



## **REPORT**

# **Expert Working Group on the use of systems approaches in managing pest risks associated with the movement of wood (2015-004)**

**Vancouver, Canada**

**13–17 June 2022**

**IPPC Secretariat**

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## **1. Opening of the Meeting**

### **1.1 Welcome by the IPPC Secretariat**

- [1] The IPPC Secretariat (hereafter referred to as “the secretariat”) opened the meeting and welcomed all participants to the meeting of the Expert Working Group (EWG) on the use of systems approaches (SA) in managing pest risks associated with the movement of wood (2015-004). The attention of the EWG members was drawn to the main task for the EWG – elaboration of an annex to ISPM 39 (*International movement of wood*) – and thanks were given to Canada for hosting the meeting and for proposing the topic in the first place.
- [2] The Steward for the draft annex, Steve CÔTÉ (Canada), welcomed all participants and thanked them for offering to take part in the EWG. The participants then all introduced themselves.

### **1.2 Presentation of the Standard setting process and the role of participants**

- [3] The secretariat explained the process for finalizing the report of the meeting, and gave a presentation summarizing the Standard setting process<sup>1</sup>.
- [4] The secretariat also outlined the roles of the EWG participants, explaining that the experts contribute as global experts rather than as national or regional representatives.

## **2. Meeting arrangements**

### **2.1 Election of the chairperson**

- [5] The EWG elected Meghan Keely NOSEWORTHY (Canada) as chairperson.

### **2.2 Election of the rapporteur**

- [6] The EWG elected Christopher HOWARD (Australia) as rapporteur.

### **2.3 Adoption of the agenda**

- [7] The EWG adopted the agenda (Appendix 1).

## **3. Administrative Matters**

- [8] The secretariat introduced the documents list (Appendix 2) and the participants list (Appendix 3). The secretariat invited participants to notify the secretariat of any information that required updating in the participants list or was missing from it.

## **4. Review of Specification**

### **4.1 Considerations for the development of the draft annex on the use of SA in managing pest risks associated with the movement of wood to ISPM 39**

- [9] The steward introduced Specification 69<sup>2</sup>, and outlined some considerations for the development of the draft annex<sup>3</sup>. He noted that the SA, which integrates measures for pest risk management in a defined manner, can provide an alternative to single measures to meet the appropriate level of phytosanitary protection of an importing country. He also stressed that the SA can also be developed in situations where no single measure is available or practical.

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<sup>1</sup> 05\_EWG\_Wood\_2022\_Jun

<sup>2</sup> Specification 69: <https://www.ippc.int/en/publications/86853/>

<sup>3</sup> 10\_EWG\_Wood\_2022\_Jun

The steward suggested that the EWG focus on five main ideas/concepts before progressing to the detailed drafting of the text for the annex:

- (1) In relation to the concept of SA: How is the concept understood? Does everyone have the same understanding of a SA for wood? Providing examples will help with the analysis. What guidance can be provided to determine if measures are independent of each other?
- (2) In relation to the application of SA: What type of wood products are SAs used for? Are some type of wood products better suited for SAs?
- (3) What are some of the challenges associated with the development and implementation of SA for wood?
- (4) Is it expected that all the measures are implemented in the exporting country or can some of the measures be applied by the NPPO of the importing country based on a bilateral agreement.
- (5) Could elements of a SA be adapted for the domestic movement of regulated wood products from a regulated to a non-regulated area?

[10] Finally, to structure the content of the standard and taking into account the general elements of SA, the steward proposed to consider the following elements:

- Circumstances for use of a SA that is specific for wood.
- Elements to consider when developing a SA for managing pest risk associated with the movement of wood.
- Elements to consider when implementing a SA for the movement of wood.
- Elements to consider when evaluating a SA for the movement of wood.

[11] The chairperson thanked the steward for his presentation and noted the five concepts for later discussion.

## 5. Review of discussion papers

### 5.1 Discussion paper on the use of systems approaches in managing pest risks associated with the movement of wood (prepared by Australia)

[12] Mr HOWARD presented a paper on the use of SAs in managing pest risks associated with the movement of wood<sup>4</sup>. He noted that the need to expand ISPM 39 through the addition of an annex covering specific SAs is pertinent, as these commodities are often produced using several production and processing systems that can be recognized as providing independent measures that can collectively manage identified phytosanitary risks.

[13] Mr HOWARD provided examples of Australian use of SAs for the movement of wood via bilateral agreements, these being: the Australia-Canada agreement for the importation of wood produced through a SA administered in Canada (the Canadian Sawm Wood Certification Program); and the New Zealand-Australia agreement on the specific trade pathway using SAs to prevent the entry of contaminating burnt pine longicorn adults. He stressed the importance of the North American Plant Protection Organization (NAPPO) regional standard for phytosanitary measures (RSPM) 41 (*The use of systems approaches to manage pest risks associated with the movement of forest products*)<sup>5</sup> as it includes thought-out scenarios for types of pests associated with forest products and provides guidance for independent measures to reduce phytosanitary risk, including: surveillance and knowledge of pest biology that can play a role in SAs; the potential for contamination that needs to be addressed through general understanding of contaminating pests; and, where necessary, pest-specific recommendations to eliminate contamination. Mr Howard also covered that the principles of ISPM 45 (*Requirements for national plant protection*

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<sup>4</sup> 08\_EWG\_Wood\_2022\_Jun

<sup>5</sup> NAPPO RSPM 41 (*The use of systems approaches to manage pest risks associated with the movement of forest products*): [https://nappo.org/application/files/8715/8352/3001/RSPM\\_41-10-22-18-e.pdf](https://nappo.org/application/files/8715/8352/3001/RSPM_41-10-22-18-e.pdf)

organizations if authorizing entities to perform phytosanitary actions) and ISPM 47 (*Audit in the phytosanitary context*) should be recognized and referenced in the annex.

- [14] Finally, Mr HOWARD invited the EWG to discuss whether contamination risk could be addressed in the Annex. ISPM 39 does not cover contaminating pests, whereas ISPM 14 (*The use of integrated measures in a systems approach for pest risk management*) does reference that SAs generally include risk management measures designed to prevent contamination or reinfestation.

## **5.2 The use of systems approaches in managing pest risks associated with the movement of wood (prepared by China)**

- [15] Guang YANG (China) was not able to attend the meeting and present the paper due to the unexpectedly imposed restrictions in China due to the COVID-19 pandemic.

## **5.3 Discussion paper on the use of systems approaches in managing pest risks associated with the movement of wood (prepared by Canada)**

- [16] Ms NOSEWORTHY presented a paper on the use of SAs in managing pest risks associated with the movement of wood<sup>6</sup>. She invited the EWG to consider the forest product systems approach (FPSA) guidance developed by NAPPO in RSPM 41 that provides guidance on the use of integrated measures to mitigate pest risks associated with the movement of specific forest product commodities and outlines guidelines for the FPSA development and implementation. Ms NOSEWORTHY also presented a comparison between Specification 69, RSPM 41 specification, RSPM 41 and its appendix that brought to light areas where Specification 69 tasks and requirements have been developed in RSPM 41 and could be used in the development of the Annex. She also noted areas and ideas important to the FPSA approach which, not included in the Specification 69 could be considered.
- [17] Ms NOSEWORTHY noted that ISPM 14, ISPM 39 and RSPM 41 recommend examination of the production chain to identify opportunities to implement risk management options, including pre-harvest, harvest, post-harvest, production, during transport and post-shipping.
- [18] Finally, Ms NOSEWORTHY noted that recognition of the production practices currently in place to produce quality products and encouraging strategies to document these practices with quantification or qualification and verification naturally promotes SAs development in a way that is accessible to all trading partners.

## **5.4 Discussion paper on the use of systems approaches in managing pest risks associated with the movement of wood (prepared by Japan)**

- [19] Etsuko SHODA-KAGAYA (Japan) presented a paper on the use of SAs in managing pest risks associated with the movement of wood<sup>7</sup>. She explained that the systematic approach practiced in the region is integrated into silvicultural techniques: branching; banding the main trunk; thinning and early removal of timber from the forest by avoiding logging when adult secondary pests are present.
- [20] Ms SHODA-KAGAYA noted that cedar *Cryptomeria japonica* and cypress *Chamaecyparis obtuse* are the main silvicultural species in Japan, and the pests *Semanotus japonicus*, *Anaglyptus subfasciatus*, *Coenobiodes granitalis*, *Reeseliella odai*, *Urocerus japonicus* are associated with lumber production for these species. She stressed that the phytosanitary perspective is a necessity for cedar cypress silviculture techniques.
- [21] Ms SHODA-KAGAYA described the guidance on phytosanitary measures during production, harvest, inspection of wood and physical production process for elimination of larvae in the inner bark. She also described the surveillance within the system approach in the forest and at the port and noted that during the assessment of effectiveness, a demonstration test of the SAs will be constructed in each pest

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<sup>6</sup> 09\_EWG\_Wood\_2022\_Jun

<sup>7</sup> 06\_EWG\_Wood\_2022\_Jun

infestation area for each approach, and the pest infestation after the implementation of each method will be verified through laboratory testing.

- [22] Ms SHODA-KAGAYA also described the NPPO responsibilities in importing and exporting countries. As for nonconformity and corrective action, she noted that this process does not address secondary pests other than the primary pests and cannot eliminate the risk of secondary species becoming primary at the arrived areas. She also highlighted that adoption of the SAs is expected to significantly reduce environmental damage, while keeping the risk of invasive species nearly the same.
- [23] Finally, as for potential issues, Ms SHODA-KAGAYA stressed the difficulty in constructing monitoring systems and securing experts capable of implementing a SAs.

### **5.5 Discussion paper on the use of systems approach in managing the pest risks associated with the movement of logs (prepared by New Zealand)**

- [24] Emmanuel YAMOAHA (New Zealand) presented a paper on the use of systems approach in managing the pest risks associated with the movement of logs<sup>8</sup>.
- [25] He explained that to manage this risk posed by the wood commodity, many importing countries require either heat treatment or fumigation of logs. He noted that although fumigation with methyl bromide is the most cost-effective and practical option for treating logs, many countries are increasing regulation or have imposed a ban on the use of methyl bromide. Hence, SAs may provide an effective and cost-effective alternative for managing quarantine pests.
- [26] Mr YAMOAHA described that SAs could be used as an alternative to an endpoint methyl bromide treatment, for the reduction of risk of wood wasps such as *Sirex noctilio* and bark beetles such as *Hylastes ater* for the export of New Zealand *Pinus* logs. He noted that these SAs identify independent measures that could be applied at different control points during production, at harvest, and post-harvest to mitigate the quarantine pest risks associated with log export. The SAs include current industry pest management practices, quality systems and export certification.
- [27] Mr YAMOAHA explained that SAs for managing wood wasps such as *Sirex noctilio* include independent and dependent measures to reduce the risk of *Sirex noctilio* during production, at harvest, and phytosanitary inspection and certification. He also explained that SAs for managing bark beetles such as *Hylastes* include independent and dependent measures to reduce the risk of *Hylastes ater* at harvest and post-harvest and phytosanitary inspection and certification.
- [28] Finally, Mr YAMOAHA highlighted other actions supporting the SAs implementation, including responsibilities of industry, New Zealand NPPO and NPPO of importing country.

### **5.6 The use of systems approach in managing the pest risks (prepared by United States of America)**

- [29] John Tyrone JONES (United States of America) presented the use of the SAs by the NPPO of the United States of America<sup>9</sup>. As an example of the SAs, he noted a field survey of Christmas trees that is conducted over the eight years while the trees grow. Once the pest of concern reaches critical levels, it is treated in the field. He also noted that fumigation is not used because it causes the needles to fall off in two weeks, thus cutting survey observations are used instead.
- [30] Mr JONES also noted that similar procedures have been used for handicrafts coming out of China. He noted that there are requirements in the work plan and material aspects, and the level of cleanliness is observed. He also noted that a work manual must be prepared beforehand. The United States of America works with the China Inspection and Quarantine (CIQ), and the latter also use certified fumigators. Mr JONES stressed that inspection is conducted throughout, once providers are approved.

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<sup>8</sup> 07\_EWG\_Wood\_2022\_Jun

<sup>9</sup> 11\_EWG\_Wood\_2022\_Jun



[31] Mr JONES highlighted that in the example of oak wilt disease, in the field tree inspections are conducted in advance by forestry officials at the beginning of the season to ensure the trees are healthy and there is no oak wilt in the area. The harvest companies inspect the trees after they are cut to ensure they meet the requirements for their products. He noted that there are two inspections, one in the field and one when the product arrives at their facility. Mr JONES also added that there is a requirement to use sulfurylfluoride and methyl bromide fumigation, some fumigation occurs in the importing country. Finally, he noted, that in the United States control and sealing the material is implemented in-country, subsequent treatments may be implemented in the importing country.

### **5.7 Discussion paper on the application of the UK's retreatment and remarking exemption protocol for pallet pool operations and the controls employed within it in the United Kingdom of Britain and Ireland**

[32] Ian James BROWNLEE (UK) presented a paper on the application of the UK's retreatment and remarking exemption protocol for pallet pool operations and the controls employed within the UK. Mr BROWNLEE explained that the Forestry Commission (FC) and the UK's Devolved Administrations accepts that pooled pallets may be exempt from the Wood Packaging Material Marking Programme (UKWPMMP) requirement to remove all existing marks and to fully re-treat whole pallets after repair. He noted that the SAs which apply to the exemption are as set out in the Addendum – Exempt Mark Programme, of the UKWPMMP revised edition 2017 and subsequent revisions as applicable. He also highlighted that when the “approximately” one third repair rule was introduced in 2009 the UKWPMMP Advisory Council had concerns about its implementation. This was discussed by the working group that drew up the Exempt Mark Programme to addresses these concerns.

[33] Mr BROWNLEE noted that all pallet pool must include the set requirements to be eligible for the exempt mark programme. He noted that this approach for pool pallets has been done because pallet users don't want to risk non-ISPM 15 pallets being unintentionally used for international trade and facing rejection due to cost, damage to reputation and any penalties that apply. Neither repairers nor users have the space to segregate stocks of non-ISPM 15 and ISPM 15 pallets on site; looking to maximize reuse of their pallets. Mr BROWNLEE noted that although UK's exemption has been successful, concerns have been raised by some sector representatives that such an approach to harmonization is limited as the EU regulation, that translates ISPM 15 into EU law, does not provide a clear interpretation about the application of these standards for pallets in circulation in Europe. However, he stressed that the UK exemption protocol addresses all these concerns.

[34] Finally, Mr BROWNLEE noted that the UK receives feedback from the FC Approved Auditors who oversee the UKWPMMP and to date the feedback on the Exempt Mark Programme has been positive. He added that the UK is delighted with how the various pooling companies have worked to, not only implement the SAs to exemption processes, especially considering most of the work has been done during COVID-19 lockdowns etc., but also how hard they are working to ensure continued compliance.

### **5.8 Presentation of the existing IPPC Guides and the training materials draft ISPM 15 Guide**

[35] The secretariat presented the existing IPPC Guides and the training materials for the draft ISPM 15 Guide. The secretariat provided the brief overview of the Implementation and Capacity Development Committee (IC) activities and explained the purpose and the development process of the IPPC Guides and training materials. The secretariat also presented an overview of the draft ISPM 15 Guide, its target audience and purpose, the chapters in draft ISPM 15 Guide, its case studies and appendices, and other ISPM 15 resources. Finally, the secretariat presented the relevant phytosanitary system pages and other resources.



## 6. Development of text of the draft annex

- [36] The Chairperson drew the attention of the EWG to the reference documents for drafting ISPMs: the *IPPC style guide* and annotated templates, ISPM 5 (*Glossary of phytosanitary terms*) and the *Guidelines for a consistent ISPM terminology* (in the *IPPC procedure manual for standard setting*)<sup>10</sup>.
- [37] The secretariat introduced the annotated the ISPM template, which includes some guidance on annexes, and explained that annexes are used to add highly specific technical information to the standard. The secretariat highlighted that, when drafting the annex, if a suitable term is available in ISPM 5 then that term should be used; particular attention should also be paid to the use of the words “should”, “shall”, “must”, “may” and “can”. The secretariat confirmed that there is no template for annexes to ISPMs because each annex is very specific to the particular topic in question.

### 6.1 Brainstorming session to develop the outline of the draft annex

- [38] The EWG reviewed Specification 69 and agreed that certain tasks and requirements were addressed in RSPM 41, identified areas of the FPSA which were not included in the Specification 69 and agreed that production practices used in the creation of wood products could be used in the development of the annex.

### 6.2 Elaboration of the text of the draft annex

- [39] The EWG drafted an outline for the structure of the annex and then elaborated the content, modifying the structure as appropriate as the draft text developed.
- [40] **Scope of the annex.** The EWG drafted text to describe the scope of the annex, saying that it provides guidance to national plant protection organizations (NPPOs) on the use, within the context of a wood commodities systems approaches (WCSA), of specific phytosanitary measures that act independently, but when applied together, mitigate the pest risks associated with international movement of wood of gymnosperms and angiosperms, with the exclusion of bamboo and rattan. The EWG also agreed to follow the scope of ISPM 39 and not to cover contaminating pests in the draft annex. However, the group noted the importance of contaminating pests and urged the SC representative to consider that the CPM modify the scope of ISPM 39.
- [41] **Background.** The EWG agreed that in the background section they should explain the necessity for the WCSAs and explain under what circumstances SAs are applicable. They agreed that the WCSA may provide, where appropriate, an equivalent (according to ISPM 24 (*Guidelines for the determination and recognition of equivalence of phytosanitary measures*)) or more efficient alternative to a single measure. The EWG also agreed that the WCSA may also provide additional options to facilitate or expand trade while effectively managing pest risks.
- [42] The EWG noted that section 4 (*Independent and Dependent Measures*) of ISPM 14 provides the basic concept of independent and dependent measures, also noting that:
- A systems approach may be composed of independent and dependent measures. By definition, a systems approach must have at least two independent measures. An independent measure may be composed of several dependent measures.
- [43] To elaborate on this, the EWG agreed that whatever dependent or independent measures are applied, they should reduce the pest risk and at least two or more measures must be included in an SA, but they must act independently (meaning that it can be the same type of measure, but it shall be two distinct measures, that will not depend on each other). In this regard, the EWG also noted that the definition here can be confusing.

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<sup>10</sup> *IPPC style guide*: <https://www.ippc.int/en/publications/132/>; ISPM 5: <https://www.ippc.int/en/publications/622/>; *IPPC procedure manual for standard setting*: <https://www.ippc.int/en/core-activities/ippc-standard-setting-procedure-manual/>

- [44] The EWG noted that having failure of one of the independent measures in a series of independent measures may not necessarily constitute a complete system failure and will not impact the effectiveness of any other independent measures.
- [45] The EWG also noted that independent measures are more about the nature of the measure, but not the efficacy level. Independent measures are major components, which by themselves lower the pest risk. The group also agreed that dependent measures by themselves would not significantly lower the pest risk but may be used in combination to create an independent measure.
- [46] The EWG agreed that the phytosanitary measures combined in the WCSA may include a wide range of actions and best practices and thus reduce the risk of introducing pests.
- [47] At the end of the background section, the EWG agreed to include in a brief summary of the draft annex.
- [48] **Developing the wood commodities systems approaches.** The EWG agreed that development of the WCSA requires knowledge of the pest biology, wood commodities production chain and associated pest risk, and the NPPOs are encouraged to engage with experts in developing the WCSA. The group stressed that knowledge of the ways to apply the measures could maximize the associated effectiveness. To broaden the picture, the EWG also agreed that specific pest risk management options to be included as measures in the WCSA should be effective and practical to implement not only for NPPOs, but for industries and other entities. Finally, the EWG agreed to incorporate the provision from RSPM 41 that measures should be negotiated between NPPOs of the importing and exporting countries.
- [49] **Major wood pests grouped according to where they live and reproduce.** The EWG agreed to partially include in the draft annex a provision from section 2.4.2 (*Grouping Quarantine Pests*) of RSPM 41, that pests associated with trees can be grouped according to the plant tissues they use to live and reproduce, and they include but are not limited to pests on the surface of bark; below the bark; and wood tissue.
- [50] The EWG agreed that the guidance provided in this annex should pertain to the following pests of specific types of wood and locations within the wood described below.
- [51] **Organisms associated mostly with bark.** The EWG agreed to include to the list from section 2.4.2 of RSPM 41 the bark beetles (Coleoptera: Curculionidae: Scolytinae) and fungi as those species of insects, fungi and nematodes that live in or just under the bark in the cambium layer. The EWG also concluded to include fungus-like organisms (e.g. *Phytophthora* species) to this list since they may be present on the outer surfaces of some wood commodities. For each category, the group provided a brief description of the threats posed by these species of insects.
- [52] **Organisms associated mostly with wood tissue located under the bark.** The EWG also agreed to include to the list from section 2.4.2 of RSPM 41 the list of these organisms, namely Ambrosia beetles (Coleoptera: Curculionidae: Scolytinae: Cortylini, Xyleborini, Xyloterini and Platypodinae), Wood Borers (Coleoptera: Cerambycidae, Curculionidae, Buprestidae; Diptera: Pantophthalmidae; Hymenoptera: Siricidae; Lepidoptera: Cossidae and Sesiidae; and Isoptera), fungi and nematodes. For each category, the group also provided a brief description of the threats posed by these species of insects.
- [53] **Organisms associated with foliage and twigs.** Reflecting on relevant provisions of section 2.4.2 of RSPM 41, the EWG agreed that although not a major wood commodity, many forest organisms live and reproduce exclusively in foliage and twigs, such as aphids, adelgids, moths, wasps, scales, flies, spiders, ants; twig borers; nematodes; and spores of fungi and fungus-like organisms (e.g. *Phytophthora* species). The group replaced the word 'branches' with twigs in this section given the close association of twigs and foliage and that any measure designed for one would cover the other.
- [54] **Practices employed along the wood commodity production chain for pest risk management.** The EWG elaborated this section to provide detailed guidance on the requirements necessary to provide assurance that a specific pest or pest groups are controlled by a combination of measures in the SAs. The group agreed that the annex should identify the specific procedures and practices that may be

applied from pre-planting to post-shipping of the wood commodity to comply with phytosanitary import requirements.

[55] As a starting point, the EWG introduced from section 2.1.2 (*Pest Risk Management options*) of RSPM 41 and its Info Sheet (2019)<sup>11</sup> the steps in the forest product production chain that may provide critical control points where specified pest risk can be reduced and monitored (Figure 1).

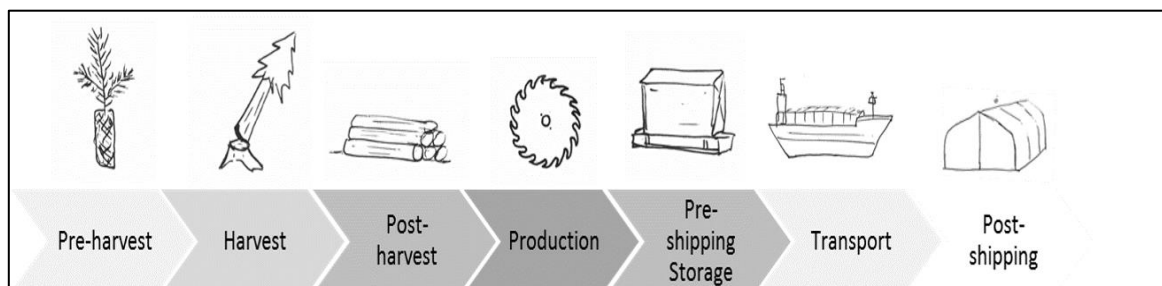


Figure 1. Forest product production chain

[56] The EWG identified and provided detailed specific guidance on phytosanitary measures for wood commodities with the following remarks:

- Pre-planting stage – the EWG considered adding pre-planting since it helps to avoid confusion between things like site preparation and selection of genotypes versus roguing (routine removal of plants that exhibit evidence of disease, infestation, off-type characteristics or undesirable traits).
- Production stage has been replaced with the processing wood commodities step.

[57] **Practice employed from pre-planting to transport stages.** The EWG considered including the following points in the list of practices:

[58] **Pre-planting** stage:

- **Use of resistant genotypes** – reflecting on subsection “Use of Less Susceptible Genotypes” of section 2.1 (*Pre-Harvest Pest Risk Reduction Measures*) of RSPM 41, the EWG agreed to incorporate the relevant provision with some amendments, namely that planting tolerant or resistant genotypes, selected for environmental conditions of the planting area can reduce pest infestation;
- **Site selection** – the EWG agreed that at the pre-planting stage there is a need to consider the pest status of the planting sites, since sometimes there may be certain pests present that may be regulated in importing countries. This issue should be considered to make sure that the site is free of those pests. To that end, the group also recommended performing diagnostic tests for pests of concern.
- **Species selection** – the EWG agreed to incorporate the following provision from subsection “Pest Monitoring to determine Pest Prevalence” of section 2.1 of RSPM 41:  
Planting appropriate trees species and cultivars for a particular geographic region, soil and climatic conditions can reduce plant stress and susceptibility to pests.

The EWG also agreed to incorporate the following provision from subsection “Silvicultural Practices” of section 2.1 of RSPM 41:

Planting forests with mixed species rather than monoculture or clonal trees can reduce forest pest vulnerability.

- **Drainage** – the EWG stressed that the tillage of the soil to improve aeration (which is separation of soil), and this can minimize the buildup of pathogens. The EWG concluded that tillage to

<sup>11</sup> RSPM 41 Info Sheet (2019): [https://nappo.org/download\\_file/view/137/1](https://nappo.org/download_file/view/137/1)

improve drainage, prior to planting may lower pest populations, and drainage can take various forms.

[59] **Pre-harvest** stage:

- **Silvicultural Practices** – the EWG agreed to incorporate the following provisions from subsection “Silvicultural Practices” of section 2.1 of RSPM 41::

A number of planning and operational practices that can result in pest risk reduction may be applied to both planted and naturally regenerated forests. Post-planting assessments may be conducted to monitor the progress of planted seedlings. Thinning, spacing and pruning may be implemented to remove unhealthy or infested trees or branches and improve growing conditions. Similarly, roguing (routine removal of plants that exhibit evidence of disease, infestation, off-type characteristics or undesirable traits) improve harvest quality.

The EWG also agreed to incorporate the following provision from subsection “Pest Monitoring to determine Pest Prevalence” of section 2.1 of RSPM 41:

Well-planned and managed natural and planted forests provide an opportunity to maximize and monitor tree health while optimizing timber production.

- **Surveillance** – reflecting on subsections “Silvicultural Practices” and “Pest Monitoring to determine Pest Prevalence” of section 2.1 of RSPM 41, the EWG agreed to incorporate the relevant provision with some amendments. The EWG decided to replace the title “pre-harvest surveys” with the phytosanitary Glossary term “Surveillance”, since it also encompasses the survey activities:

<b>Surveillance</b>	An <b>official</b> process which collects and records data on <b>pest</b> presence or absence by <b>survey</b> , <b>monitoring</b> or other procedures [CEPM, 1996; revised CPM, 2015]
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Conducting surveillance can guide harvest-planning decisions and avoid inclusion of infested trees for export, can be used in the establishment and recognition of pest free areas, and allows for early detection and intervention when pest outbreaks occur.

- **Semiochemical controls** – the EWG agreed to incorporate with modifications the following provisions from subsection “Semiochemical Controls” of section 2.1 of RSPM 41:  
Semiochemical controls can be used to reduce regulated pests via techniques such as pest mating disruption and to monitor regulated pests for early detection. Anti-aggregation pheromones (chemical substances which interrupt pest aggregation on a resource) may be used to reduce pest populations or protect healthy tree stands that may be susceptible to pests.
- **Chemical controls** – the EWG agreed to include chemical controls as many countries conduct chemical controls for forest pests. i.e. spraying or injection of approved insecticide for the targeting pest, may reduce the pest population density.

[60] **Harvest** stage:

- **Timing of Harvest** – the EWG agreed to incorporate with modifications the following provisions from subsection “Timing of Harvest” of section 2.1 of RSPM 41, accenting on bark beetles, ambrosia beetles and other wood-boring pests:

Understanding the biology of the regulated pest is an important factor in determining whether timing of harvest can be used as a risk reduction option. While it may be feasible to identify ideal timing for harvest to mitigate specific pests exhibiting distinct seasonality in temperate forests such as bark beetles, ambrosia beetles and other wood-boring pests can reduce levels of attack and therefore pest infestation; this may not be possible in tropical forests, as pest species may have multiple overlapping generations throughout the year or year-round activity with peak levels of activity in the dry or wet season.

- **Evaluation of Standing Trees for Pest Presence** – the EWG discussed the need of these types of surveys. The group concluded that these surveys, particularly leading up to the time of harvest

may help with determination of symptoms or signs of pests. This knowledge may assist with selective harvesting to avoid infested trees.

- **Pest Free Areas or Areas of Low Pest Prevalence** – the EWG agreed that sourcing trees from Pest Free Areas or Areas of Low Pest Prevalence should be addressed by ISPM 4 (*Requirements for the establishment of pest free areas*) and ISPM 8 (*Determination of pest status in an area*).

[61] **Post-harvest stage:**

- **Timely transport of harvested round wood** – the EWG agreed that following harvest, round wood may be susceptible to pest infestation. The group stressed the need to take advantage of the wood processing time, and to shorten the time that harvested wood is exposed to those risks in the plantation by moving them as quickly as possible, or by loading and by exporting them as quickly as possible. It was emphasized the use of “length of time” instead of “period of time” that round wood remains in the forest post-harvest, because “period” can be confused with season. The group noted that if the flying pest ceases and there is need to shorten the length of time that the logs have to remain in the places after harvesting, to better manage the risk of infestation.. Finally, the EWG concluded that season of harvest, pest activity at the time of harvest, the length of harvest time, and time to transport are the factors that may influence post-harvest infestation.
- **Pest inspection during volume and quality determination** – the EWG agreed to incorporate with modifications the following provision from subsection “Screening for Pests During Volume and Quality Determination” of section 2.3 (*Post-Harvest Pest Risk Reduction Measures*) of sRSPM 41:
 

Round wood can be inspected for evidence of pests by trained personnel, during the time of scaling and grading.
- **Anti-aggregation pheromones to repel insects** – the EWG agreed to incorporate the following provision from subsection “Anti-Aggregation Pheromones to Deter Insect Attack” of section 2.3 of RSPM 41:
 

Anti-aggregation pheromones, if available, may be used to repel regulated pests from areas of natural disturbance (e.g. windthrow) or logging and storage areas.
- **Rapid removal of round wood** – the EWG agreed to incorporate with modifications the following provision from subsection “Protection of Round Wood After Harvest” of section 2.3 of RSPM 41, noting the importance to keep the rapid removal of round wood to avoid beetle attack. The EWG also highlighted that this practice basis to helps to avoid oviposition not only beetle attack.:
 

Rapid removal and processing of round wood reduces likelihood of pest infestation.
- **Protection of round wood after harvest** – the EWG agreed to incorporate the following provision from subsection “Protection of Round Wood After Harvest” of section 2.3 of RSPM 41:
 

Protection of round wood after harvest via storage in water or sprinkling round wood with water on land may be used to prevent new attack by bark beetles and wood-borers.

[62] **Processing wood commodities stage:**

- **Removal of branches (or boughs)** – reflecting on subsection “Removal of branches (or boughs)” of section 2.4.3 (*Commodity Processing Pest Risk Reduction Measures*) of RSPM 41, the EWG agreed to simplify it and include it in the annex, noting that branch removal may be an effective method to reduce pests of foliage and twigs preventing the movement of those pests.
- **Removal of bark** – reflecting on subsection “Removal of bark” of section 2.4.3 of RSPM 41, the EWG agreed to simplify it and include it in the annex, noting that removal of bark substantially removes pests inhabiting the outer surface and those found directly beneath the bark, and may prevent post-harvest infestation by some wood pests. The group also provided



reference to section 2.1 of ISPM 39 in relation to the description of debarked and bark-free wood.

- **Sawing and planing wood** – the EWG agreed to incorporate with minor modifications the following provision from subsection “Sawn wood” of section 2.4.1 (*Forest Commodities*) of RSPM 41:

Sawing removes most of the bark as well as some of the outer wood eliminating pests living in or just under the bark. Sawn wood with rounded edges presents more risk than square edged sawn wood as a larger percentage of the wood just below the surface of the bark is included.

The EWG stressed that the process of sawing wood may destroy insect pests present in the wood and render it less suitable for pest survival. The group agreed that the process mainly deals with wood flooring inside, and by sawing to small pieces it either minimizes or destroys some of the pests present. The EWG noted that some of pests may not survive in cut wood, since the physical reduction in volume of the wood may interrupt the life cycle.

The EWG also agreed to incorporate the following provision from subsection “Sawing wood” of section 2.4.3 of RSPM 41:

The presence or absence of bark and the thickness of a piece of sawn wood will affect pest risk.

The EWG stressed that planing reduces the dimensions of sawn wood and may be used to remove residual bark and contamination. The group noted that planing could remove excess or contaminating content, such as bark. The process (making the board square) can remove extra contaminating content to a level tolerated by the importing country. Finally, the group noted that planing should ideally occur prior to further treatment or packaging, as it provides additional chance to reduce pest risk.

- **Sawn wood quality control** – the EWG agreed to incorporate with the modifications the following provision from subsection “Sawn wood grading / quality control” of section 2.4.3 of RSPM 41:

During grading of sawn wood and quality control, wood with insect galleries or fungal infection can be removed from the production chain or marked for treatment.

- **Inventory and contamination management** – the EWG agreed to incorporate with the modifications the following provisions from subsection “Sanitation and inventory management” of section 2.4.3 of RSPM 41:

Post-harvest inventory management and keeping storage and production areas free of soil and wood debris are important factors for reducing the risk of pest infestation. Segregation of wood into different phytosanitary risk categories at appropriate stages of the production chain can be an important component of the WCSA.

The EWG discussed the contamination of wood commodities by soil. The group noted that paving sawmill yards can result in less damage to wood stored directly on the ground and avoids contamination of wood with soil. The EWG stressed that in some instances, where consignments are selected for inspection, noncompliance is often due to bundles of wood being contaminated with soil.

- **Pest free area and pest free place of production** – reflecting on subsections “Pest Free Areas or Areas of Low Pest Prevalence” of section 2.2 (*Pest Risk Reduction Measures during Harvest*) and “Pest free place of production” of section 2.4.3 of RSPM 41, the EWG agreed that where appropriate a pest free area or pest free place of production may be established to reduce the likelihood of pre-harvest and post-harvest contamination and infestation. The group also provided references to ISPM 10 and ISPM 2 on the descriptions on the guidance on establishment of pest free place of production and pest free area, respectively.
- **Surveillance** – the EWG agreed to incorporate with modifications the following provision from subsection “Survey and trapping” of section 2.4.3 of RSPM 41:

Surveillance using traps and lure combinations may be used to monitor pests around a storage and processing facility as well as those within the facility.



The EWG replaced the “production facility” with “storage”, since sometimes logs are not needed to be processed but stored after they have been sawn and manufactured. The group also provided reference to ISPM 6 (*Surveillance*) on the description of general surveillance system elements and requirements.

- **Inspection of wood commodities** – the EWG agreed to incorporate with modifications the following provision from subsection “Inspection of articles” of section 2.4.3 of RSPM 41:

Inspection may be used to identify specific signs or symptoms of pests and determine if the phytosanitary measures have been applied and been effective. Challenges to inspections may be presented by the size and disposition of the wood commodities and the cryptic nature of some pests.

- **Chipping** – the EWG agreed to incorporate with modifications the following provisions from section 2.4.4 (*Wood chips*) of RSPM 41:

Pest risk for wood chips varies depending on tree species, presence of pests in the original material, bark content, chip size and intended use (i.e. fuel, landscape mulch, or pulp for fibre production). Commercial specifications for chip quality related to specific intended uses may be used to mitigate pest risk. For example, chips for fibre production have minimal bark, consistent moisture content and uniform shape and size, resulting in low pest risk for some organisms compared with chips used as a bio-energy source that may have greater variation in size and may contain bark.

The physical process of wood chipping or grinding is lethal to many insect pests; the process can destroy living organisms or disrupt the host material so that the insect cannot complete its life cycle. Small size chipping (e.g. max 2.5 cm in two dimensions) is an effective method for mitigation of wood borers (e.g., cerambycids).

Due to the new research, the EWG agreed that the small size chipping (2.5 cm) is more relevant, and appropriate. The EWG recommended that this issue should be brought to the attention of the SC for discussion and agreement on a path forward, including a potential revision of ISPM 39, where the chip size is set less than 3 cm.

- **Heat treatment** – the EWG agreed to incorporate with modifications the following provision from subsection “Heat treatment” of section 2.4.3 of RSPM 41:

Heat treatment involves heating wood to kill, or otherwise cause sublethal effects. Heat treatment does not necessarily involve moisture reduction. Types of heat treatments include but not limited to steam and vacuum steam heating, kiln-heating, solar heating, joule heating and dielectric heating (microwave, radio frequency).

The EWG also noted that, according to the official technical specifications, technical standards for heat treatment schedules should be established by NPPOs.

- **Air-Drying** – the EWG noted that the air-drying may address fungal concerns. The group agreed that air-drying wood to the equilibrium moisture content can prevent some pests from completing their life cycle due to reduction of moisture content.
- **Kiln-drying** – the EWG agreed that kiln-drying can prevent some pests from completing their life cycle in wood commodities due to the heat exposure and reduction of moisture content. The group also provided reference to appendix 2 of ISPM 39 on the description of kiln-drying.
- **Irradiation** – the EWG agreed that irradiation can be used as a risk reduction measure during or after processing of wood commodities. The group also provided reference to ISPM 18 on its description.
- **Fumigation** – the EWG agreed that fumigants can be used as a pest risk reduction measure to treat wood commodities. In relation to the phytosanitary treatments, the group provided reference to ISPM 28 on their description. The group also provided reference to ISPM 43 on to the use of fumigation as phytosanitary measure.
- **Anti-fungal sapstain chemical dips** – the EWG agreed that anti-fungal sapstain chemical dips can be used as a pest risk reduction measure to treat wood commodities. The group provided reference to ISPM 39 on their description.
- **Modified atmosphere treatment** – the EWG agreed that modified atmosphere treatment can be used as a pest risk reduction measure to treat wood commodities. The group provided

references to ISPM 39 and ISPM 44 on the use of modified atmosphere as phytosanitary measure.

[63] **Pre-shipping storage stage:**

- **Limit storage time** – reflecting on subsection “Limit storage time” of section 2.5 (*Storage Pest Risk Reduction Measures*) of RSPM 41, the EWG agreed to modify it and include it in the annex:

Shipping wood commodities within a specified timeframe reduces opportunities for post-harvest infestation.

The EWG replaced “window of time” with “timeframe”, noting that the timeframe is more specific to import, and it’s been used also in case of inspection. The group also noted that some importing countries do not accept wood commodities to be imported if export has occurred more than 21 days after treatment and that this timeframe is justified as it minimizes the opportunity for reinfestation.

- **Shipping timing** – reflecting on subsection “Shipping conditions and timing” of section 2.5 of RSPM 41, the EWG agreed to modify it, replacing “windows” with “timing”, and include it in the annex:

Shipping only when pests are inactive and applying a measure upon arrival in the importing country may effectively mitigate pest risk. Shipping timing should be based on biological data and technical justification.

- **Storage areas segregation** – reflecting on subsection “Storage areas / segregation” of section 2.5 of RSPM 41, the EWG agreed to modify it and include it in the annex:

Regulated commodities can be stored in a manner or segregated to prevent infestation by pests. Segregation may be achieved by covering, containerizing or storing in monitored buildings (i.e. with pheromone trap surveillance).

- **Storage area cleanliness** – the EWG agreed that keeping storage area free from contamination may be included as a component of the WCSA.

- **Pre-shipment protection** – reflecting on subsection “Storage conditions / contaminating pests” of section 2.5 of RSPM 41, the EWG agreed to modify it and include it in the annex:

A storage enclosure can be very effective at protecting wood commodities from infestation before shipping. Contact with the ground may pose the risk of soil pest contamination, thus storing on cement pads or raised platforms may be beneficial. The use of surveillance combined with pest exclusion measures such as host removal, reduction or altering of facility lighting or pesticide application may be used to protect stored wood commodities.

- **Water application** – the EWG agreed that water sprinkling of round wood may be used in some storage areas to reduce insect infestation. The group discussed that washing with high pressure water can be used to remove contaminants and that this can be an important measure to remove soil on the wood.

- **Surveillance** – the EWG agreed to incorporate the following provisions from subsection “Monitoring and trapping” section 2.5 of RSPM 41:

Outer perimeter pull-push systems with aggregation and anti-aggregation pheromones and traps may be used to monitor and manage some insect pests.

- **Topical biocide** – the EWG agreed that to prevent insect pests and diseases from contaminating processed wood commodities chemical anti-sapstain treatments may be applied.

- **Wrapping or packaging** – reflecting on subsection “Sawn wood wrapping or packaging” of section 2.5 of RSPM 41, the EWG agreed that wrapping and packaging is designed to prevent pest infestation, contamination and weather protection, including before and during transport.

- **Pre-shipment inspection** – reflecting on subsection “Pre-shipment inspection” of section 2.5 of RSPM 41, the EWG agreed to modify it and include it in the annex:

To ensure phytosanitary requirements of the importing country are met, inspections may occur at various points within the WCSA.

- **Sampling and Laboratory testing** – the EWG agreed that to serve laboratory testing, the tissues of the wood may be collected according to the methods approved by NPPOs. The group noted that where appropriate, laboratory testing may be used to identify microscopic organisms such as fungi and nematodes on outer surfaces or within the wood when these organisms cannot be confirmed through inspection.

[64] **Transport stage:**

- **Protection during transport** – reflecting on subsection “Protection during transport” of section 2.6 (*Transportation Pest Risk Reduction Measures*) of RSPM 41, the EWG agreed to modify it and include it in the annex:

Protecting the wood commodities during transport may serve to reduce the likelihood or severity of pest attack during transport. For example, wood commodities may be covered or sealed in closed containers to prevent the spread of pests during transport.
- **Treatment during transport** – reflecting on subsection “Treatment during transport” of section 2.6 of RSPM 41, the EWG agreed to modify it and include it in the annex:

Wood commodities may be treated in either containers or ships holds while in transit. This type of treatment will depend on the type of container required or available, expertise, shipping laws (including occupational and health requirements), the wood commodities being shipped and the importing country’s requirements.
- **Planned shipping routes** – reflecting on subsection “Treatment during transport” of section 2.6 of RSPM 41, the EWG agreed to incorporate in the annex the following provision:

Choice of shipping route may be influenced by the known distribution and phenology of the pest and the weather and climatic conditions during transit.
- **Cleaning shipping containers** – reflecting on subsection “Cleaning containers” of section 2.6 of RSPM 41, the EWG agreed to incorporate in the annex the following provision:

Cleaning the inside and outside of containers between shipments can reduce contamination of wood commodities from previous shipments.

[65] **Post-shipping practices stage.** The EWG acknowledged that in addition to the previous stages, most of the following specific stages could be performed in relation to post-shipping:

- **Storage in an importing country** – the EWG noted that upon agreement by the importing country, wood commodities should be stored in an appropriate way to prevent pest escape, contamination and infestation according to provisions of the WCSA in importing country.
- **Inspection on arrival** – the EWG agreed that inspection on arrival may be used to verify that wood commodities comply with importing countries import requirements. The group also provided reference to ISPM 23 on guidelines for inspection.
- **Limiting intended use** – the EWG noted that upon agreement the intended uses should be stipulated in the WCSA. The group agreed that the WCSA may be set up for particular intended use such as wood chipping and this intended use may be reflected in measures that have been applied and result in a different ALOP compared to other intended uses.
- **Limiting points of entry and distribution** – the EWG noted that upon agreements with importing country, specific points entry or a limited dissemination of wood commodity may be stipulated in the WCSA.

[66] **Designing a wood commodities systems approach.** The EWG agreed that the exporting NPPO should propose relevant measures to the importing NPPO in a practical way and outline how the measures will reduce the phytosanitary risk to an acceptable level and provide an acceptable level of protection (ALOP). The EWG stressed that where SAs are agreed upon, the exporting NPPO should provide science-based evidence of their effectiveness. To that end, the group concluded that the importing NPPO may request scientific evidence from the exporting NPPO and may choose to seek their own expert advice to scrutinize the effectiveness of the proposed measures.

- [67] The EWG also agreed that industries should be consulted in the SAs design phase to match industry practices. The group concluded that consideration of documented industry best practices and standards to produce wood commodities naturally promotes the development of the WCSA in a way that can be available to trading partners. The group concluded that it is important for NPPOs to engage industry in the early stages of the development of the WCSA as industry have experience and in-depth understanding of wood production chain.
- [68] Finally, the EWG concluded that once the WCSA measures are agreed upon, the exporting NPPO should provide evidence how the measures can be implemented in a commercial setting.
- [69] **Implementing a wood commodities systems approach.** The EWG developed this section to provide guidance on the respective responsibilities of the NPPOs and participating entities in implementing the measures and supervising the WCSA.
- [70] **Responsibilities of the NPPOs and participating entities.** The EWG discussed that entities are not defined in the annex, and questioned what is meant by entities and who, other than the importing or exporting NPPOs, can be considered entities. Further, the discussion also focused on whether all entities need to be authorized by the NPPO. The steward provided examples of possible entities. e.g. an operator that cuts the trees or suppliers of debarked logs may not be, or need to be, authorized. Compared to entities such as the exporter of the debarked logs that may need to be approved by the NPPO under the program.
- [71] The EWG reflected on the following provision from “Basic understanding of authorization” of section “Requirements” of ISPM 45:
- In this standard, “entities” include the providers of phytosanitary action (e.g. individuals, organizations, enterprises) and, where appropriate, their facilities (such as equipment, laboratories, treatment enclosures).
- [72] The EWG concluded that entities involved in WCSAs may vary and that participating entities may include entities authorized by NPPOs to perform phytosanitary actions and non-authorized entities participating in the WCSA.
- [73] **Responsibilities of NPPOs.** The EWG provided reference to section 10 of ISPM 14 on the description of responsibility of importing and exporting countries’ NPPOs. In addition, the group agreed to incorporate with modifications to the annex and streamline the following list from subsections 2.1.1.1 (*Responsibilities of the NPPOs*) and 2.3.2.2 (*Non-conformity*) of RSPM 41, where the following responsibilities specific to the WCSA of NPPOs may include but are not limited to:
- communicating the importing NPPO’s phytosanitary import requirements and the requirements, specifically, of the WCSA, to all participating entities;
  - implementing necessary corrective actions and follow-up audits when non-conformities have been detected;
  - changing the requirements or the design of the WCSA to address nonconformances, in order to prevent recurrence of the failures identified;
  - agreeing to the alternative certification documents that would accompany the consignments produced under the WCSA, for example industry produced certificates;
  - ensuring the registration and maintenance of a list of participating entities;
  - authorizing of entities participating in the WCSA as well as conducting audit according to program specifications and ISPM 45 and ISPM 47;
  - publishing the list of NPPO authorized entities.
- [74] **Entities participating in the WCSA in the exporting country.** The EWG agreed to incorporate with modifications to the annex the following list from subsection 2.1.1.2 (*Entities Responsible for the Forest Product in the Exporting Country*) of RSPM 41, where once the WCSA is in place, the entities participating in the exporting country should:

- develop and maintain documented procedures that specify how the measures identified in the WCSA are undertaken and monitored;
- maintain adequately trained personnel to consistently carry-out activities;
- apply measures as specified in the documented procedures approved by the NPPO;
- maintain records on the application of measures, including information on pests found and corrective actions taken for a period negotiated between the NPPOs of the exporting and importing countries;
- designate a point of contact responsible for communicating with the NPPO of the exporting country;
- perform inspections, if required;
- perform audits, if required;
- address any non-compliances and non-conformances according to guidance in ISPM 45 and ISPM 47, as appropriate;
- document corrective measures taken.

[75] **Entities participating in the WCSA in the importing country.** The EWG agreed to incorporate with modifications to the annex the following list from subsection 2.1.1.3. (*Entities Responsible for the Forest Product in the Importing Country*) of RSPM 41, where the entities participating in the WCSA in the importing country should:

- develop and maintain documented procedures that specify the measures identified in the WCSA to be undertaken after arrival in the importing country;
- maintain adequately trained personnel to consistently carry-out activities;
- apply measures as specified in the documented procedures approved by the NPPO;
- maintain records on the application of measures, including information on pests found and corrective actions taken for a period negotiated between the NPPOs of the exporting and importing countries;
- designate a point of contact responsible for communicating with the NPPO of the importing country;
- perform inspections, if required;
- perform audits, if required;
- document non-conformances;
- address non-conformances with respect to application of measures in their countries;
- apply and document corrective measures;
- report non-compliance to their NPPOs in accordance with ISPM 13.

[76] **Documentation.** Reflecting on subsection 2.1.3 (*Documentation*) of RSPM 41, the EWG agreed that documents that can contribute to successful implementation and effective communication of the WCSA may include, but are not limited to, the description of the WCSA requirements developed by NPPOs and documented procedures and instructions for implementing the WCSA by participating entities and NPPO.

[77] **Description of the WCSA requirements developed by NPPOs.** The EWG agreed that the following description of the WCSA requirements may be developed by NPPOs:

- The scope and purpose of the WCSA;
- Phytosanitary measures;
- Roles and responsibilities of NPPOs and participating entities;
- Traceability requirements of the wood commodities (any documentation and verification requirements that details the movement of a wood commodity between control points included the WCSA)

[78] **Documented procedures and instructions for implementing the WCSA by participating entities and NPPO.** The EWG agreed that documented procedures are important to develop first followed by instructions for implementing the WCSA. The group noted that the documented procedures contain high level parameters of the SA scope, including the measures and personnel involved. Implementation of these procedures should follow, which is either the NPPOs or entities responsibility. Implementation can include inspection or training, which can be done by entities or NPPOs and should include record keeping. To elaborate this section further, the EWG agreed to integrate the following two subsections: “documented procedures” and “records that demonstrate implementation”.

[79] **Documented procedures.** The EWG agreed to modify the provisions from subsection 2.2.1 (*Production Manual*) of RSPM 41 and incorporate to the draft annex. The group replaced “production manual” with “documented procedures” to describe how the requirements in the SAs are going to be made and the roles of each being played. It will restrict to how the requirements in the SAs are going to be met and how each of those conditions are going to be made. The group, providing the examples of documented procedures such as production manuals or Standard Operating Procedures (SOPs), noted that they may describe actions, elements, processes, and operational systems that make up the measures that are applied by participating entities and NPPO. The documented procedures may include, but are not limited to, the following elements:

- description of the organizational structure and responsibilities of the personnel involved in implementing the WCSA;
- procedures associated with maintaining records for the measures in the WCSA;
- training procedures used to ensure the competency of staff responsible for implementing the WCSA;
- description of the measures and how they will be achieved as part of the WCSA which may include:
  - place(s) of harvest and/or production;
  - the taxa;
  - description of procedures or processes (e.g. processing, treatment, storage and movement, handling, segregating and traceability of the wood commodities) to ensure compliance with the phytosanitary requirements of the importing country.
- procedures used by the facility to record, address, and correct non-conformities that may occur.

[80] **Records that demonstrate implementation.** Reflecting on subsection 2.2.5 (*Record Retention*) of RSPM 41, the EWG agreed that records that demonstrate the implementation of measures included in the WCSA should be produced and retained. The group also stressed that retention time of these records should be agreed between the importing and the exporting NPPOs.

[81] **Traceability.** Reflecting on subsection 2.2.4 (*Traceability and Segregation*) of RSPM 41, the EWG agreed to incorporate its following provisions with modifications:

That participating entities in the WCSA should ensure that adequate records are retained for traceability in relation to all critical points. These records should be retained in the exporting country for those measures that are applied pre-export or during transit, or in importing country in cases where measures are to be undertaken in the importing country.

[82] **Evaluating the effectiveness of the WCSA and its individual measures.** The EWG agreed to include this section to ensure the effectiveness of the SAs measures through monitoring and oversight. The group noted that a variety of evaluation methods are available and may be used by NPPOs of both importing and exporting countries to continuously monitor and assess the effectiveness of the WCSA.

[83] The EWG noted that examples of evaluation methods may include inspection and audits. The group provided reference to ISPM 23 on guidance for import and export inspection, and to ISPM 47, as well as in ISPM 45 if third-party authorization systems are used on guidance on performing audits. The group



also provided reference to ISPM 14 guidance to assess the effectiveness of individual measures used in the WCSA.

[84] Reflecting on the FAO/IAEA guidelines for implementing SAs for pest risk management of fruit flies<sup>12</sup>, the EWG agreed that individual measures may be evaluated qualitatively or quantitatively.

[85] **Qualitative methods.** The EWG noted that these methods use elements of interpretation and inference to measure an outcome. The group concluded that expertise may be found within industry and NPPO since they may have substantial experience in the implementation of the WCSA and wood production measures.

[86] **Quantitative methods.** The EWG noted that these methods directly or indirectly measure an outcome. The EWG agreed to incorporate the following provisions from subsection 4.8.2 (*Quantitative Methodologies*) of the FAO/IAEA guidelines and modify them, adapting to the WCSA:

Procedures used to calculate efficacy may follow standard methodologies that result in a calculated level of mortality or survivorship subject to confirmatory tests agreed upon between the importing and exporting country. For example, the establishment and verification of an area of low pest prevalence (ALPP) may employ measurements through statistical inference based on trapping of target pests to establish a general population assessment estimating high to low populations. Trapping and population assessments can be verified by harvest and rearing round wood to allow surviving insects to emerge from infested round wood. Other important sources of quantitative information can be derived from data on specific experimental components reported in scientific literature or historical data often available from subject matter experts or regulatory bodies that collect information on target pests.

[87] The EWG also agreed that expert judgement may be used as a quantitative analysis if consistent parameters are used.

[88] **Assessing a systems approach.** The EWG agreed to incorporate the following provisions from subsection 4.8.3 (*Quantitative Methodologies*) of the FAO/IAEA guidelines and modify them, adapting to the WCSA:

There is currently no internationally agreed or harmonized methodology to assess the efficacy of the WCSA.

[89] The EWG noted that the risk of pests associated with the commodity being traded must meet the ALOP of the importing country and the measures need to provide assurance that this risk is managed. The group also agreed that assessment of the combined effect of all measures can use a combination of both qualitative and quantitative approaches.

[90] The EWG also agreed to incorporate the following provisions from subsection 4.8.3 of the FAO/IAEA guidelines and modify them, adapting to the WCSA:

Some common methods are used to measure the efficacy of the whole system (i.e. inspection), in other cases a system is evaluated by assessing the individual measures. Post-harvest treatment tests may include sampling to provide efficacy calculations of the total system or a single major component. For example, rearing infested wood before and after it is subjected to a measure or measures (e.g., heat treatment). Mathematical models calculating probability of pest survival can be useful in quantifying efficacy, however, these should be used with caution as outputs from mathematical models may not be completely accurate. Such models frequently require large data sets that are not often available for the particular wood commodity production chain. Modeling may help to classify which measures are independent and dependent, and their relationships.

[91] The EWG agreed that they could not identify any operational or technical implementation issues that could arise specifically from implementation of the annex to ISPM 39.

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<sup>12</sup> FAO/IAEA guidelines for implementing systems approaches for pest risk management of fruit flies: <https://www.iaea.org/resources/technical-report/fao/iaea-guidelines-for-implementing-systems-approaches-for-pest-risk-management-of-fruit-flies>

[92] The EWG noted that contracting parties are invited to comment on potential implementation issues during consultation.

## **7. Any Other Business**

[93] The Secretariat explained the next steps in the drafting process. The draft text of the annex as agreed by the EWG would be made available to EWG members soon after the meeting, for information. It would then be edited and submitted to the SC for review. The finalized meeting report would also be made available in due course.

## **8. Close of the Meeting**

[94] The chairperson thanked the EWG members, the secretariat and the rapporteur for their valuable contributions, and the Secretariat in turn thanked the EWG members, the steward and the chairperson. The steward also expressed his gratitude, acknowledging how difficult it can be to draft a standard.

[95] The secretariat invited all EWG members and observers to complete the evaluation of the meeting.

[96] The chairperson closed the meeting.

**Appendix 1 – Agenda**

<b>N</b>	<b>Agenda item</b>	<b>Document number / link</b>	<b>Presenter / IPPC Secretariat support</b>
<b>1.</b>	<b>Opening of the Meeting</b>		
1.1.	<ul style="list-style-type: none"> <li>- Welcome by the IPPC Secretariat</li> <li>- Welcome by the meeting host and organizer</li> <li>- Introductions</li> </ul>	–	IPPC Secretariat
1.2.	<ul style="list-style-type: none"> <li>- Presentation of the standard setting process</li> <li>- Roles of the participants</li> <li>- Terminology game</li> </ul>	05_EWG_Wood_2022_Jun	SHAMILOV / MUSHEGIAN
<b>2.</b>	<b>Meeting Arrangements</b>		
2.1.	Selection of the Chairperson	–	IPPC Secretariat
2.2.	Selection of the Rapporteur	–	Chairperson
2.3.	Adoption of the Agenda	01_EWG_Wood_2022_Jun	Chairperson
<b>3.</b>	<b>Administrative Matters</b>		
3.1.	Documents list	02_EWG_Wood_2022_Jun	SHAMILOV
3.2.	Participants list	03_EWG_Wood_2022_Jun	SHAMILOV
<b>4.</b>	<b>Review of Specification</b>	<a href="#">Link to Specification 69</a> <b>04_EWG_Wood_2022_Jun</b>	<b>COTE (Steward)</b>
4.1.	Steward's considerations for the development of the draft annex to ISPM 39	10_EWG_Wood_2022_Jun	COTE
<b>5.</b>	<b>Review of discussion papers</b>	–	<b>Chairperson</b>
5.1.	Australia paper	08_EWG_Wood_2022_Jun	HOWARD
5.2.	Canada paper	09_EWG_Wood_2022_Jun	NOSEWORTHY
5.3.	Japan paper	06_EWG_Wood_2022_Jun	SHODA-KAGAYA
5.4.	New Zealand paper	07_EWG_Wood_2022_Jun	YAMOAH
5.5.	United States of America paper	–	JONES
5.6.	United Kingdom paper	11_EWG_Wood_2022_Jun	BROWNLIE
5.7.	Presentation of the existing guides	–	PETERSON
<b>6.</b>	<b>Development of text for the draft ISPM</b> Reference documents: <ul style="list-style-type: none"> <li>- IPPC Style Guide and annotated templates (Part 1, sections 2, 3 and 5)</li> <li>- ISPM 5 (Glossary of phytosanitary terms)</li> <li>- Guidelines for a consistent ISPM terminology</li> </ul>	<a href="#">Link to the IPPC Style Guide</a>  <a href="#">Link to ISPM 5</a>  <a href="#">Link to ISPM 39</a>	Chairperson / SHAMILOV
6.1.	Brainstorming session to develop the outline of the draft annex to ISPM 39	–	Chairperson / ALL
6.2.	Elaboration of the text of draft annex to ISPM 39	<a href="#">Link to the Annotated template for draft ISPMs</a>	ALL
<b>7.</b>	<b>Any Other Business</b>	–	<b>Chairperson</b>
<b>8.</b>	<b>Close of the meeting</b>	–	<b>IPPC Secretariat / Chairperson</b>

**Appendix 2 – Documents list**

DOCUMENT NO.	AGENDA ITEM	DOCUMENT TITLE	DATE POSTED / UPDATED
<b>Administrative Documents</b>			
01_EWG_Wood_2022_Jun	2.3	Provisional agenda	2022-05-04 2022-06-01 2022-06-07
02_EWG_Wood_2022_Jun	3.1	Documents list	2022-05-04 2022-06-01 2022-06-07
03_EWG_Wood_2022_Jun	3.2	Participants list	2022-05-04 2022-06-07
<b>Review of discussion papers</b>			
08_EWG_Wood_2022_Jun	5.1	Australia paper	2022-06-01
09_EWG_Wood_2022_Jun	5.3	Canada paper	2022-06-01
06_EWG_Wood_2022_Jun	5.4	Japan paper	2022-06-01
07_EWG_Wood_2022_Jun	5.5	New Zealand paper	2022-06-01
11_EWG_Wood_2022_Jun	5.7	United Kingdom paper	2022-06-01
<b>Other documents</b>			
04_EWG_Wood_2022_Jun	4.	Specification 69	2022-05-04
05_EWG_Wood_2022_Jun PowerPoint presentation	1.2	IPPC Standard Setting Process (for ISPMs) at a glance with a focus on the EWG	2022-05-04
10_EWG_Wood_2022_Jun	4.1	Steward's considerations for the development of the draft annex on the Use of systems approaches in managing the pest risks associated with the movement of wood (2015-004)	2022-06-01

**Documents links** (presented in the order of the agenda items)

Links	Agenda item	Document link
IPPC Style Guide	6.	<a href="#">Link to the IPPC Style Guide</a>
ISPM 5	6.	<a href="#">Link to ISPM 5</a>
ISPM 39	6.	<a href="#">Link to ISPM 39</a>
Annotated template for draft ISPMs	6.2	<a href="#">Link to the Annotated template for draft ISPMs</a>

**Appendix 3 – Participants list**

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