CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA



Fourteenth meeting of the Conference of the Parties The Hague (Netherlands), 3-15 June 2007

INTERNATIONAL WORKSHOP OF EXPERTS ON NON-DETRIMENT FINDINGS ON BIGLEAF MAHOGANY (*SWIETENIA MACROPHYLLA*)

The attached document has been submitted by Mexico.

INTERNATIONAL WORKSHOP OF EXPERTS ON NON-DETRIMENT FINDINGS ON BIGLEAF MAHOGANY

(Swietenia macrophylla)

1. This document has been prepared by Mexico, in its capacity as Chair of the Bigleaf Mahogany Working Group of the Plants Committee.

2. This document is made up of 4 annexes, described below, and has been formulated to inform the fourteenth meeting of the Conference of the Parties (CoP 14) of the results obtained from the International Workshop of Experts on Non-Detriment Findings on Bigleaf Mahogany (*Swietenia macrophylla*) in compliance with the recommendations contained in Decision 13.58, as well as with two of the "short-term" recommendations adopted during the 16th Meeting of the Plants Committee in Lima, Peru, 2006 (S-PC16 Summarized Minutes) and with the conclusions of the comprehensive report prepared by the Chair of the Bigleaf Mahogany Working Group included in the report by the Chair of the Plants Committee to the CoP 14 (CoP14 Doc. 64).

3. The Workshop was held on April 10-13, 2007 in Cancun, Quintana Roo, Mexico, with the generous financial support of the International Tropical Timber Organization (ITTO), the Natural Resources Defense Council (NRDC) and the Government of Mexico.

Annex 1 Workshop's Results

Annex 2 Workshop's interpretation of the term "Mahogany Management Plans"

Annex 3 Workshop Agenda

Annex 4 List of Workshop Participants

Results of the International Workshop of Experts on Non-Detriment Findings on Bigleaf Mahogany (*Swietenia macrophylla*)

CANCUN, QUINTANA ROO, MEXICO (APRIL 10 -13, 2007)

I. Introduction

Based on Decision 13.58 and on two of the short-term recommendations formulated by the 16th Meeting of the Plants Committee (S-PC16 Summarized Minutes), the following was agreed upon:

Addressed to the Plants Committee:

i) To encourage the issuance of new recommendations to exporting countries regarding necessary elements for the formulation of non-detriment findings for timber species, and

ii) To organize a course on non-detriment findings for timber species that will focus on how to identify the information necessary for evaluating and documenting non-detriment findings.

Following finalization of the conclusions of the comprehensive report on the range states responses, drafted by the Chair of the Mahogany Working Group (CoP14 Doc. 64 Annex 1) Mexico, in its capacity as Chair of the Mahogany Working Group, organized the International Workshop on Non-Detriment Findings on Bigleaf mahogany (*Swietenia macrophylla*).

The main purpose of this Workshop was to define a feasible methodological approach that could be used to formulate non-detriment findings (NDFs) for Bigleaf mahogany, so as to improve the implementation of the provisions of CITES Appendix II and ensure international sustainable harvesting and trade in the species.

II. Progress of the meeting

The Workshop was held in Cancun, Quintana Roo, Mexico, April 10 – 13, 2007.

The workshop was attended by 46 participants, representing 12 range states (Belize, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama and Peru); the European Union in its capacity as importers (Belgium and Spain); the Chair of the CITES Plants Committee; a representative of the CITES Secretariat; a representative of the International Tropical Timber Organization (ITTO); two representatives of non-governmental organizations and a representative of the International Importers Association (Annex 4).

The event took place as described in the workshop agenda (Annex 3). The workshop was inaugurated by Mr. Francisco Javier Díaz Carvajal, Minister of Urban Development and the Environment of the Government of the State of Quintana Roo. The following officials were present: Dr. Steve Johnson (Associate Director of ITTO), Mr. José Cibrián Tovar (Director General of the National Forestry Commission - CONAFOR), Mr. Martín Vargas Prieto (Director General of Wildlife of the Ministry of the Environment and Natural Resources - SEMARNAT, CITES Administrative Authority in Mexico), Professor Ana Luisa Guzmán (Executive Secretary of the National Commission for the Knowledge and Use of Biodiversity - CONABIO, CITES Scientific Authority in Mexico), Dr. Francisco García García (Director General of Forestry and Soil Management - SEMARNAT and President of the Mahogany Working Group - MWG), Mr. Manuel Mercado Béjar (Director General of Contamination Source Scrutiny of the Federal Environmental Protection Agency - PROFEPA, representative of the CITES Law Enforcement Authority in Mexico).

In the first session, Dr. Margarita Clemente (Chair of the Plants Committee) gave the following presentation; "Mahogany in CITES and the Mahogany Working Group". Dr. Rafael Navarro (Spain) completed this presentation with a preliminary proposal on the use of remote sensors for the formulation of non-detriment findings (NDFs) on mahogany, based on acquired experience with *Prunus africana*. Mrs. Milena Sosa Schmidt (CITES Secretariat), gave a presentation on "Non-Detriment Findings", followed by

Dr. Steve Johnson's presentation: "ITTO and CITES" and Dr. Patrick Van Damme's (Belgium) presentation on "Relevant Information for the Formulation of Non-Detriment Findings". The session concluded with Dr. Patricia Dávila's overview of the summarized outcomes of the Mahogany Comprehensive Report (CoP14 Doc. 64) and an explanation by biologist Hesiquio Benítez of the workshop logistics and desired outcome.

Based on the conclusions of the Mahogany Working Group's (MWG) comprehensive report, four thematic sessions took place. Each thematic session was structured as follows: 1) Presentation by the moderator of the main conclusions of the MWG comprehensive report; 2) Presentation by the experts of the proposals on methodology and analysis of the necessary actions; 3) Discussion of the experts' proposals and 4) Feedback from the audience regarding the experts' proposals and drafting of conclusions.

The panel comprised five mahogany experts: Dr. Laura Snook (Bioversity International), Dr. Carlos Manuel Navarro Pereira (Costa Rica), Dr. James Grogan (United States of America), Mr. Luis Alfonso Argüelles Suárez (Mexico) and Dr. Roberto Kometter Mogrovejo (Peru), who held discussions and issued recommendations thus fulfilling the goals of the workshop. Four more specialists contributed to the guidance and development of the workshop: Dr. Patrick Van Damme (Belgium), Dr. Kenneth Farr (Canada), Dr. Rafael M^a. Navarro Cerrillo (Spain) and Dr. Alfonso García-Ferrer Porras (Spain).

The moderators for each session were: Theme 1.- Classification Plans (Marina Rosales, Peru); Theme 2.-Range Area (Patricia Dávila, Mexico); Theme 3.- Population and Environmental Parameters (Kenneth Farr, Canada) and Theme 4.- Management principles, criteria and indicators (Rafael Navarro, Spain).

A field trip to the Noh-Bec forest community, located in the Felipe Carrillo Puerto Municipality in the State of Quintana Roo, was organized in order to demonstrate community-based forest management activities for mahogany.

The following is a list of the basic elements for the formulation of Non-Detriment Findings on Mahogany (Section III) which were suggested, based on the results of the theme sessions.

- 1. Estimation of Mahogany range areas,
- 2. Population parameters,
- 3. Management principles, methods and indicators

The workshop also analyzed the cost of silviculture as well as the tools necessary to monitor and verify conservation and processing activities (Sections IV and V of Annex I). In addition, the workshop analyzed the working group's interpretation of the term "planes de ordenación de la caoba" (mahogany management plans), as a problem with the translation of this term has been identified which has affected the response of Countries of origin regarding compliance with Decision 13.58 (Annex 2).

The workshop ended with a presentation by Dr. Patricia Dávila on conclusions reached, followed by the Closing Ceremony with the participation of Dr. Francisco García García, Dr. Margarita Clemente Muñoz and Mr. José Luis Funes, representative of the Government of the State of Quintana Roo.

III. Essential elements for the formulation of Non-Detriment Findings (NDFs) on Bigleaf Mahogany (*Swietenia macrophylla*).

III.1. ESTIMATION OF MAHOGANY RANGE AREAS

Based on territorial classification at the country level, it is appropriate to identify the range area of mahogany at the national (potential), sub-national (departments, states, provinces, water basins) and local (management unit) levels. Some of the available tools for each of the three levels are:

1. National level

- a. National ecologic forest mapping (such as, Holdridge Life Zones map)
- b. National forest maps
- c. National forest inventories
- d. Available imagery (such as NOAHH, MODIS, Landsat, ASTER).

2. Sub-national (optional) level

- a. GIS resulting from national level analysis.
- b. National databases (management units)
- c. Sub-national forest inventories
- c. Sub-regional mapping derived from projects or other available sources
- d. Available imagery (such as Landsat, ASTER, SPOT)

3.: Management plan comprising two levels:

- a. Forest management unit
- · GIS of the areas under management
- · Statistical sampling (exploratory inventories from Forest Management Plans)
- · High or medium resolution images (e.g. ASTER, IKONOS, QuickBird)
- b. Harvesting plots (areas)
- · GISs of harvesting areas
- · Commercial censuses at 100% (geo-referenced databases)

The information obtained and analyzed at these three levels should make it possible to obtain potential and present distribution maps of the species throughout the country as well as to define its commercial harvesting areas.

III.2. POPULATION PARAMETERS

In order to assess Bigleaf mahogany populations (and related species) as well as the environmental conditions under which mahogany grows, periodical documentation of certain biological parameters and indicators of sustainable management is essential, as is incorporation of reference values.

1. Periodic measurement parameters

- 1.1 Characterization of the structure of mahogany populations:
- a. Direct
- Diameter [measuring trees with a Standard Diameter (SD)/DBH > 10 cm, based on an appropriate sampling method for a population with an irregular spatial distribution].
- Total and commercial height, measured or estimated (optional).
- Eco-physiographic situation [information on the populations (distribution), as well as geomorphologic, edaphic and climatic data at the location of said populations].
- b. Subsequent
- Density (trees/ha; trees/100 ha), by size classification
- Volume (m³)
- Base area (optional and additional to density)

1.2. Estimation of seed production based on annual stratified sampling of a statistically appropriate number of trees, according to a range of diameter classes, preferably before and after harvesting. In order to evaluate the regularity of seed production and to observe changes over time, it is advisable to have sampling trees located in areas that are not subjected to harvesting.

1.3. Estimation of standing trees to be harvested in the subsequent cycle (reserve trees, future harvest): trees that will be incorporated to the commercial size classification (<Minimum diameter cutting limit MDC).

2. Sustainable management indicators.

These indicators make it possible to identify the level of success of forest treatments (bearing in mind that an equivalent population of mahogany trees must be established for regeneration and maintenance purposes, so as to replace the ones that were harvested), by monitoring the following elements:

- a. Potential seed-bearing trees
- b. Regeneration rate / recruitment (natural or through enrichment planting)
- c. Replacement rate in number of trees across the range of size classifications.
- d. Number of trees available for future harvest.

3. Local reference values

These values allow monitoring of the population parameters of Bigleaf mahogany under management (in a given region) over time, providing information for adjusting future harvesting levels.

a. Testimonial information derived from compliance with the Management Plan and the annual cutting Plans. Said local references are useful to monitor harvested trees and their relationship with geo-referenced inventories.

b. Growth rate, which is obtained from permanent sampling plots or from individual mahogany trees measured regularly (preferably annual measurements). This specific type of monitoring may be simultaneously used to follow-up on other harvested species.

III.3. MANAGEMENT PRINCIPLES, MEHTODS AND INDICATORS

III.3.1. Principles

a. There is sufficient knowledge about the ecology and forest parameters of the species to establish a basic silviculture. However, more detailed information on some aspects of the species' ecology (i.e., reproductive ecology) and on some forest parameters (i.e., growth, seed tree selection criteria, MDC or target diameter, etc.) is still needed.

b. The available information suggests that mahogany, within its range, follows certain relatively homogeneous growth and/or development patterns. This, together with the relevant precautions, allows the establishment of some common reference values for silviculture of the species throughout its range area.

c. An adaptive mahogany silviculture is essential. It must be based on current knowledge, but must be subject to modification based on the results of regeneration and growth sampling practices carried out in the management areas (as per the abovementioned guidelines). Likewise, it must be founded on relevant auto-ecologic data (reproductive physiology and ecology, etc.) and must be implemented through silvicultural management parameters (rotation, cutting diameters, growth, etc.). This adaptive silvicultural principle is based on the assessment of the results obtained in management activities and must be incorporated to the species management plans.

d. Management plans constitute the foundation for the biological and/or silvicultural arguments necessary to establish the minimum diameter cutting limit and, where appropriate, the maximum diameter cutting limit, taking into consideration the seed bearing age, the annual diametric growth (available information indicates that annual growth varies between 0.4 and 0.7 cm) and the timber quality of the trees.

e. Despite the fact that this species is the primary harvesting objective, it is essential that mahogany silviculture incorporate harvesting of additional species. Doing so results in increased harvesting profitability and healthier silvicultural practices (i.e., regeneration of forest stands based on the creation of appropriately sized openings).

f. Although multiple species harvest planning may initially represent an additional cost, it provides financial support to harvest areas (by making additional resources available) and promotes comprehensive and sustainable forest management.

g. Management entails different intensity levels, ranging from intensive silviculture in plantations, semiintensive silviculture in managed secondary forests, up to extensive silviculture in low-mahogany-density primary forests. Community and industrial forest management are two-additional possibilities. However, similar minimum management guidelines and principles may be applied in both cases.

h. The outcomes of successful management programs, such as the Noh-Bec Community Forest (Mexico), must be broadly disseminated in order to enhance silvicultural knowledge of the species and improve management programs in other areas.

III.3.2. Methods that guarantee the sustainability of mahogany populations.

- a. Logging planning strategies
 - To define the type of logging to be undertaken according to the terrain and the populations.
 - Depending on the type of logging, to define the type of silviculture that will be implemented based on the distribution of the desired initial and final diametric classifications.

b. Logging: Based on the terrain and mahogany populations, different types of logging may be carried out:

- Thinning / Selection-cutting Method
- Uniform shelterwood cutting / Protective cutting
- One- or two-step clearance cutting / One- or two-step clearcutting / Cutting down to a stump
- Thinning / Clearing

c. Regeneration. Given the low natural regeneration levels of mahogany, it is necessary to define and implement the following:

- Protection of the trees to be retained for future harvests (those that will be cut during the subsequent cycle), based on inventories and silvicultural measurements.
- . Opening of clearings or forest product concentration yards in the cutting area (known as "bacadillas" in Mexico). These should ideally be areas of more than 2,000 m², although their size can vary and therefore should be defined in each processing area.
- Enrichment of clearings through planting.
- Encouraging retention and protection of seed trees, bearing in mind available information indicates that trees with a DBH of >75cm and a broad crown bear significantly more seeds than do smaller trees. However, this value may vary and therefore would need to be defined for each harvesting area.
- Establishing the maximum distance between seed trees (taking into account requirements for successful pollination).
- Development of other silvicultural treatments such as: liana cutting, directed cutting and log removal optimization (planning log removal work).
- d. Conservation
 - To protect the different populations found throughout the mahogany range in order to ensure that the variety and diversity of the populations will be preserved.
 - Establishing reserve areas (possibly areas of low density, or areas having healthy or inadequate diametric structures).
 - Adequate seed selection for enrichment plantings.
 - Sowing selected seeds or planting seedlings grown in nurseries, according to the ecological and productive conditions of the area.
 - Coordinating a mahogany seed collection and management program between national and regional seed banks and accurately documenting seed collection locations; protecting seed trees and stands, creating seed orchards.

- e. Commercial Planting
 - Establishing pure and mixed plantings and plantings in agro-forestry systems as a medium-term alternative for mahogany harvesting in natural populations.

<u>Note 1:</u> The drafting of a document that includes basic silvicultural guidelines for this species was suggested. Said document could be used as the basis for establishing the most important silvicultural parameters for mahogany management under CITES.

<u>Note 2:</u> It is important to promote and encourage training and the exchange of experience and information among the mahogany range states, so as to harmonize the knowledge of management criteria and indicators, silvicultural techniques and regeneration programs. Likewise, countries must share their experiences on subjects such as logging regulations, regulations on domestic transport control and exports. This proposal had already been made at previous Working Group meetings.

III.3.3 Logging and processing

a. Determining quotas

Establishing quotas necessarily implies an accurate knowledge of the populations. Therefore, when quotas are established without knowledge of populations and based solely on commercial and precommercial stocks, it is impossible to ensure the impact that exports will have on the populations. Likewise, establishment of quotas must be done at the management unit level, since the characteristics of the populations may vary.

- Implementation of minimum viable population models, so as to supplement the calculation of the maximum volume (number of trees) subject to harvesting. It is advisable to include growth and regeneration/recruitment data to determine harvesting volumes.
- Analysis of harvesting/export quotas based on the available yield studies (i.e., methodology proposed by Dr. James Grogan), so as to reflect losses inherent to processing round wood into sawn timber; export quality percentage; stem/bole quality (holes or poor condition) in order to identify physical and pathologic defects, and elements such as bark thickness, stem shape and others relating to size and age. Failure to take these values into consideration will probably result in an overestimation of export quotas.
- Establishing quotas one year in advance whenever possible in order to ensure verification capability.
 - b. Timber use and processing optimization
- A continuous training program for the staff involved in logging activities is required.
- In the course of census-taking activities, drafting of geo-referenced maps of harvestable and future crop trees is recommended.
 - c. Monitoring and verification
- Whenever possible, establishment of permanent plots is advisable in order to gain a detailed and long-term understanding of the impact of logging in mahogany forests.

<u>Note:</u> The establishment of databases and electronic exchange systems is recommended: (a) establishing a domestic and international database network on the existing plots for information exchange purposes; and (b) establishing a database that incorporates existing scientific information (CITES Web).

IV COST OF SILVICULTURE

Various research studies indicate that the correct implementation of silvicultural management activities for mahogany and associated tropical species will guarantee harvesting sustainability as well as increase mahogany regeneration and establishment in range areas. However, appropriate silviculture does imply additional costs necessary to meet requirements such as promoting regeneration, low-impact harvesting, timber traceability, maintenance of conservation areas, certification processes or maintenance of logging roads.

- Implementing non-detriment harvesting plans for mahogany requires external financial support. Each country should estimate the cost, according to its situation and needs. In order to determine the actual cost of harvesting plans, the creation of a cost and activity matrix has been proposed.
- Funding of a National Management Plan for mahogany should be one of a series of actions aimed at the sustainable harvesting of forest timber species, strengthening the Administrative Authority's power to control said harvesting activities.
- It is necessary to evaluate the role that the various institutions play in the creation and implementation of a national management plan, so as to define responsibilities and make efficient and transparent use of resources.
- The experience of the BOLFOR project in Bolivia may be regarded as an exemplary international forest enhancement project at the national level.
- The high cost of sustainable harvesting plans may reduce the competitiveness of timber on the international market. Therefore, it is important to revise the marketing chain so that both costs and benefits may be shared by import and export intermediaries, logging companies and end users.

V MONITORING AND VERIFICATION TOOLS FOR CONSERVATION AND HARVESTING ACTIVITIES

It is necessary to follow up conservation and harvesting activities in order to reduce illicit activities that could encourage illegal mahogany logging. Therefore, the following measures were suggested by the Group:

- Establish a timber marking and traceability system (thus strengthening the chain of custody), from harvesting to export. The model implemented by Brazil is suggested, along with prior validation of the methodology through different technical alternatives.
- Establish a verification system based on forest inventories (quality of inventories), on-site inspection of forest management plans and annual plans, as well as monitoring systems utilizing remote sensors.
- On-site verification in large mahogany harvesting areas, using a statistical sampling that guarantees compliance with the approved management and logging measures. To supplement field inventories through the use of images derived from high spatial resolution sensors (such as IKONOS or QuickBird).
- Strengthen the implementation of management plans by means of control systems combined with severe penalties in case of noncompliance, reinforced by the timber traceability systems.
- Strengthen the chain of custody of forest certification and of traceability systems as a means of intensifying the control on legally and illegally logged timber.

WORKING GROUP'S INTERPRETARION OF THE TERM "PLANES DE ORDENACIÓN DE LA CAOBA" (MAHOGANY MANAGMENT PLANS)

Decision 13.58, subparagraph a), states that:

The range states of Swietenia macrophylla (Mahogany) should:

a) Prepare and officially adopt, as a priority, forest management plans for mahogany at a national and sub-regional level.

On this subject, a semantic problem was identified. The English version of Decision 13.58, the PC14 WG7.1 working documents and those derived from CoP13: E13-COM1.04 and S13/COM1.04, refer to Management Plans for mahogany. The Spanish version of Decision 13.58 uses the term "Planes de ordenación de caoba". It was concluded that the correct reference is "Planes de manejo de caoba". This explains why, throughout the compilation exercise of the national reports on mahogany, most of the countries stated that they did not have specific management ("ordenación") plans for the species, since the term was mistaken for "ordenamiento" (classification), which refers to an instrument of higher hierarchical status (at the national or sub-national level) that surpasses the implementation scope of the NDFs. Therefore, it was acknowledged that the appropriate domain for the formulation of the NDFs is at the Management Plan level.

The Working Group's interpretation of Classification Plans is as follows:

1. Territorial classification at two levels:

National: Land classification based on its increased use capacity (forest, agricultural, livestock, urban, protection, conservation, etc.). At this level, it is necessary to chart a basic national map that includes coverage of the various types of plants and life zones (1:250,000), for identification of potential harvesting (production forests) and conservation areas. This is a necessary undertaking which is within the capabilities of all range states. Virtually all range states have such maps and it would be advisable to up-date them regularly.

Tools:

- Mapping of plant types and life zones
- National forest maps
- National forest inventories
- Use of 250m images (such as Modis, at no cost), or 30m images (such as Landsat)

Sub-national.- Classification of forest types at the level of states, provinces, departments, water basins or other smaller units at country scale. At this level, it is necessary to have larger scale maps to identify of the types (maturity level, successional stages) and current state of forests (plant communities that contain the species), whose information will be subject to on-site verification. The human resources (universities, research centers, government agencies, corporations, etc.) that are necessary to carry out this activity are available in the range states.

Tools:

- Mapping of plant types
- 30m and 15m images (such as Landsat and Aster, respectively)

Note: Teleidentification requires training plots and on-site verification.

WORKSHOP AGENDA

Monday, April 9th

REGISTRATION OF PARTICIPANTS	6:00 to 8:00 pm

Tuesday, April 10th

REGISTRATION OF PARTICIPANTS	8:30 to 9:00 am
Inaugural Session	
Opening Ceremony and workshop objectives (Mexico)	9:00 to 9:30 am
Introduction of participants	9:30 to 10:00 am

Presentation Session	
Mahogany under CITES and the mahogany working group (Chair of the Plants Committee)	10:00 to 10:25 am
Evaluating bark processing and formulating non-detriment findings on <i>Prunus africana</i> through the use of remote sensors as input for mahogany NDFs (Spain)	
What are Non-Detriment Findings (NDFs)? (CITES Secretariat)	10:25 to 10:50 am
ITTO and CITES (ITTO)	10:50 to 11:15 am
BREAK (15 min.)	11:15 to 11:30 am
Relevant information for the formulation of NDF son Timber species (Belgium)	11:30 to 11:55 am
Results of the Mahogany Comprehensive Report (Mexico)	11:55 am to 12:20 pm
Workshop logistics and expected outcomes (Mexico)	12:20 to 12:45 pm
LUNCH	12:45 to 15:00 pm
Beginning of Theme Sessions	
Theme 1: Classification Plans	
The moderator will present the main conclusions of the BMWG comprehensive report on Classification Plans	15:00 to 15:10 pm.
The experts will present a concrete and feasible proposal on methodology and analysis regarding the necessary actions in order to deal with the corresponding theme (10 min. each).	15:10 to 16:00 pm

Annex 3

Discussion among the experts	16:00 to 16:45 pm
B R E A K (15 min.)	16:45 to 17.00 pm
Theme 1 (Continued): Classification Plans	
Discussion and conclusions on this theme (open participation)	17:00 to 18:30 pm

Wednesday, April 11th

Theme 2: Range area (potential, current and under harvesting)	
The moderator will present the main conclusions of the BMWG comprehensive report on the Range Area.	9:00 to 9:10 am
The experts will present a concrete and feasible proposal on methodology and analysis regarding the necessary actions in order to deal with the corresponding theme (10 min. each).	9:10 to 10:00 am
Discussion among the experts	10:00 to 11:00 am
B R E A K (15 min.)	11:00 to 11:15 am
Theme 2 (Continued): Range area (potential, current and under harvesting)	
Discussion and conclusions on this theme (open participation)	11:15 am to 13:00 pm
LUNCH	13:00 to 15:00 pm
Theme 3: Required population parameters (Density, distribution by age or diametric classification of trees in harvesting areas, etc.)	
The moderator will present the main conclusions of the BMWG comprehensive report on required population parameters.	15:00 to 15:10 pm
The experts will present a concrete and feasible proposal on methodology and analysis regarding the necessary actions in order to deal with the corresponding theme (10 min. each).	15:10 to 16:00 pm
Discussion among the experts	16:00 to 16:45 pm
B R E A K (15 min.)	16:45 to 17:00 pm
Theme 3 (Continued): Required population parameters (Density, distribution by age or diametric classification of trees in harvesting areas, etc.)	
Discussion and conclusions on this theme (open participation)	17:00 to 18:30 pm

Thursday, April 12th

Field trip to the NOH-BEC Community Forest	
Transportation from Cancun to the Noh-Bec Community Forest in the Felipe	7:30 to 11:00 am

Carrillo Puerto Municipality	
Interview with the Noh-Bec community Forest authorities. Presentation on forest management.	10:20 to 10:40 am
Transportation to the forest areas of the Noh-Bec Community Forest; "Pozo Comenzado" (assessment of the increase in natural mahogany and thinning); "Pozo May" (clearings and harvesting area); "Huasteco" (Reserve Area) (Transportation in smaller vehicles)	12:50 a 15:30 pm
Transportation to the lunch area	15:30 a 15:50 pm
Lunch	15:50 17:30 pm
Transportation to the town of Noh-Bec (where the bus will be waiting)	17:30 a 18:00 pm
Transportation from the Noh-Bec community to the city of Cancun	18:00 a 23:00 pm

Friday, April 13th

Theme 4: Management principles, criteria and indicators (cycle, age, (rotation), intensity and minimum cut diameters, calculation of harvesting volumes, etc.)	
The moderator will present the main conclusions of the BMWG comprehensive report on Management principles, criteria and indicators (cycle, age, (rotation), intensity and minimum cut diameters, calculation of harvesting volumes, etc.)	9:00 to 9:10 am
The experts will present a concrete and feasible proposal on methodology and analysis regarding the necessary actions in order to deal with the corresponding theme (10 min. each).	9:10 to 10:00 am
Discussion among the experts	10:00 to 11:00 am
B R E A K (15 min.)	11:00 a 11:15 am
Theme 4 (Continued): Management principles, criteria and indicators (cycle, age, (rotation), intensity and minimum cut diameters, calculation of harvesting volumes, etc.)	
Discussion and conclusions on this theme (open participation)	11:15 am to 13:00 pm
LUNCH	13:00 to 15:00 pm
Drafting of the report	15:00 to 17:00 pm
Workshop conclusions	17:00 to 18:00 pm
Closing Session	
Closing Ceremony	18:00 to 18.30 pm

LIST OF PARTICIPANTS

EXPERTS

ARGÜELLES SUÁREZ, LUÍS ALFONSO Tropica Rural Latinoamericana A.C. Director Yaxcopoil 507. Fracc. Residencial Chetumal Chetumal, Quintana Roo Tel:00 52 983 83-5-34-58 e-mail: alfarguelles@tropicarural.org

GROGAN, JAMES* University of YALE Research associate 360 Prospect St, New Haven,CT, EUA Tel +01-413-5488180 e-mail: jgrogan@crocker.com

KOMETTER MOGROVEJO, ROBERTO Intercooperation: Programa Regional ECOBONA Coordinador Chiclayo No. 209 Lima, Peru Tel.-00(511) 2414012 (511) 2414012 e-mail: rkometter@intercooperation.org.pe rkometter@yahoo.com

NAVARRO PEREIRA, CARLOS MANUEL Lider de Proyecto, CATIE Seedsource, CATIE 7170 Turrialba, Costa Rica Tel:00 506 5566706 e-mail: cnavarro@catie.ac.cr

SNOOK, LAURA Directora, Understanding and Managing Biodiversity Bioversity International Via dei Tre Denari No. 472/a Roma, Italia C.P. 00057 (Maccarese) Tel.-00 39 066118343 e-mail: I.snook@cgiar.org

FROM RANGE STATES:

BELIZE

NOVELLO, DARRELL Departamento Forestal de Belice Jefe de Aprovechamiento Forestal Forest Drive, Belmopan, Belice Tel:00 501 -822-1524 e-mail: dnovelo9@hotmail.com

BOLIVIA

TOLEDO DE VROOMANS, MARISOL Instituto Boliviano de Investigación Forestal IBIF Autoridad Científica CITES Directora Ejecutiva a.i. Cuarto Anillo esq. Av. 2 de Agosto s/n C:P. 6204 Santa Cruz de la Sierra, Bolivia Tel:00 591-3 364-0852 e-mail: mtoledo@ibifbolivia.org.bo

BRAZIL

CHAVES, JOSÉ HUMBERTO IBAMA Instituto Brasileiro Do Meio Ambiente e Dos Recursos Naturais Renovaveis Coordinador General de Recursos Forestales Scen Trecho 2 Edificio Sede Ibama Bloco B Brasilia DF, Brasil C:P: 70.818-900 Tel: 00 55 61-33-16-1474 e-mail: Humberto.chaves@uol.com.br Jose.chaves@ibama.gov.br

COLOMBIA

PULIDO PÉREZ, LUZ STELLA Ministerio de Ambiente, Vivienda y Desarrollo Territorial Profesional Especializado Calle 37 No. 8-40 Bogota, Colombia Tel: 00 57-1-3323633 Fax: 00 57-1-3323457 e-mail Ispulido@miniambiente.gov.co Lspulido@minambiente.qou.co Lspulido@tutopia.com

COSTA RICA

RIVERA LUTHER DORA INGRID Universidad Nacional Autoridad Científica y Representante Regional Comité Flora Ap. Postal 1916-3000, Heredia, Costa Rica Tel: (506) 2930652 Celular: (506) 3722980 Fax: (506) 2376427 e-mail: dora.ingrid.rivera@gmail.com

ECUADOR

VELASCO RUANO, CHRISTIAN

Ministerio del Ambiente del Ecuador Director Nacional Forestal Autoridad Administrativa CITES Eloy Alfaro y Amazonas Edificio MAG, piso 8 Quito, Ecuador Tel:00 593-22563544 Fax: 00 593-22563542 e-mail: cvelasco@ambiente.gov.ec das cvelasco@hotmail.com

GUATEMALA

CALDERÓN CHAVARRIA, LUIS CONAP Técnico Forestal 5 AV. 6-06 Z 1 Ed IPM Guatemala Tel.-00 502 24226700 e-mail Lcalderon@conap.gob.gt

HERRERA LÓPEZ, CESAR VINICIO CONAP Subdelegado de Manejo Forestal Antiguo Hospital San Benito, Peten San Benito, Peten, Guatemala Tel.-00 502 79528800 00 502 22534141 e-mail cevinicio@gmail.com

LÓPEZ TEJADA, EDIN ORLANDO CONAP Director del Departamento Forestal Antiguo Hospital San Benito, peten San Benito, Peten, Guatemala Tel.-00 502 79528800 00 502 22534141 e-mail edintejada@yahoo.es

NAVARRO RAMÍREZ, JIMMY ALEXANDER CONAP Director Forestal 5 AV.6-06- Z.1 Ed. IPM Guatemala, Guatemala Tel.-00 502 24226700 e-mail forestal@conap.gob.stt

ORDÓÑEZ CHOCANO, HIRAM Consejo Nacional de Áreas Protegidas (CONAP) Director del Departamento. de Vida Silvestre Autoridad Científica, CITES 5 AV.6-06- Z.1 Ed.IPM Guatemala, Guatemala Tel.-00 502 24226700 ex 2005 e-mail hordónez@conap.gob.gt. hiramvet@yahoo.com

HONDURAS

CRUZ LOBO SANTOS EDGARDO

AFE-COHDEFOR Sub Gerente General Col. Brisas de Olancho Tegucigalpa M.D.C. Honduras Tel.00 (504) 223-88-10 e-mail ecruzlobo@yahoo.es

MEXICO

AGUILAR HERNÁNDEZ, MARIO Comisión Nacional Forestal Gerente de Silvicultura Comunitaria Periférico Poniente No. 5360 C.P. 45019 Zapopan, Jalisco, Mexico Tel.-01-333-777-7000 Ext.2400 e-mail maguilar@conafor.gob.mx

ÁLVAREZ ROMERO, JORGE .G. (CONABIO) Coordinador CITES Liga Periférico-Insurgentes Sur 4903, piso 2 Col. Parques del Pedregal, 14010 México, DF Tel.-01 (55)50044945 e-mail jalvarez@xolo.conabio.gob.mx

BENÍTEZ DÍAZ, HESIQUIO

Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) Director de Enlace y Asuntos Internacionales Liga Periférico-Insurgentes Sur 4903, piso 2 Col. Parques del Pedregal, 14010 México, DF Tel.-01 52 55 5004 5025 01 52 55 5004 4985 e-mail hbenitez@xolo.conabio.gob.mx

CASTILLO GARCIA, JULIA Procuraduría Federal de Protección al Ambiente (PROFEPA) Subdirectora de Inspección Técnica Forestal Carretera al Ajusco 200 14210 México, D.F. Tel:01 52 55 54 49 63 00 ext. 16162 Fax:01 52 55 54 49 63 00 ext. 16291 e-mail: jcastillo@profepa.gob.mx

DE LA TORRE NAVARRO MAYRA

CONAFOR Unidad de Asuntos Internacionales y Fomento Financiero Jefe del Departamento de Financiamiento Periférico Pte No.536 Col. San Juan de Ocotán Zapopan, Jal. C.P 45019 Guadalajara, Jalisco, México Tel.01 52 33 37777047 01 52 33 37777045 e-mail mdltorre@conafor.gob.mx DEL ÁNGEL SANTOS, DAVID SEMARNAT Jefe de la Unidad de Aprovechamiento y Restauración de Recursos Naturales Insurgentes 445, Col. Magisterial, Chetumal. C.P. 77035 Chetumal, Quintana Roo, México Tel.- 00 (983) 83 5-02-02 00 (983) 83 5-02-28 e-mail david.delangel@semarnat.gob.mx

GARCÍA NARANJO ORTIZ DE LA HUERTA, ALEJANDRA

(CONABIO) Representante Autoridad Científica CITES Liga Periférico-Insurgentes Sur 4903, piso 2 Col. Parques del Pedregal, 14010 México, DF Tel.-01 (55)50044937 e-mail algarcia@xolo.conabio.gob.mx

MARTÍNEZ OROZCO, LINO SEMARNAT

Jefe de la Unidad de Aprovechamiento y Restauración de Recursos Naturales Insurgentes 445, Col. Magisterial, Chetumal. C.P. 77035 Chetumal, Quintana Roo, México Tel.-00 (983) 83 5-02-02 (983) 83 5-02-28 E-mail lino.martinez@semarnat.gob.mx

RÍOS RODRÍGUEZ, RICARDO Dirección General de Gestión Forestal y de Suelos Director de Aprovechamiento Forestal Av. Progreso 3, Col. del Carmen, Delegación Coyoacán, 04100 México, DF Tel.01 -52 55 54843508 01 52 55 54843523 e-mail ricardo.rios@semarnat.gob.mx

URBANO GUTIÉRREZ, LEONEL FRANCISCO Dirección General de Vida Silvestre Subdirector de Acuerdos y Convenios para la vida Silvestre Av. Revolución 1425, 01040 Col. Tlapopac Del. Álvaro Obregón México, DF Tel.-0152 55 56243659 01 52 55 56243642 e-mail lurbano@semarnat.gob.mx

VALDOVINOS CHÁVEZ, GRACIELA CONANP. Dir. Regional Peninsular de Yucatán. Técnica superior Venado No 71 SM20 MZ.18 Cancún 77500 Cancún, Q.ROO, México Tel.-01529988871969 e-mail qvaldovinos@conanp.gob.mx gracievaldovinos@yahoo.com

NICARAGUA

CUADRA CRUZ, MARTÍN ALBERTO Instituto Nacional Forestal Director Coordinación Territorial Km 12 ½ Carretera Norte Managua Managua , Nicaragua 25-19-028 Tel.-00505 311 60-39-509 00 505 311 3-34-699 e-mail martincuadracruz@hotmail.com _mcuadra@inafor.gob.ni

PANAMA

CUBAS PÉREZ, NARCISO MAO Autoridad Nacional del Ambiente Ingeniero Forestal Albrook Edif. 804 Ciudad Panamá Panamá, Panamá Tel.-00(507) 500-0803 e-mail maocubas19@yahoo.com

PERU

NÚÑEZ NEYRA, FABIOLA ROCÍO Instituto Nacional de Recursos Naturales (INRENA) Especialista Forestal Calle 17 No. 355 Urb. El Palomar. San Isidro .Lima. C.P. 27 Lima Perú Tel.- 00 511-22-66-67 e-mail fnunez@inrena.gob.pe fabinunez77@gmail.com

FROM CITES AND CITES AUTHORITIES

SOSA SCHMIDT, MILENA Secretaria CITES Oficial Científico (Flora) Chemin des Anemones No. 13-15 C.P. 1219 Geneve Suiza Tel.-+ 41 22-917-8434 e-mail milena.schmidt@cites.org

CLEMENTE MUÑOZ, MARGARITA ÁFRICA Catedrática y Presidenta del Comité de Flora Campus Rabanales, Edif. Mutis (C4)-2ª Planta, ETSIAM Universidad de Córdoba 14 071Córdoba España Tel./Fax: + 34 957 212185 e-mail cr1clmum@uco.es GUZMÁN Y FIGUEROA, ANA LUISA CONABIO Directora Ejecutiva y Autoridad Científica Periférico-Insurgentes Sur 4903, piso 2 Col. Parques del Pedregal, 14010 México, DF Tel.-01 52 55 5004 5024 O1 52 55 5004 4985 e-mail se@xolo.conabio.gob.mx

VARGAS PRIETO, MARTÍN Dirección General de Vida Silvestre Director General y Autoridad Administrativa CITES de México Av. Revolución 1425, 01040 Tlalopac Del. Álvaro Obregón México, DF Tel.-01 52 55 56243310 01 52 55 56243642 e-mail martin.vargas@semarnat.gob.mx

GARCÍA GARCÍA, FRANCISCO Dirección General de Gestión Forestal y de Suelos Director General y Presidente del Grupo de Trabajo de la Caoba Av. Progreso 3, Col. del Carmen, Delegación Coyoacán, 04100 México, DF Tel.-01 52 55 54843505 01 52 55 54843569 e-mail fgarcia@semarnat.gob.mx

DÁVILA ARANDA, PATRICIA Universidad Nacional Autónoma de México(UNAM) Investigador Titular C y Copresidente del Grupo de Trabajo de la Caoba Av. De los Barrios No.1C.P. 54090 México, DF Tel.-01 56-23-12-19 e-mail pdavilaa@servidor.unam.mx

ROSALES BENÍTEZ DE FRANCO, MARINA Instituto Nacional de Recursos Naturales (INRENA) Especialista en conservación de la biodiversidad Vicepresidente del Grupo de Trabajo de la Caoba Calle 17 No. 355 Urb. El Palomar. San Isidro .Lima C.P. 27 Lima, Perú Tel.-01 51-1-2259809 e-mail mrbenites2002@yahoo.es mrosales@inrena.gob.pe

EUROPEAN REGION REPRESENTED BY:

SPAIN

CLEMENTE MUÑOZ, MARGARITA ÁFRICA

Liga GARCÍA-FERRER PORRAS, ALFONSO Profesor Titular Campus de Rabanales Edif. C5- 2ª, 14071 Córdoba, España ETSIAM Universidad de Córdoba 14071 Córdoba España Tel.- + 34957218537 + 34957218538 e-mail agferrer@uco.es

> NAVARRO CERRILLO, RAFAEL MA. Profesor Titular ETSIAM Av. Menéndez Pidal S/N Universidad de Córdoba 14071- Córdoba España Tel.-+ 34-957-218657 e-mail ir1nacer@uco.es

BELGIUM

VAN DAMME, PATRICK Universiteit Gent Profesor Coupure links No. 653 B 9000 Gent Gent Belgica Tel.- +00 329-264-6241 +00 329-264-6087 e-mail Patrick.VanDamme@Ugent.be

OTHER PARTICIPANTS

JOHNSON, STEVE International Tropical Timber Organization (ITTO) Associated Director International Organizations Center, 5th Floor Pacific-Yokohama, 1-1-1, Minato-Mirai, Nishi-ku, Yokohama, 220-0012 Japan Tel: + 81-45-223-1110 Fax: +81-45-223-1111 e-mail johnson@itto.or.jp

FARR, KENNETH Natural Resources Canada, Canadian Forest Service CITES Scientific Authority 580 Booth St. 12th D3-4 Ottawa,ON. Canada Tel.-00 613-947-9007 e-mail kfarr@nrcan.gc.ca

GENOVESE, KRISTEN Defenders of Wildlife

Abogada

1130 17th St, NW, 20036 Washington, DC, USA + Tel.-001 (202) 772-762-3234 e-mail KGenovese@defenders.org

OTAROLA ACEVEDO, ERASMO World Wildlife Fund Inc. Gerente del Programa de Bosques Trinidad Moran No. 853, Lince Lima, Perú Tel.-00 511-44-05550 e-mail Erasmo.otarola@wwfperu.org.pe

SHEA, BRIGID International Wood Products Association Special Projects 4214 King St, West Alexandria, Virginia, USA Tel:00 703 8206696 Fax:00 703 8208550 e-mail: brigid@iwpawood.org