For centuries, Big-leaf Mahogany *Swietenia macrophylla* has been sought, traded and used for the production of wood products of high quality, beauty and durability. Caribbean Mahogany *S. mahagoni* and Honduras Mahogany *S. humilis* once supplied the world’s mahogany markets, but both are now considered commercially extinct throughout much of their ranges, their listing in Appendix II of CITES coming too late to support sustainable management. Big-leaf Mahogany has replaced these species as the most sought-after mahogany and is the only remaining member of the genus *Swietenia* commercially available. This makes it perhaps the most commercially important tree from the Neotropics. Illegal logging and unregulated trade pose major threats to populations of this species, potentially exhausting commercial supplies of this valuable timber in the future if not addressed. The species has therefore been proposed for inclusion in CITES Appendix II by the Governments of Nicaragua and Guatemala during the twelfth meeting of the Conference of the Parties to CITES (CoP 12). The proposal is limited to Neotropical populations and excludes plantations of this species found elsewhere in the world.

Mahogany (known as ceoba throughout much of Latin America, as *mogno* in Brazil, *mara* in Bolivia, and *huano* in Ecuador and Peru) is patchily distributed from southern Mexico through Central and into South America, to its southern limits in Bolivia and Brazil. While information on mahogany inventories and status is incomplete, indications of sharp population declines and increased fragmentation are already evident. Population reductions in Central America are estimated at over 70% since 1950 and the species is reported to be commercially extinct in El Salvador, Costa Rica and in parts of South America such as Mato Grosso in Brazil, and Beni in Bolivia. Deforestation has reduced Big-leaf Mahogany ranges by over 60% in Central America and by 30% in South America (see Table 1).

Where mahogany still occurs, estimated densities are very low, estimated at 0.025 to 2 trees/ha for commercially sized trees. This slow-growing species has specialised regeneration requirements, and there are concerns that populations are sensitive to generic erosion. Range States have few resources to monitor and manage replanting activities.

<table>
<thead>
<tr>
<th>Estimated Reduction in Big-leaf Mahogany Ranges</th>
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<tbody>
<tr>
<td>Costa Rica 84%</td>
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<tr>
<td>El Salvador 81%</td>
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<tr>
<td>Mexico 80%</td>
</tr>
<tr>
<td>Panama 74%</td>
</tr>
<tr>
<td>Venezuela 70%</td>
</tr>
<tr>
<td>Peru 53%</td>
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<tr>
<td>Ecuador 42%</td>
</tr>
</tbody>
</table>

Data from various sources.

Trade

Peru, Brazil, Bolivia and Nicaragua are the world’s largest suppliers of mahogany to the international market. CITES-reported exports of *S. macrophylla* totalled approximately 150 000 m³ per year during the late 1990s, falling to approximately 120 000 m³ in 2000. Declines were very dramatic in a number of exporting countries such as Bolivia and Nicaragua where exports in 2000 were only about one-fifth of export volumes in 1997. Exports from Brazil, which has the largest remaining natural mahogany stands, declined from 63 000 m³ to 42 000 m³ during the same period - reflecting stricter harvest and export controls, as well as declining populations. It seems unlikely that declining exports of logs and sawn
timber correspond to increased exports of finished products from those countries. However, there is every indication that these export reductions have increased pressure on *S. macrophylla* populations in Peru where, in sharp contrast, mahogany exports increased from 11,000 m³ to 74,000 m³ during the same period.

The USA has consistently been the largest importer of mahogany, followed by the European Union (with the United Kingdom being the largest EU importer) and, more recently, the Dominican Republic. Imports into the USA appear to have remained relatively stable in recent years while those into the UK have declined significantly, and those into the Dominican Republic have increased. Local consumption is important in all range States, but has declined in Bolivia and Brazil, possibly reflecting the fact that logging of this species is primarily driven by high prices in the international market - with a cubic metre fetching up to USD1300, according to the International Tropical Timber Organisation (ITTO).

**Major threats**

A potent combination of the species' biological characteristics, habitat decline, high international demand, profitable prices and increasing illegal activity is severely undermining the efforts of national governments to ensure the sustainability of the harvest and trade in this valuable timber species.

Most range States have strengthened harvest and trade legislation and controls since the 1980s, incorporating requirements related to sustainable management and legal origin. Forestry legislation in all of the range States requires the use of Forestry Management Plans for implementing sustainable forest management, as well as the establishment of inventories. However, many range States fail to monitor and supervise the implementation of such Plans and, where they are monitored, results have been discouraging. For example, an analysis in Brazil revealed only six of the ten largest mahogany exporters in the State of Pará complied with the minimum requirements of their forest management plans in 1995. An evaluation of the implementation of over 700 forest management plans in Brazil in 1996 resulted in 70% of the plans either being suspended or cancelled.

Reported cases of illegal logging are on the increase in South America, with such activities even taking place in indigenous reserves and protected areas - even though only 5% of the species' original range is within Protected Areas in Mesoamerica and just 3% in South America. Despite measures taken to combat illegal logging in Brazil (including a temporary ban on logging, production and trade), Brazil's Secretariat for Strategic Affairs of the Presidency of the Republic reported that “80% of wood currently being extracted from tropical forests is being done illegally, with timber companies taking 15 to 20 times their allotted amounts of wood”. Belize estimates that 40% of all its trade is illegal, of which 25% is cross-border trade. In Central America, timber from illegal logging is estimated as being twice the amount from legal sources. In Peru, *S. macrophylla* continues to be logged illegally in protected areas, indigenous reserves and forest concessions.
In many cases, domestic controls have either come too late to prevent unsustainable harvest or are insufficient to protect remaining stocks from illegal logging and entry of illegally taken logs into international trade. The effectiveness of any domestic controls is further diminished by financial, logistical and human resource limitations faced by the authorities tasked to implement and enforce them.

Increasing transparency

Six range States have included their populations of Big-leaf Mahogany in CITES Appendix III and this has generally complemented domestic controls. More importantly, the Appendix III listing has not been perceived as an administrative burden by Management Authorities and Customs and has, in fact, increased the transparency of the trade, helping countries to compare their export volumes with imports reported by consumer countries and providing much-needed trade information for monitoring and analysis. However, Appendix III implementation has also revealed numerous problems with border controls (including with cross-border trade and re-exports) and non-compliance or discrepancies in trade reporting. Inconsistencies in trade reporting reduce the usefulness of the data gathered to assess overall trade volumes.

Much stronger efforts are needed to ensure that mahogany in international trade is from sustainably managed sources and of legal origin - features that Appendix III requirements cannot provide but which would provide a boost to consumer confidence. Appendix II listings, on the other hand, do provide requirements to fulfil two crucial export provisions - that the timber or other products have been legally-obtained and that harvest was not detrimental to the survival of the species. National forest legislation in each of the range States would underpin Appendix II trade measures, as all range States are pursuing the goals of sustainable forest management as part of their national forest programmes. The listing of Big-leaf Mahogany in Appendix II would provide for stronger and more consistent application of CITES trade controls (Appendix III implementation still being patchy), especially with respect to the control of imports and re-exports, and verification that mahogany in trade had been obtained in a legal manner.

An Appendix II listing would require a Scientific Authority appointed by the national government to provide advice and information to determine that exports are not detrimental to the survival of the species - in effect, that the species is harvested at a sustainable level. A government-appointed Management Authority would then inspect shipments or otherwise confirm that mahogany to be exported was not obtained in contravention of the laws of the country before issuing a CITES export permit. This could effectively help governments tackle the growing problem of illegal logging and illegal timber trade through the verification of permits and the chain-of-custody process that is implicit in these provisions. It would provide a dual checking mechanism to detect illegal trade. The legality of the permit and shipment would be checked at the point of export and, upon arrival at the importing country, the shipment would be inspected along with the CITES permit that accompanied it.

The increased transparency in the trade that would result could assist Governments to better monitor the industry and extraction from the forest and hence increase the flexibility for adjusting their management regimes accordingly. This would also boost consumer confidence in the legal origin of the product, complementing existing initiatives from government and industry as well as certification efforts.

The first proposal to list Big-leaf Mahogany in Appendix II was put forward at CoP 9 in 1992 amid evidence of range restriction, fragmentation and population declines. Ten years later, both observed and predictive information to demonstrate these declines has improved - but the status of the species clearly has worsened. Appendix II provisions would help governments arrest this downward spiral. An Appendix II listing would give governments the controls, processes, tools and information that would assist them in managing their mahogany resources so that the species does not reach the point where, as in Brazil, trade bans may be the only option left to them, or alternatively, it becomes commercially extinct.
CITES chronology of American mahoganies

1975 Caribbean Mahogany *Swietenia mahogoni* is listed in Appendix II.

1992 (CoP 8) Remaining two species in the genus *Swietenia*, Honduras Mahogany *S. humilis* and Big-leaf Mahogany *S. macrophylla*, proposed for inclusion in Appendix II in separate proposals by Costa Rica and the USA. The US proposal is supported by Brazil. The Costa Rican proposal is withdrawn in Committee and the US Proposal narrowed during the CoP first to include only the Central American populations, which is not supported, and then to include only Honduras Mahogany *S. humilis*, which is accepted.

1994 (CoP 9) Big-leaf Mahogany proposed for inclusion in Appendix II by the Netherlands. The majority of Parties vote in favour but votes fall short of the 2/3 majority by six votes and the proposal is not accepted.

1994 (CoP 9) CITES Timber Working Group (TWG) is created to assess Convention for timber species, including representatives from major exporting and importing countries, industry and conservation organisations.

1995 Appendix III listing of Big-Leaf Mahogany is implemented by Costa Rica. This requires all shipments in international trade to be accompanied by CITES documents.

1997 (CoP 10) Big-leaf Mahogany is proposed for inclusion in Appendix II by Bolivia and the USA. The majority of Parties vote in favour but votes fall short of the required 2/3 majority by six votes and the proposal is not accepted. Brazil offers to convene a mahogany working group, which is endorsed by the Parties and a potential second vote in plenary is not requested.

1997 (CoP 10) Recommendations of the TWG are accepted, including recognition of the valid role of CITES in regulating trade in commercial timber species and modification of CITES permit requirements in view of certain timber trading practices. Relevant resolutions and decisions are adopted by consensus.

1998 Bolivia, Brazil and Mexico list their Big-leaf Mahogany populations in Appendix III; Brazil convenes a mahogany working group meeting.

2000 (CoP 11). Parties consider the report of the working group meeting and subsequent progress and conclude that a formal CITES process to address trade concerns is required. Parties agree Decision 11.4, which establishes a CITES Mahogany Working Group (MWG), with specific terms of reference.

2001 MWG meets in Bolivia and considers a range of issues including harvest sustainability and silviculture, illegal trade and Appendix III implementation, making a series of recommendations aimed at addressing concerns. Consideration of the merits of an Appendix II listing is not provided for in the terms of reference and therefore not covered on the agenda.

2001 Peru and Colombia list their Big-leaf Mahogany populations in Appendix III.

2002 (pre-CoP 12) Big-leaf Mahogany is proposed for inclusion in Appendix II by Nicaragua and Guatemala. Support for the proposal voiced by the CITES Technical Committee of the Central American Commission on the Environment and Development (Comisión Centroamericana de Ambiente y Desarrollo, CCAD), the CITES Secretariat, the UK Timber Trade Federation, the European Hardwood Federation and IMAZON (Amazon Institute of People and the Environment).

2002 (pre-CoP 12) MWG and CITES Secretariat table Doc. 12.47, report and recommendations of the MWG meeting.