugural Meeting, Jedlnia, Poland

3-7 July, 2006

Report of the meeting and main conclusions from discussions

Organisation and location

The meeting, which was excellently organised by Tomasz Oszako, Leszek Orlikowski and Monika Małecka with close support from their colleagues, was held in the Ecological Education and European Integration Centre of State Forests, Jedlnia, Poland.

A major advantage of the venue was the capacity to accommodate all the delegates in one hotel for the scientific sessions, meals and excursions. This provided ample opportunity for extensive discussion and networking among the delegates, aided by the hospitality of our hosts and the excellent weather.

Attendance and programme

The meeting was attended by over 60 delegates from 18 countries representing both the northern and southern hemispheres. One of the purposes of this new IUFRO Unit is to encourage cross-disciplinary exchange in relation to all types of Alien Invasive Species (AIS) and, to this end, the programme included consideration of a wide range of biotic agents, principally invertebrates and tree pathogens, that could be classified as AIS. Oral papers were organised into four main sessions, with parallel poster presentations that were available to view and discuss throughout the meeting:

- Session I: Alien invasive species in Europe
- Session II: World ecological impact
- Session III: Detection and policy
- Session IV: Prevention measures and treatments

The opening session included an introductory talk by Hugh Evans (Coordinator of the Unit) on the work and proposed direction for 7.03.12. This was followed by welcoming remarks from Mr Jacek Stotzki who described the structure and ownership of Polish forests and gave some examples of pest management. This welcome was reiterated by Mr Piotr Kacprzak, representing the Regional Directorate of State Forests in Radom, who concentrated on forest protection strategies in the region.

In addition to the scientific sessions, a guided walk, which was actually either a bicycle ride or a ride in a pony and carriage, through the Forest Promotional Complex adjacent to the meeting centre was included. This proved to be both interesting in relation to forestry and pest/pathogen problems and an excellent form of exercise. A whole day excursion on 5 July included interesting visits to ornamental nurseries and to the Institute of Soil Science and Plant Cultivation in Puławy. This gave delegates a good insight into plant production methods and their potential to act as pathways for AIS. We also saw a number of

instances of tree damage from various *Phytophthora* species and damage to horsechestnuts from horsechestnut leafminer. The organisers also arranged a spectacular lunch in the forest, complete with chefs in full regalia, whole roast wild boar and many other culinary delights.

The main scientific issues presented and discussed

There was a broad range of topics ranging from the damage caused by *Phytophthora* species, through analysis of pathways for international movement of pests and pathogens, to the implications of scientific findings for policy and regulatory frameworks. The intention is to publish the extended abstracts from the presentations in both electronic and paper forms (see below).

As a basis for discussion, there was a good mix of scientific and regulatory papers, reflecting the range of expertise of the delegates. This provided a forum for exploration of issues arising from research and from experiences in managing the regulation of pathways to reduce or prevent international movement of AIS. There were two main topics that were of universal interest to the delegates and much valuable debate took place in relation to them. Both were concerned with pathways for international movement of AIS:

1. Wood packaging material and implementation of ISPM15¹

This is very much a current topic and several papers were presented on the issue. The main concerns were whether residual bark on ISPM15 treated wood posed a threat through infestation after treatment and, secondly, how reliable the ISPM15 mark was in indicating that treatment had actually been carried out. There is an increasing body of research that provides evidence for successful breeding by bark and wood boring beetles on wood with bark that has been subjected to ISPM15 treatments, whether by heat treatment or methyl bromide fumigation. Papers by Robert Haack (USA) and by Hugh Evans (UK) confirmed this finding and, in addition, both authors considered the significance of the amount of residual bark in quantifying the risks. The conclusions from their experimental studies and from survey work of packaging wood in trade carried out by Robert Haack in the USA was that bark pieces approximately greater than a credit card in size (i.e. approximately 45 cm²) had associated live insects that could enable bark beetle species to complete their life cycles. Hugh Evans extended this to ask the question of how many beetles emerging actually constituted a successful founder population; as yet, this remains difficult to predict. Discussion on different types of packaging wood, particularly the distinction between manufactured packaging such as pallets (discussed by Charles Ray (USA)) and dunnage, concentrated on the amount of residual bark that could be present. It was clear that packaging wood such as pallets are produced to industry standards that, irrespective of phytosanitary regulations, require a high degree of freedom from bark. This brought some discussion on how to define freedom from bark (i.e. debarked vs bark-free) and the need for more rigorous definitions of bark freedom. Overall, it was felt that dunnage, usually produced from salvage wood, represented the highest risk because it tended to have more associated bark and was also more difficult to treat to ISPM15 standards.

The question of how reliable the ISPM15 mark is in providing assurance that the wood has actually been successfully treated was raised by several delegates. Shiroma Sathyapala (NZ) pointed out that there is a need for confidence in the system and that sharing of

¹ International Standard for Phytosanitary Measures No 15: Guidelines for regulating wood packaging material in international trade

interception data, particularly for instances of non-compliance, would be a step forward. Eric Allen (Canada) pointed out that NAPPO² shares lists of the top 10 countries with lowest compliance. After discussion on the problems of treatment, especially for larger dimension packaging wood, it was agreed that it would be valuable to categorise the pathways within the broader definition of packaging wood and to consider the risks from treatment failure and/or presence of residual bark for each pathway. Bill Aley (USA) and Jon Sweeney (Canada) suggested that further surveillance of wood packaging, including pallets and other categories, with the ISPM15 mark would yield the data necessary to categorise pathways and their associated risks.

Further discussion on the need for alternative treatment regimes within ISPM15, particularly for countries where current methods are difficult to implement, highlighted the cost and infrastructure issues in establishing compliance systems. Clement Chilima (Malawi) indicated that expertise in capacity building would be valuable and that public awareness of the issue is poor in developing countries. He also felt that aspects such as natural resistance to pests for certain tree species could be used to categorise them for ISPM15 compliance. Jacques Gagnon (Canada) felt that drawing together all available information on current options, particularly categorised according to different types of wood packaging would help to identify both risks and possible treatment options. Barbara Illman (USA) suggested that industry tends to solve problems according to the need and that training and demonstration of technologies would help to resolve technical issues.

2. Plants for planting as a pathway for movement of pests and pathogens

Plants for planting as a pathway for invasive organisms was a topic of concern for the majority of delegates and was consistently cited as high risk, particularly for invasive pathogens. It was acknowledged that phytosanitary rules are already in place in relation to named organisms and that full compliance with these rules should provide acceptable protection. However, it was also acknowledged that (a) inspection-based regimes are unlikely to pick up all infringements especially with large increases in trade, (b) that an organism-based process would tend to miss new and emerging pest and pathogen problems and (c) that application of treatment methods to remove invasive organisms was more difficult for this pathway.

In general discussion, several delegates favoured analysis of the 'plants for planting' pathway to identify 'keystone' damaging organisms that would enable construction of a database of biological characteristics of AIS that are most likely to exploit this pathway for transportation to new locations. It was felt that such a biologically-based list would be of more value than the current named organism approach and would enable analysis of species lists in exporting countries to assess likelihood of association with live plants for export. Delegates also discussed the establishment of a sub-group to analyse which nursery stock 'pests' (to include invertebrates and pathogens) have become problems in forestry systems. Kerry Britton (USA) agreed to consider setting this up. She also described the NAPPO Plants for Planting standard which is based on clean stock programs. IPPC is also moving towards this basis for the Plants for Planting pathway. As a related topic, delegates also favoured sharing information and experiences in early detection of pests and pathogens on pathways, including plants for planting. Simon Lawson (Australia), Jon Sweeney (Canada) and Rob Favrin (Canada) agreed to work on this topic as a basis for a session at the next meeting of the Unit.

² North American Plant Protection Organisation

Further discussion on live plants included consideration of risks of weediness in relation to the plants themselves becoming 'pests'. Nod Kay (NZ) pointed out that characteristics of weediness had been discussed in the scientific literature already and that we could learn from previous experiences. Other delegates felt that there was much to be learned from knowledge of adaptation of local pest and pathogen species to exotic trees and shrubs as a further element in the risk profile of plants for planting.

The papers at the meeting and the high level of consensus during discussion indicated that 'Plants for Planting' is a pathway that requires greater attention and will be a core item for the Unit as it develops and prepares for future meetings.

Interaction with other initiatives on AIS

The new Unit provides a focus for forest 'pests' and their movement internationally, but it was clear from papers by Alain Roques (France), Wojciech Solarz (Poland), Clement Chilima (Malawi) and Stas Burgiel (USA) that there are many initiatives, nationally and internationally, in this area. There is a clear need to maintain good communication and coordination between the various initiatives and, at least for the forestry sector, Unit 7.03.12 could provide a 'one-stop shop' for linkage. A new linkage under the title FORTHREATS, coordinated by Jan Stenlid (Sweden) is likely to be set up within the next year under European Union funding.

The main initiatives and their web links as shown in Annex 1.

Publication of proceedings of the meeting

After discussion of a range of possibilities for publication of the proceedings of the meeting, it was agreed that delegates could opt for one or more of the following options:

- a. Produce an extended abstract/short paper in both electronic (PDF to be placed on Unit website and circulated to all delegates on the mailing list) and paper form (locally organised and printed by Tomasz Oszako and distributed to all registered delegates). This is the favoured option and will be done irrespective of whether delegates also choose other options.
- b. Prepare a full paper for publication in the Journal of Plant Protection Research. Information about the journal was provided by Leszek Orlikowski (Poland) and can also be found on <http://www.ior.poznan.pl/Journal/>. Delegates were encouraged to support this journal, which has a fast turnaround and is internationally cited.
- c. Submit to a journal of personal choice. This is obviously an option open to all but delegates were encouraged to keep others informed if papers of relevance to the meeting were being submitted to peer-reviewed journals.

Date and location of next meeting

Bearing in mind the fixed dates of many large international congresses, it was felt that the next meeting should avoid the main summer 'conference season' and should be held during the spring of 2008. The venue is the National Conservation Training Center, Shepherdstown, West Virginia (near Washington, DC) May 26-30, 2008 (<http://training.fws.gov/services.html>). Further information can be obtained from the local organiser Kerry Britton (kbritton01@fs.fed.us).

Report prepared by Hugh Evans, Coordinator for Unit 7.03.12

Annex 2: Links to initiatives on Alien Invasive Species

IUFRO Alien Invasive Species and International Trade

<http://www.iufro.org/science/divisions/division-7/70000/70300/70312/>
<http://www.forestresearch.gov.uk/iufroinvasives>

International Forestry Quarantine Research Group (IFQRG)

<http://www.forestry-quarantine.org/>

The Invasive Species Specialist Group (ISSG)

<http://www.issg.org/>

Global Invasive Species Programme (GISP)

<http://www.gisp.org/>

Global Invasive Species Information Network (GISIN)

<http://www.gisinetnetwork.org/>

Delivering Alien Invasive Inventories for Europe (DAISIE)

<http://www.daisie.ceh.ac.uk/>

Assessing LArge scale Risk for biodiversity with tested Methods (ALARM)

<http://www.alarmproject.net/alarm/>