



CONFERENCE/WORKSHOP ORGANISER'S REPORT

“Biological Invasions in Forests”

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Brief Description of what the conference/workshop was about

Biological invasions by non-native plants, insects, plant pathogens, mammals and other organisms are altering forest ecosystems and threatening the sustainable management of forests worldwide. The Workshop on Biological Invasions in Forests was designed to provide a synthesis of the current scientific knowledge on invasions in forests as well as to identify knowledge gaps. The workshop was held July 18-21 at the US Fish & Wildlife Service National Conservation Training Center in Shepherdstown, WV.

Participation – details of total number of participants, countries they came from, backgrounds (academia, industry, etc.)

The meeting was attended by 60 individuals representing Argentina, Canada, China, Hungary, India, Italy, Japan, Kenya, New Zealand, South Africa, Sweden, Switzerland, United Kingdom and the USA. Attendees at the workshop represented a wide variety of professions; these included university faculty, graduate students, postdoctoral research scientists, research scientists from governmental institutes, technical specialists from plant quarantine agencies, policy specialists from plant quarantine agencies, forest health specialists from forest management agencies, forest health specialists from regional governments and policy advocates from non-governmental agencies.

Major highlights from the presentations

Invited presentations addressed the following topics:

- “Ecology of forest pathogen invasions”
- “Ecology of forest insect invasions”
- “Major Invasive Alien Shrubs and Woody Plants of the World”
- “Ecology of herbaceous plant invasions in forests”
- “Ecology of forest mammal invasions”
- “Potential impacts of introduction of insect-associated organisms “
- “Novel Ophiostomatoid fungal associations affecting forests”
- “Environmental resistance to invasions”
- “Ecosystem impacts of biological invasions”
- “Forest health in exotic forest plantations”
- “Ecology and management of invasive trees used in plantation forestry”
- “Plant imports as a pathway for insect and disease invasions”
- “Wood imports, wood products and phytosanitary treatments”
- “Risk analysis of invasion pathways”
- “Bioeconomics of forest invasions and their management”
- “Phytosanitary policy targeting forest invasions”
- “Social dimensions of tree pest invasions”
- “Biological control of invasive species in forests”
- “Bamboo invasions in Asia”
- “Breeding tree resistance to insects and diseases



- “Silviculture for management and restoration of forests affected by biological invasions”
- “Managing forest invasions in developing countries”

Major outcomes/conclusions in terms of policy relevance

The workshop provided insight for the development of policy strategies for addressing the problem of invasive species in forests. First, the documentation of ecological and economic impacts of invasions provides the necessary justification and motivation for implementing new policies. Second, information about invasion pathways and their management (e.g. phytosanitary treatment of wood packing material, regulation of plant imports) provided policymakers with the necessary background for developing regulations aimed at limiting the entry of new and potentially damaging organisms. Additionally, information was offered on strategies such as biological control, silviculture and restoration that are aimed at managing invasive species after they are already broadly established in forests.

During discussion sessions, the IUFRO Task Force on Biological Invasions in Forests made plans for future dissemination of this type of information. Work is currently underway on a special issue in the journal “Biological Invasions” that will publish the invited overview papers presented at the workshop. The Task Force is also making plans for developing a more integrated policy-oriented publication covering the broad subject matter of invasions in forests and their management.

The workshop identified several emerging synthetic concepts:

- Cross-discipline innovation linking different scientific disciplines, linking scientists with stakeholders and bridging gaps between government agencies
- The need to address uncertainty, for identifying species likely to invade and predicting impacts
- Multi-species interactions are important and often neglected
- New approaches to understanding impacts of invasive species: effects on ecosystem services, effects on ecosystem resilience, effects on livelihoods
- Understanding time elements: lags between establishment and impacts, ephemeral impacts
- Importance of Social influences including understanding social demands and roles in pathways
- Importance of global partnerships for sharing knowledge
- Research on social influences in developing economies lacking
- Need to engage social scientists to address invasion problems

Relevance to CRP theme(s)

The proposed workshop was most relevant to the OECD CRP Research Theme “The Natural Resources Challenge”. Forests represent a crucial natural resource for societies in virtually every corner of the world. Both natural and planted forests provide a wide variety of benefits to societies varying from wood fiber to biological diversity to watershed stability to carbon sequestration. However, the current onslaught of biological invasions represents a new and challenging threat to the sustainability of these resources. Understanding and developing solutions to this problem requires an interdisciplinary approach that encompasses knowledge of the biological details of the problem but also an understanding of societal process that drive invasions and their impacts on sustainability.

Website for further details – please also indicate if the presentations are/will be available on the website

Presentations are not available on the web

Task Force website: <http://www.iufro.org/science/task-forces/biological-invasions>

July, 2016 Workshop website: <https://sites.google.com/site/iufroinvasions2016>