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

Nineteenth meeting of the Conference of the Parties
Panama City (Panama), 14 – 25 November 2022

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Inclusion of the three genera *Handroanthus*, *Roseodendron* and *Tabebuia* in CITES Appendix II, justified by the following criteria:

Resolution Conf. 9.24 (Rev. CoP17), Annex 2 a, Criterion B –" It is known, or can be inferred or projected, that regulation of trade in the species is required to ensure that the harvest of specimens from the wild is not reducing the wild population to a level at which its survival might be threatened by continued harvesting or other influences".

Resolution 9.24 (Rev. CoP17), Annex 2 b, Criterion A – "The specimens of the species in the form in which they are traded resemble specimens of a species included in Appendix II under the provisions of Article II, paragraph 2 (a), or in Appendix I, so that enforcement officers who encounter specimens of CITES-listed species are unlikely to be able to distinguish between them".

Species known to be in trade (evidently including, but not limited to *H. serratifolius and H. impetiginosus*) meet the criteria for inclusion in Appendix II in Annex 2 a of *Res. Conf. 9.24 (Rev. CoP 17)*, and the remaining species of the three genera meet the criteria for inclusion in Appendix II in Annex 2 b of *Res. Conf. 9.24 (Rev. CoP 17)*, based on the reported identification difficulties as well as taxonomic and nomenclatural uncertainties.

Annotations:

Inclusion in Appendix II with the following annotation:

17 - Logs, sawn wood, veneer sheets, plywood and transformed wood.

B. Proponent

Colombia, European Union, Panama [*]

C. Supporting statement

1. Taxonomy

1.1 Class: Magnoliopsida

---

[*] *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

1.2 Order: Lamiales

1.3 Family: Bignoniaceae

1.4 Genus, species or subspecies, including author and year:

Handroanthus spp., *Tabebuia* spp., and *Roseodendron* spp. (see **Annex 1** for species details).

Currently, 35 species are recognized as *Handroanthus*, 76 species as *Tabebuia* and 2 species as *Roseodendron* (WCVP 2021; **Annex 1**

1.5 Scientific synonyms:

Originally, species now belonging to the genera *Handroanthu*s, *Tabebuia* and *Roseodendron* were included in the genus *Tabebuia* created by De Candolle (1838). Grose and Olmstead (2007b) proposed, based on phylogenetic studies, the division of *Tabebuia* into three genera: *Tabebuia, Handroanthus* and *Roseodendron*, definitively confirming the segregation proposed by Mattos (1970) and the existence of different lineages within the group. **Annex 1** provides a list of all species with associated synonyms

1.6 Common names:

English:	trumpet trees
French:	ébène verte
Spanish:	ipê, tajibo, lapacho, guayacan, primavera, amapola, tahuari, apache, maculís, palo de rosa, rosa morada, cortez, cortez negro, guayacán amarillo, cortés amarillo, corteza amarilla, roble.

1.7 Code numbers:

2. Overview

The genera *Handroanthus*, *Tabebuia* and *Roseodendron* together comprise 113 species of trees (occasionally shrubs) that are distributed in the Americas from Mexico, United States of America (USA) south to Argentina and the Caribbean. The timber, generally traded as “ipê”, is of increasing economic importance as it is hard and durable and is mainly exported as deckings, sawn wood and floorings for use in furniture and construction. The main importers are the European Union and the United States of America. Over 525 million kg (or 469,613 m3) of ipê timber products were exported from Bolivia, Brazil, Paraguay, and Peru between 2017 and 2021. The majority of ipê is exported from Brazil, which accounted for 96% of the trade (based on volume). At least 13 species of *Handroanthus* were reportedly exported from Brazil during 2010-2016, however some trade occurs at the genus level. The low natural density and the low growth rate of *H. serratifolius,* as well as *H. impetiginosus*, typical of most of the other species within the three genera, combined with high demand for international trade, habitat loss and degradation, has resulted in populations being negatively impacted. In the forests of northeastern Brazil, *H. impetiginosus* and *H. serratifolius* have shown drastic population declines, with no evidence of long-term population recovery. *H. serratifolius* is categorised as globally Endangered in the IUCN Red List of Threatened Species on the basis that it is threatened by international trade and is predicted to experience a population decline of at least 50% over the next 100 years. *H. impetiginosus* is assessed as Near Threatened, noting that its populations have declined considerably as a result of unsustainable exploitation for the international timber trade, with population declines of at least 25% expected over the next 100 years.

Although the known main international trade is in two species (*H. serratifolius* and *H. impetiginosus*), the trade name ipê widely refers to any species of the three genera, as timber trade data are generally not recorded at the species level. Distinguishing distinct species of the three genera based on timber is macroscopically and microscopically not possible. Current evidence suggests that exploitation of *H. serratifolius, H. impetiginosus* and potentially numerous other ipê-species for which trade data cannot be clearly assigned to a specific species, may lead to commercial extinction. According to IUCN Red List assessments, ipê (or species of *Handroanthus*, *Tabebuia* and *Roseodendron*) is increasingly being exploited unsustainably.

Regulation of international trade in the species of these three genera is therefore necessary to ensure that it does not reduce wild populations to a level at which their survival might be threatened. This proposal suggests that the species of the genera *Handroanthus, Tabebuia* and *Roseodendron* meet the criteria for

listing in CITES Appendix II in compliance with Article II, paragraph 2 (a) of the Convention and Resolution Conf. 9.24 (Rev. CoP17) under Annex 2 a Criterion B (at least *H. serratifolius* and *H. impetiginosus,* but likely additional species in trade), and Annex 2 b Criterion A based on their similarity.

3. Species characteristics

3.1 Distribution

Species of the genera *Handroanthus, Tabebuia* and *Roseodendron* are distributed in the Americas from **Mexico** and the Caribbean south to **Argentina** (BGCI, 2021, Grandtner & Chevrette 2013, Grose & Olmstead 2007b). A list of all species with their distribution and range States can be found in **Annex 1**. Of the two main species in trade *H. serratifolius* is native to the **Plurinational States of Bolivia (hereafter, Bolivia), Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Trinidad and Tobago, and the Bolivarian Republic of Venezuela (hereafter Venezuela),** is reported to be introduced in **Cuba, Puerto Rico (USA)** and the **Venezuelan Antilles**. It has an extent of occurrence of 12.4 million km^2 (Hills 2021a). The second species known to be extensively traded, *H. impetiginosus*, is distributed in **Argentina, Bolivia, Brazil, Colombia, Costa Rica, El Salvador, French Guiana, Guatemala, Honduras, Mexico, Nicaragua, Panamá, Paraguay, Peru, Suriname,** and **Venezuela** and has an extent of occurrence of over 24 million km^2 (Hills 2021b). Distribution maps for *H. serratifolius and H. impetiginosus* are provided, respectively, in **Annexes 2 and 3**.

3.2 Habitat

Species of *Handroanthus, Tabebuia and Roseodendron* inhabit various types of vegetation, dense tropical forest, medium and low evergreen and sub-deciduous forest, gallery forest and mountain mesophilic forest. They are also widely dispersed in secondary formations and in grassland (Gónzalez et al. 2018; CONAFOR 2018, CONABIO 2018): predominantly on well-drained soils of limestone, igneous or alluvial origin located on slopes (Lorenzi 2002) and in swampy or floodplain forests. They occur from sea level up to 1,200 m altitude (Gentry 1992). In **Brazil**, *Handroanthus* spp. grow in the Tierra Firme Forest, the Seasonal Perennial Forest and the Ombrófilo Forest (Lohmann 2015).

H. serratifolius[1] *(T. serratifolia*) inhabits humid tropical climates in an altitudinal range from 100 to 1,200 m a.s.l. (Justiniano et al.,2000), but can also be found in savannas (Ferreira Alves et al. 2013). It is adapted to low, moist sites with acidic, heavy silty to clayey soils (Justiniano et al. 2000). *H. impetiginosus (T. impetiginosa)* occurs in tropical and subtropical climates with seasonal rainfall regimes and annual precipitation between 500 and 1,200 mm/year (exceptionally up to 2,000) in altitudes from 0 to 1,400 m a.s.l.. The species is not associated with a particular vegetation formation and is rather found in a variety of conditions, both topographically and edaphically. However, it is best adapted to forests with seasonally sub-humid climates, growing on plateaus, well-drained slopes and even on steep terrain, tolerating a wide range of acidity and alkalinity, soils and substrates, provided they are well drained (Justiniano et al. 2000).

3.3 Biological characteristics

Species of the genera *Handroanthus, Roseodendron* and *Tabebuia* are mainly trees, occasionally shrubs (Grose and Olmstead 2007a). Most species are deciduous, heliophytic (light-demanding) and can grow up to 30-40 m high and 2.80 m in diameter (Justiniano et al. 2000; Schulze et al. 2008b). *H. serratifolius* (*T. serratifolia*) and *H. impetiginosus* (*T. impetiginosa*) can reach 2 m in diameter and 50 m in height (Schulze et al. 2008b). Both species reach lower heights in the central Brazilian cerrado (savanna) but occur as large trees in remnant Atlantic Forest fragments (Schulze et al. 2008b). During the dry season, *H. serratifolius* presents mass flowering, which lasts about 45 days (Ferreira Alves et al. 2013). In addition to the slow growth rate and requirement of large forest areas with little competition from other plants to reach the canopy (Justiniano et al. 2000), most *Handroanthus* (*Tabebuia*) species show little success in regenerative reproduction. IUCN and TRAFFIC (2019) reported that no evidence of regrowth of *Handroanthus* trees were found in logged areas due to the slow growth of the species. However, in **Bolivia**, *Handroanthus* (*Tabebuia*) species were reported to be able to regenerate vigorously through sprouts in the trunk and lesions in the root system; in natural forests, the areas with the highest probability of regeneration were reported as those burned by fire, those with disturbed soils, or riverbanks (Justiniano et al. 2000). To date, the understanding of size and age specific growth and

[1] *In the original publication referred to as* T. impetiginosa; *please note that throughout the document, the currently valid name will be presented, and the synonym referred to in the original publication will be presented in parentheses following the valid name.*

mortality rates remains limited for all species of the three genera (Justiniano et al. 2000; Schulze et al. 2008b).

Regarding regenerative reproduction, low reproductive efficiency was observed for *H. serratifolius*. Bees of the genera *Centridini* and *Euglossini* are the main pollinators and due to the low availability of nectar, pollinators are forced to visit various flowers (Ferreira Alves et al. 2013). Trees usually exhibit mass-flowering pattern, which creates a large visual display of flowers. Although flowering is a regular phenomenon, seed production can vary considerably from year to year. These fluctuations are determined by sudden drops in temperature and by rain, which can interrupt the formation of flowers or cause the loss of immature fruits (Justiniano et al. 2000). Although the flowers are perfect, some species are known to be self-incompatible (Barros 2001; Ferreira Alves et al. 2013). The fruit of *H. serratifolius* is a 7 to 30 cm long, two-valved capsule containing many flat seeds with papery wings at each end which are dispersed by wind (Martins et al. 2008). The annual diameter growth rate for *H. serratifolius* has been found to be 0.3 cm in a study in a tropical dry forest in **Costa Rica** (Valverde et al. 2021).

In **Bolivia**, seed viability is short and does not last more than three months for all species of *Handroanthus* (*Tabebuia*). The germination rate is generally high. Shoots occur between 10 and 16 days after sowing, provided that there is fertile soil and abundant light (Justiniano et al. 2000). Not uncommon for heliophytes, seedling establishment is three times higher in forest clearings than under tree shade (Martins et al. 2008).

Regarding population resilience to harvest, a study that modelled the response to logging for *H. serratifolius (T. serratifolia)* and *H. impetiginosus (T. impetiginosa)* seedlings in the **Brazilian** Amazon suggested that diameter growth and seedling development is stimulated by increased light through logging. However, 90% of all seedlings were overgrown by faster-growing plant species five years after the logging intervention (Schulze 2003) and mortality rates for trees >10 cm in diameter was more than 3 times higher in logged forests. This was reported to be caused by stem damage and crown exposure to weather extremes (Schulze et al. 2008b). In a study that looked at technical and financial evaluation of replanting *H. serratifolius* in logging gaps in the Eastern Amazon it was found that the mean annual diameter increment in the first eight years after planting was 0.65 cm (Pinto et al 2021). Annual increment decreased with increasing age. Annual mortality was found to be 16%, whereas mortality rates showed a strong drop between the age of five and eight (Pinto et al. 2021). In the **Brazilian** Amazon, regeneration density for saplings (>50 cm in height; <2 cm in diameter) of *H. serratifolius* (*T. serratifolia*) in sub-forest plots of 100 ha was found to be 25 per hectare. The other five observed species in the same study site showed 2—22 times higher regeneration densities (Schulze et al. 2008a). Like the other five observed species, *H. serratifolius* (*T. serratifolia*) showed higher annual mortality during the 3 years following logging (Schulze 2003).

3.4 Morphological characteristics

Most *Handroanthus* species produce a very hard, heavy, elastic wood known as ipê. The wood is durable, even in contact with the ground, and resistant to fungi and termites. The heartwood is yellowish-brown to dark olive brown, sometimes with fine veins; it is clearly differentiated from the 3-9 cm thick band of sap wood. The grain is interconnected; there are channels in the wood that contain a greenish-yellow deposit known as lapachol or ipeina (Richter et al 2014, see **Annex 4**). Wood from species of the genera *Roseodendron* and *Tabebuia* is very similar to that of *Handroanthus*. A distinction between the wood of the three genera is neither macroscopically nor microscopically possible (G. Koch *in litt*. to Bundesamt für Naturschutz (BfN) 2021). Dos Santos (2017) noted that species of the former genus *Tabebuia* can vary in their appearance in the sense that quantitative characteristics in wood anatomy could vary between individuals of the same species and even within the same individual, so that the separation of wood anatomy and anatomical characteristics is not possible.

3.5 Role of the species in its ecosystem

In **Mexico**, several environmental services provided by *Tabebuia* spp. were reported as, *inter alia*, food, habitat for nesting birds, pollen supply, regulation of temperature, and shade (González et al. 2018). In **Bolivia**, the fruits and seeds of *Handroanthus* (= *Tabebuia*) trees are not of critical importance as food resources for animals, since they are wind dispersed, and the leaves are of low palatability. However, different species of howling monkeys (*Alouatta* spp.), deer (*Mazama* spp.) and birds (*Trogon curucui*) feed on the flowers, when there is little availability of young leaves in the dry season (Gonsioroski et al. 2021). Furthermore, trees of this genus can serve as a substrate for hemi-epiphytic plants such as güembé (*Philodendron undulatum*), which produce fruits that are eaten by various animals (Justiniano

et al. 2000). *Apis mellifera*, *Trigona spinipes*, as well as other bees of the genera *Centridini* and *Euglossini,* wasps, butterflies, ants and hummingbirds were observed collecting nectar from the extrafloral nectaries of the fruits of *H. serratifolia* (Ferreira Alves et al. 2013).

4. Status and trends

4.1 Habitat trends

Data on net forest area change in Latin America presented in the FAO´s "State of the World´s Forests" report show that from 1990 to 2020 the net forest area loss in Latin America was higher than 12.5 million ha annually. However, the deforestation rate decreased by over 50% since 2010 in comparison to the previous decade (FAO & UNEP 2020).

Brazil is one of the most extensively forested countries in the world, with 463 million hectares of forests; 90% of them are in the Amazon Basin and the Cerrado. Brazil experienced rapid deforestation with mean annual rates between 0.2 – 0.4% during 2000-2015 (Wellesley 2014). According to Brazil's National Institute for Space Research (INPE), the total area deforested in the Brazilian Amazon in 2011-2012 was 460,000 hectares, compared to 2.8 million hectares in 2004. In 2019, an area of 10,129 km² of forest was clear-cut, which is an increase of 34% compared to 2018 (7,536 km²) (INPE 2020). In 2020, deforestation was estimated to be 11,088 km², representing an increase of 47% and 9.5% compared to 2018 and 2019, respectively (Junior et al. 2021; INPE 2021). Deforestation was driven primarily by demand for agricultural land with many of the forest conversion being illegal (Wellesley 2014).

Mexico lost 16% of forest cover from 1986 to 2000, which mainly affected the dry tropical forest with an annual deforestation rate of 3.7%; and forest cover loss increased to 22% between 2000 and 2011 (Osorio et al. 2015). The state of Michoacan, **Mexico**, lost almost 525,260 ha over the same 10-year period, which was partially being recovered with the reforestation of *T. rosea* (Muñoz et al. 2016). In **Colombia,** the reduction of forest fragments driven by the expansion of areas for agricultural and livestock use have restricted the population of *H. chrysanthus* to the driest zone of transition of xerophytic scrub vegetation in the south of the country (Varela 2015). In **Bolivia**, for the years 2004 and 2005, based on spatial satellite imagery 276,000 and 281,283 hectares were deforested. Until 2010, approximately 4.6 million ha of forest were lost, corresponding to 10% of the area originally covered by forest (Leguía et al. 2011; Müller et al. 2014). In **Peru**, about 12,849 km² of forests are cut down annually - almost 80% illegally (Smith & Schwartz 2015). In **Ecuador**, originally about 35% (28,000 km²) of the land surface was covered by dry forest, with 80 to 90% of the original dry forest vegetation having disappeared due to land use change (Gonzalez et al. 2018). The national annual deforestation from 2008-2020 ranged between 214.8 km²/year and 310 km²/year (Castro et al. 2013). In **Venezuela**, the deforestation between 1990 to 2010 has been 288,000 ha/year (Pacheco et al. 2011).

4.2 Population size

There is limited information available on the population sizes of ipê species. However, *Handroanthus* species are reported to occur at low natural densites (section 4.3; IUCN & TRAFFIC, 2019).

Whilst the population size of *H. serratifolius* is considered to be large, given its wide distribution (Hills 2021a), it is declining (see section 4.4). Forest inventory data from **Bolivia** indicated that the mean density of *H. serratifolius* was 0.45 trees/ha (Justiniano et al. 2000). An inventory conducted in the 1970s by the Brazilian Ministry of Mines and Energy, recorded all trees >30 cm DBH in 2,364 1-ha plots throughout the entire Legal Amazon, finding a density of 0.32 trees/ha for *H. serratifolius* (*T. serratifolia)* (Schulze et al. 2008b). More recently, forest inventories carried out in the state of Pará, one of the main timber-producing states in the **Brazilian** Amazon, recorded *H. serratifolius* densities between 0.2 and 0.4 trees/ha with DBH ≥50 cm (Schulze et al. 2008b).

The average density of *H. impetiginosa* estimated during the 1970's survey in Brazil was 0.11 trees/ha (Schulze *et al.,* 2008b). In a fragment of deciduous seasonal forest in the northeast of the **Brazilian** state of Goiás, an absolute density of 18.27/ha of *H. impetiginosus* (*T. impetiginosa)* and 42.31/ha of *T. rosealba* was found, with DBH ≥5 cm (Nascimento et al. 2004). In some commercial timber concessions in the Brazilian Amazon, pre-harvest inventories do not identify the different ipê-species at the species level (Schulze et al. 2008b). This is problematic as it prevents species-specific population

estimates and could lead to an overproportional harvesting of rare species. Forest inventory data from **Bolivia** showed mean densities of 2.5 trees/ha for *H. impetiginosus (T. impetiginosa)*

4.3 Population structure

Schulze et al. (2008b), did a comprehensive analysis of the exploitation of *H. serratifolius* (*T. serratifolia*) and *H. impetiginosus* (*T. impetiginosa)* in the **Brazilian** Amazon. It was found that at best, only one individual of one of the two species in each 10 ha could reach adult size, and this could take a century or more. Size class distributions were skewed towards large adults (Schulze et al. 2008b). In **Bolivia**, population structures of *H. serratifolius* and *H. impetiginosus* were found to be skewed towards large, very old adults, with little young trees present in stands. The natural regeneration of these species, after exploitation, would not be enough to restore the original population structure (Schulze et al. 2008b). Sustainable harvest of the genus *Handroanthus* (*Tabebuia*) was reported to require a combination of enrichment planting and active natural regeneration in exploited areas (Schulze et al. 2008b). Observed average seedling and sapling density after logging in study sites in eastern Amazonia was 5.7 stems /ha. Most populations in the Amazon are dominated by large, assumingly old individuals in comparison to only relatively few small, assumingly young trees. This typical pattern for long-lived light-demanding species can be seen as a major limitation for sustainable timber production (Schulze et al. 2008b).

4.4 Population trends

The IUCN Red List of Threatened Species has assessed and categorized 50 species of *Tabebuia*, *Handroanthus and Roseodendron* including recently assessed species that are internationally traded as ipê (IUCN 2022; see Annex 1). For those species where the IUCN-assessments include population trends 17 are decreasing (including *H. impetiginosus* and *H. serratifolius*), 18 are unknown and 4 are stable (IUCN 2022).

H. serratifolius is categorised as globally Endangered in the IUCN Red List with a decreasing population trend on the basis that it is threatened by international trade and is predicted to experience a population decline of at least 50% over the next 100 years (Hills 2021a). In **Brazil**, exploitation was reported to have resulted in significant declines, with no evidence of long-term recovery (Schulze *et al*., 2008b). *H. serratifolius* (*T. serratifolia*) is threatened in **Peru** (Ministerio Agricultura y Riego 2016) and **Venezuela** (León 2009)**.** In **Venezuela**, *H. serratifolius* (*T. serratifolia*) has been depleted in its natural populations as a consequence of the demand for wood for the production of handicrafts in the states of Lara and Falcón (León 2009; Lozada 2007).

H. impetiginosus is assessed as Near Threatened with a decreasing population trend as a result of unsustainable exploitation for the international timber trade, and a population decline of at least 25% over the next 100 years is expected (Hills 2021b). The species was considered to be threatened in **Mexico** (DOF 2019) and endangered in **Peru** (Ministerio Agricultura y Riego 2016).

Of the remaining species of *Handroanthus*, *H. capitatus* (Vulnerable with a decreasing population trend) is also considered threatened by international trade, and with threats to the species predicted to increase, *H. capitatus* is projected to experience a population decline of at least 30% over the next 100 years (Hills 2021c). Further on, *H. grandiflorus*, (a Brazilian endemic with only one sub-population) is assessed as Critically Endangered, three other *Handroanthus* species are Vulnerable, and five are Near Threatened (IUCN 2022). Various species of *Tabebuia* are also threatened with extinction; two are assessed as Critically Endangered, two are Endangered, ten are Vulnerable, and four are Near Threatened (IUCN 2022), with one species of *Roseodendron* also being assessed as Near Threatened (IUCN 2022; see Annex 1).

In **Argentina**, *H. lapacho* (*T. lapacho*) is considered threatened (Prado 1998). In **Bolivia**, *H. chrysotrichus* (*T. chrysotricha*) (MHN 2010) and *H. lapacho* (*T. lapacho*) (MMAA 2012) are critically endangered. In **Brazil**, *H. arianeae, H. riodocensis, H. spongiosus*, and *T. cassinoides* are endangered, and *H. albus, H. catarinensis, H. heptaphylus*, and *T. obtusifolia* are of less concern (CNCFlora 2018). In **Colombia**, *T. palustris* and *T striata* are considered threatened (Duke 2010; Mitré 1998). In **Costa Rica** *H. guayacan* (*T. guayacan*) and *T. palustris* are considered threatened (Jimenez 2003) Duke 2010). In **Cuba** 4 species of *Tabebuia* are critically endangered, 2 are endangered, 12 are threatened and 13 are of less concern (González et al. 2016). In **Haiti**, *T. conferta* is endangered (Judd & Timyan 2021). In **Jamaica**, *T. platyantha* is almost threatened (WCMC 1998b). In **Mexico**, *H. chrysanthus* (*T. chrysantha*) are classified as threatened (DOF 2019). In **Panama**, *T. palustris* and *T. striata* are considered threatened (Duke 2010; Mitré 1998). In the **Dominican Republic** the following species are

classified as endangered of extinction: *T. bullata*, *T. crispiflra, T. dominguensis, T. maxoni, T. obovata, T. ophiolitica, T. paniculata, T. ricardii, T. vinosa and T. zanonii* (MMARN 2011).

Also, in a recent study on the risk of extinction of 80 socio-economically viable neotropical tree species, *H. pulcherrimus* was assessed as one of seven species that deserve special attention because they are highly threatened throughout their distribution in South America (van Zonneveld et al. 2018).

4.5 Geographic trends

In recent years, ipê harvests have declined or ceased in most of the old, well-developed logging centers in eastern Amazonia, but at the same time, new logging frontiers in the remote central and southwestern Amazon region (where access and infrastructure had been poor) were opened up, with ipê being amongst the main species harvested (Schulze et al. 2008b). This implies overharvesting and depletion of resources had occurred in the old logging centers. Details of deforestation and degradation trends across the range of the three genera are summarized under section 4.1 Habitat trends.

5. Threats

The main threats to ipê are deforestation and logging for both the domestic and international trade. Latin America has suffered from very high deforestation rates in the last three decades (FAO 2020), reducing the potential suitable habitat for ipe trees significantly (see section 4.1 Habitat trends). Whilst settlement and agricultural development are a major cause, expansion of road networks and mining are also threats to the South American forests (Hills 2021a & 2021b). For *H. serratifolius,* industrial development of the Amazon is considered a major threat, with Brazil having lost 20% of its forest cover between 2002 and 2019 (Hills 2021a).

The decline in other tropical timber species such as Big leaf mahogany (*Swietenia macrophylla*) has led to an increase in demand for species of ipê on the international market, which has led to declines in some species (Hills 2021a & 2021b). In **Brazil**, in particular, Brancalion et al. (2018) suggested that exploitation may lead to the extinction of *Handroanthus* species as a result. *Handroanthus* species are vulnerable to logging due to their low natural density and low growth rates (Schulze et al. 2008b). Aside from international trade, *Handroanthus, Tabebuia and Roseodendron* species are also used domestically in the construction of houses and bridges, pavements, decks, exterior woods and handicrafts (see section 6.1).

In **Mexico**, the negative effect of land use change, deforestation, elimination of ecotypes, clandestine logging, selective logging, fires, introduction of exotic species have been documented to have a negative effect on *Roseodendron donnell-smithii* and to cause severe genetic degradation (Agustin-Sandoval et al. 2017).

Harvesting/Overharvesting: In **Brazil**, Schulze et al. (2008b) examined the response of *H. serratifolius* (*T. serratifolia*) and *H. impetiginosus (T. impetiginosa)* populations to logging in various locations in the Eastern Amazon. They reported that the widely held assumption of 30-year cutting cycles combined with a minimal exploitable diameter (MED) of 50 cm (DBH) and 90% logging intensity (10% of the trees above MED should be left as seed trees) being sustainable is based on stand-level volume increment from a limited number of small plots in Amazonia that do not consider logging impacts on timber species populations or recovery rates. Therefore, Schulze et al. (2008b) projected that under the current logging regime, in some concessions prospected volumes for a second logging cycle will be as low as 2-3% for *H. impetiginosus (T. impetiginosa)* and 4-12% for *H. serratifolius (T. serratifolia)*. Even so-called "reduced impact logging" in tropical forests can rarely be defined as sustainable in terms of forest composition and dynamics after logging (Schulze et al. 2008b, Richardson & Peres 2016). After selective logging, there is no evidence that the composition of the timber species and the overall value of the forest recover, suggesting that the timber species with the highest commercial value, such as ipê, will not show sufficient population recovery and become rare or economically extinct in former timber frontiers (Schulze et al. 2008b, Richardson & Peres 2016). There is a high risk that the species exported as ipê from Brazil, Bolivia, Paraguay, and Peru to consuming markets are *Handroanthus serratifolius* or *Handroanthus impetiginosus*, both of which are showing population declines and are assessed as threatened or near threatened with extinction by the IUCN Red List (Norman and Zunino 2022)

Illegal logging: Illegal logging is reported to be a significant threat to species of ipê, including *H. serratifolius* (Hills 2021a). In the **Brazilian** Amazon, illegal timber laundering through overestimating the inventoried timber volume followed by fraudulently obtained official documentation is widespread (Brancalion et al. 2018; Greenpeace 2015; Greenpeace 2018). Once entered into the forestry control system the timber volume data

contained in the inventory reports are assumed to be correct in the following steps of the chain of custody. The inventoried volume forms the basis for the licensed logging volume. However, with the false surplus exceeding the actual volume recorded in the inventory reports, trees can be harvested illegally in protected areas, indigenous territories or public lands without concession and subsequently be laundered into the legal economic cycle (Greenpeace 2018). Greenpeace-Brazil, in collaboration with the State Secretariat for the Environment and Sustainability of Pará (SEMA) and Brazil's Public Prosecutor's Office, carried out a systematic review of all 1,325 extant management plans in Pará between 2006 and 2013 to assess the extent to which timber laundering occurred. In total, 746 plans listed ipê in their inventories, approximately 14% of which overestimated the timber volume to be harvested during the logging intervention (3,000 m³ per concession or 60% above the species average of 2.4 m³/ha) (Richardson & Peres 2016). Although illegal logging has been reported to have fallen to 54-75% in the Brazilian Amazon from 2003 to 2013, it still accounts for 35-72% of logging in this area (TFT-TTAP 2013). A comparison of satellite data with official records of licenses issued by the SEMA suggested that 78% of the area logged from August 2011 to July 2012 in the state was not licensed (Wellesley 2014). In 2017, 74% of the total volume of 33,389 m³ licensed for logging had a high risk of being overestimated in pre-harvest inventories (Brancalion et al. 2018). Assumingly due to the high prices, ipê (*Handroanthus* spp.) was found to be the timber with the highest probability of fraudulent inventory data (Brancalion et al. 2018). This highlights the weaknesses in the timber licensing regime in Pará with indiscriminate and illegal logging of ipê, driven by the high value of processed products of ipê wood (decking and flooring) in international markets (Greenpeace 2018). Non-compliance with concession limits remains prevalent in Latin America and there are ample opportunities to increase profits with illegally harvested timber from areas outside licensed concessions (Richardson & Peres 2016). The occurrence of illegal harvest suggests that the legally authorized timber volume is not sufficient to meet the demand. More details linked to illegal trade are presented in section 6.4.

6. Utilization and trade

6.1 National utilization

In several countries in the Americas, *H. serratifolius* (*T. serratifolia), H. impetiginosus (T. impetiginosa) and H. chrysanthus (T. chrysantha)* for example, are considered multipurpose trees that provide both, high value timber and non-timber forest products (NTFP) (Herrero et al. 2013). The very hard, heavy and durable wood which most *Handroanthus, Tabebuia and Roseodendron* species produce is used locally in the construction of houses and bridges, pavements, decks, exterior woods and handicrafts. Overall, roughly 77% of ipê exports were classified as flooring or decking, with 19% exported as sawnwood. Around 4% of the ipê tracked was exported under other product categories or HS codes including joinery, particleboard, veneer, and plywood. **Paraguay** was the only country where more ipê was exported as sawnwood than flooring (Norman and Zunino 2022). In **Ecuador,** *H. chrysanthus* is one of the 10 most widely used timber species for making furniture and construction (Aguirre et al. 2015). In **Mexico**, *T. rosea* is used for timber in forests based on selective cuttings ("thinning"). It is also managed in commercial plantations, as well as enriching secondary forests and degraded pastures (Pineda et al. 2016). *T. chrysantha* is also used to provide shade in coffee plantations (Sánchez et al. 2017). In **Central America,** some scattered trees are retained in the pastures to obtain additional benefits such as wood, fodder and shade for livestock (Esquivel et al. 2011). In **Ecuador,** during flowering season, hundreds of kilograms of flowers are collected as the main food for goats and cattle that graze extensively in dry forests, for a limited period (Rivas et al. 2015). Furthermore, ipê trees are widely used in landscaping and urban reforestation (Martins et al. 2008). The flowering of the "guayacanes" in the dry forest area in **Ecuador** is a natural phenomenon of importance for tourists especially for community tourism (Rivas et al. 2015).

Handroanthus serratifolia, H. impetiginosa and H. chrysantha are used in traditional medicine as antitumor, antiparasitic, and antimalarial agent (Jimenez et al. 2003; Oliveira et al. 1990). *Handroanthus serratifolius* is being studied for having antileishmanial activity (Costa et al. 2017). *H. impetiginosus* is medicinally used by local communities in North Eastern Brazil (Campos & Albuquerque 2021). Use of ipê by different stakeholders can create challenges that hinder comprehensive management approaches (Herrero et al. 2013).

6.2 Legal trade

On the international market the wood is highly sought after, and is used for flooring, decks, exterior woods, veneer, and other turned objects, crafts and posts (Grandtner & Chevrette 2013). Its dark and dense wood is highly valued for residential decks in the **USA** (Brancalion et al. 2018). Timber of *H. serratifolius (T. serratifolia)* and *H. impetiginosus (T. impetiginosa)* belongs to the most valuable Amazonian timber species (Schulze et al. 2008b). The value of ipê processed into flooring or decking

can reach USD 2,500/m³ on international markets (Greenpeace 2018). According to Schulze et al. (2008b), there was a 500% increase from 1998 to 2004 in ipê timber exports from the Brazilian Amazon. Generally, the traded wood is not specified to species level (Greenpeace 2018; Schulze et al. 2008b) which does not allow species-specific estimations of trade volumes. The wood can be traded with the scientific name or the local common name (Norman and Zunino 2022) (**Annex 12**), but at least 28% of the exports by weight were either only reported as ipê or another generic common name which did not include any information on the botanical name (Norman and Zunino 2022).

However, the main species in trade appear to be *H. serratifolius* and *H. impetiginosus* (Greenpeace 2018; Schulze et al. 2008b, Norman and Zunino 2022). Nevertheless, at least 13 species were reported as exported from Brazil (Annex 5). Exports of *H. serratifolius* (*T. serratifolia*) from **Brazil** from 2010 to 2016 were above 180,000 m³, which corresponds to 70% of all ipê-species exports for that period (n = 255,723 m³) (**Annex 5**, Table 1). The largest volume of *H. serratifolius* exported from Brazil during 2010-2016 was in 2016, with 36,000 m³ (**Annex 5**, Figure 1; IBAMA 2016). Over the same period, 24% of all exports from Brazil comprised species of *Tabebuia* spp. (61,226 m³). All ipê wood comes from natural forests, as there are no plantations in **Brazil**. Between 2010 and 2016 the main exported products from Brazil were floorings (134,940 m³), sawn wood, such as boards and beams (30,309 m³) and deckings (6,932 m³) (**Annex 5**, Table 2; IBAMA 2016). Norman and Zunino (2022) show that Brazil exported at least 449,381 m^3 between 2017 and 2021 in shipments that were listed as only containing products of ipê suggesting that Brazilian ipê exports grew at least 76% (by volume) between the periods 2010-2016 and 2017-202. Norman and Zunino (2022) found that over 525 million kg (or 469,613 m3) of ipê timber products were exported from Bolivia, Brazil, Paraguay, and Peru between 2017 and 2021. The majority of ipê is exported from Brazil, which accounted for 96% of the trade (based on volume) (Norman and Zunino 2022) (**Annex 11**). No estimates for the global trade in ipê exist, but wood is exported to 60 countries. During 2013 to 2015, the main importing countries for exports from Brazil were the USA with 47,372 m³ (28% of the exported volume), France with 23,868 m³ and Belgium with 11,763 m³ of ipê sawn wood (**Annex 5**, Table 3). Norman and Zunino (2022) found that the EU (including the UK) purchased 45% of all ipê species (by volume) exported between 2017 and 2021. While there are documented exports to at least 19 European Union Member States and the UK, over 80% of Europe's ipê shipments by volume entered the EU market through four Member States: France, Belgium, Spain, and Portugal (Norman and Zunino 2022). French importers' demand for Brazilian ipê increased by 84% by volume for the period 2017-2021, compared with previously reported IBAMA figures for 2010-2016. Belgian imports from Brazil have also increased (by as much as 70%) (Norman and Zunino 2022). According to the ITTO, Brazil exported a total of 83,992 MT ipê sawn wood between 2018 and 2021 (see **Annex 13** for annual statistics and trade partners).

The US purchased roughly 36% of the ipê exports based on volume over the period, with Canada purchasing 4% during the same span. While the US market consumed less than the EU as a whole, the US remains the primary single global buyer of ipê. Norman and Zunino (2022) estimate that US consumption of ipê from Brazil has increased by 126% for the period 2017-2021, compared with previously reported IBAMA figures for 2010-2016. According to the ITTO the US imported 260,203 m^3 of ipê sawn wood and 148,983 m^2 ipê wood flooring between 2018 and 2020 (see **Annex 13**).

Venezuela reported exports of 29,637 m³ *T. rosea* and 20,491 m³ *H. impetiginosus* during 2007-2017 (**Annex 6,** Tables 1 and 2). During this period, exports of *H. impetiginosus* decreased from 570 m³ in 2007 to 23 m³ in 2017. No exports of *H. serratifolius* are mentioned as it has shown a marked decrease in its natural populations as a consequence of the popular demand for wood for the manufacture of handicrafts in the states of Lara and Falcón. **Peru** reported exports of *H. serratifolius* totalling 1,131 m³ from January 2016 to March 2018. The biggest importers from Peru were China and the Dominican Republic (**Annex 7**). ITTO biennial reports for the period 2011-2015 include exports from **Suriname** of 5,000 m³ logs and 1,000 m³ sawn wood of *H. serratifolius*, destination unspecified (ITTO, 2015 & 2017). Aguirre-Mendoza et al. (2015) found that in **Ecuador** *H. chrysanthus* was among the 10 most used and commercialized forest species and from 2012-2013, 7,775 m³ were logged. From 2010 to 2011, **Mexico** exported 183 m³ of sawn wood of *R. donnell-smithii* (*T. donnell-smithii*) to Guatemala (SEMARNAT 2017). In 2012, it exported 510 pieces of logs of *R. donnell-smithii* (*T. donnell-smithii*) to Honduras (SEMARNAT 2017; **Annex 8**). From **French Guyana** annual exports from 2007 to 2021 in *H. serratifolius* and *H. impetiginosus* ranged from 1474 m³ in 2009 to 501 m³ in 2018 (**Annex 9**). All timber was PEFC (Programme for the Endorsement of Forest Certification) certified (CITES SA of France *in litt.* to CITES SA of Germany 2021). **Colombia;** from 2019 to 2021, 20120.91 m³ were harvested, of which 79.65 % or 16025.78 m³ belong to *H. billbergii*. Likewise, for the different species of the *Tababuia* genus, 27598.72 m³ of which 93.12 % belong to *T. rosea.* ANLA also approved three export licences for the genus *Tabebuia* for the period 2019-2020 for a total of 113.97 m³, of which 82 m³ were for T. sp, 20 m³ were for T. rosea and 11.97 m³ were for *T. serratifolia*. (see **Annex 14**)

When looking at export data it has to be considered that the processing efficiency is assumed to be only 42% of the harvested timber volume, and that only 36% of the processed wood meets export standards (Schulze et al. 2008b). Therefore, the harvested timber volume to meet the above-mentioned export volumes are likely to be almost 3 times higher than the volumes indicated as above.

6.3 Parts and derivatives in trade

The international trade is comprised of sawn wood, beams, round wood, squared wood (with and without bark) as measured in kilograms, cubic meters and pieces (IBAMA 2016, SEMARNAT 2017). Further processed commodities include deckings and floorings from range countries (Grandtner & Chevrette 2013). **Peru** reported that during the last decades, *H. serratifolius* entered the market as the preferred wood for deckings (**Annex 7**).

Besides timber commodities, herbal products made from the inner bark of some species of *Handroanthus* (*Tabebuia*), including, but not limited to *H. impetiginosus* (*T. impetiginosa*), are traded internationally as “lapacho”, “pau d'arco” or “taheebo” (Awang et al. 1995, Gómez Castellano et al. 2009). However, while trade data are not available for suchlike products, neither a substantial role in trade on the international level could be identified, compared to timber trade volumes, nor have any hints been encountered thus far that sourcing for herbal products has impacts on wild populations of *Handroanthus*, *Tabebuia* and *Roseodendron*.

6.4 Illegal trade

In 2016 the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) dismantled a criminal scheme for the extraction, transport and commercialization of illegal wood in the northern region of Mato Grosso, another main timber producing state in **Brazil**'s Central West region. In the action, approximately 350 m³ of sawn ipê was secured (around 18 loaded trucks), which were valued at approx. USD 567,000. The shipment would be destined for the international market, mainly Belgium, the USA and France (IBAMA 2016). In January 2018, 400 containers containing wood from the **Brazil**ian Amazon were seized by IBAMA and by the Brazilian Federal Police. Among them was 475 m³ of *Handroanthus* sawn timber without legal provenance (Operation Archimedes, Brazilian Federal Police. 2018. pers. com.). More than 43,000 m³ of wood were traded using fraudulent documentation from just one company in 2015, including about 12,000 m³ of ipê, potentially worth at least USD 7 million if processed and exported (Greenpeace 2015). Between 2016 and 2017, 10,171 m³ of ipê wood from forest management plans with evidence of illegality were imported to 37 American companies. In addition, 11 EU countries, including France, Portugal, Belgium and the Netherlands imported 9,775 m³ in that timeframe and some are assumed coming from an illegal origin (Greenpeace 2018). A strong reason for illegal trade seems to be the high prices payed on international markets for ipê timber. The high export value of ipê (up to USD 2,500 per m³ at export ports; Greenpeace 2018) gives loggers and sawmills not only a motivation to build illegal roads, leading to growing forest degradation and the destruction of biodiversity but also to obtain official documentation through fraudulent inventory reports as outlined in section 5, in order to launder and subsequently commercialize illegally harvested *Handroanthus* spp. trees (Brancalion et al. 2018; Greenpeace 2015 & 2018). According to Greenpeace (2018), Brazil´s non-integrated forest licensing and control system was rated unreliable, with official documentation considered inadequate which asserts that it is almost impossible to distinguish between legal and illegal ipê timber. In Venezuela, 65.7519 m³ of wood and 1,062 units of *T. rosea* products were seized between 2013 and 2018 (Annex 6, Table 2). In Peru, 119.16 m³ of wood, 14.96 kg of bark and 4,738 pieces of *Tabebuia* spp. were seized during the period 2011 to 2017 (ITTO 2015 & 2017; please note that statistics are not species-specific in these references or may have used other nomenclature than this proposal). In **Colombia**, taking as a source of information the report of the Single Acts of Control of Illegal Trafficking in Fauna and Flora (AUTICS) carried out by each of the different environmental authorities in the country, it was found that for the historical period between 2010 and 2020, a total of 83.38 m³ was seized, with *H. billbergii* being the most seized species with 61.92 m³, followed to a lesser extent by *H. chrysanthus* with a seized volume of 21.5 m³. Finally, in relation to the different species of the genus *Tabebuia*, a total of 187.2 m³ was seized, with *T. rosea* being the most seized species with 117.74 m³, followed to a lesser extent by *T. chrysantha* with 37.64 m³, *T. bilbergii* with 31.147 m³. (see **Annex 14).**

6.5 Actual or potential trade impacts

There is evidence that current levels of timber harvest and international and domestic trade timber in combination with biological vulnerabilities to logging is negatively affecting natural populations of species traded as ipê, which is due to overexploitation, unsustainable management and illegal harvest.

Recent trends in global demand and population trends of affected species imply that, without control of international trade, these species will further decline. See sections 3 – Species characteristics, 4 – Status and trends, 5 – Threats, and 6 – Utilization and Trade for further information.

7. Legal instruments

7.1 National

Brazil: the export of unfinished timber of native species (i.e. destined to be processed abroad) is prohibited according to Normative Instruction 15/2011 (IBAMA 2011), amended by Normative Instruction 13/ 2018 (IBAMA 2018).

Bolivia: export of unprocessed forestry products is subject to restrictions and highly regulated, mainly through forest certification (from 1996 onwards, last updated 2016; Forest Legality Initiative 2016).

Ecuador: there is an export ban on roundwood, except in limited quantities for scientific and experimental purposes, and semi-finished forest product exports are allowed only when "domestic needs and the minimum levels of industrialization have been met" (from 2005 onwards, last updated 2016; Forest Legality Initiative 2016).

Peru: there is an export ban on logs and forest products "in their natural state" except when they originate from nurseries or forest plantations, and if they do not require processing for final consumption (from 1972 onwards, last updated 2016; Forest Legality Initiative 2016). According to the World Resources Institute's 2014 Peru country profile, forest concession agreements require reduced impact logging practices, cutting rotations of at least 20 years, and the retention of a minimum of 10% of mature adult trees (seed trees) of each harvested species to enable regeneration (WRI 2014).

Suriname: Under the Forest Management Law of 18 September 1992, *H. serratifolia* (*Tabebuia serratifolia)* is listed as a Category A species (market-worthy timber species), meaning that the minimum exploitable diameter is 35 cm (although exceptions can be made by the Forestry Department) (Government of Suriname 1992). Additionally, a permit is required for the export of "raw wood, round wood, round or felled pole wood, processed wood, wood products and forest by-products" (Customs Suriname 2003).

Venezuela: Reportedly, forest concession holders may only extract trees greater than 40 cm DBH (not specific to ipê) (Global Forest Watch 2002).

7.2 International

In 2006, Venezuela decreed a ban on the *T. spectabilis* species, prohibiting the exploitation, use and any type of intervention on trees of this species throughout the national territory.

Laws have been established in Australia, the EU and the USA, that prohibit illegally harvested wood entering their markets. Importers and buyers who place wood products in these markets must be able to demonstrate (with proper documentation) that the wood has been legally harvested and obtained (TFT-TTAP 2013). Buyers rely on their suppliers in producing countries to provide information and evidence to show that the wood has been legally harvested.

8. Species management

8.1 Management measures

A prerequisite in **Brazil** for timber exploitation is an approved forest management plan that establishes how forestry activities will be carried out in a specific area. The owner or company proposing the management plan submits it to the environmental institutions of the Brazilian departments. Once the authorities have approved a management plan, the operator submits an annual operation plan for the following year's harvest. This includes a forest inventory and a detailed logging map showing the trees to be felled for the area to be exploited in that year. In Brazil the minimum exploitable diameter (MED) is 50 cm for all commercially exploitable species, including ipê. Furthermore, there are regulations that 10% of the trees above the MED have to be left standing as seed trees (Schulze et al. 2008b). In **Central America**, the use of other species such as the santamaría (*Calophyllum brasiliense*) and pucté

(*Bucida buceras*) have been sought as alternative resources, potentially reducing pressure on natural populations of ipê species of **South America** (CATIE 2018).

8.2 Population monitoring

8.3 Control measures

8.3.1 International

The three genera *Handroanthus, Tabebuia* and *Roseodendron* are not included in the CITES Appendices and their trade is not currently regulated internationally. Schulze et al. (2008b) consider CITES listing as a suitable mechanism towards the protection and sustainable use of ipê.

8.3.2 Domestic

Brazil: The 2006 legislation transferred the responsibility for approval, monitoring and evaluation of forest management plans (FMPs) to individual states. The landowner or company proposing the forest management plan submits it to the authority responsible for timber regulation (State Environmental and Sustainability Secretariat (SEMAS), which registers estates and licences, including those for logging, on a computerised system. The registration of timber producers, and the monitoring of the chain of custody through an electronic system intended to track timber and record transactions, is the responsibility of state governments. All timber sales and shipments are accompanied by the corresponding quantity of credits entered on this system (Greenpeace 2015).

Mexico: The Environmental Attorney General's Office (Profepa)will carry out the technical investigation, inspection and surveillance actions in forestry matters, carrying out documentary verifications on the forest management programs, justifying technical studies, the authorizations issued by the Secretariat or the Commission or the reports rendered. During the technical investigation, Profepa may obtain any data, information, or indication that it deems necessary to clarify the fact that the Law indicates as an infraction. They then prepare a report in which the information collected is analyzed, to detect cases in which it is appropriate to exercise its powers of inspection, surveillance and sanctions. (PROFEPA 2010).

8.4 Captive breeding and artificial propagation

Various species of *Handroanthus, Tabebuia* and *Roseodendron* are grown in nurseries for forest plantations, reforestation, urban trees, etc. throughout the Americas (CONAFOR 2018; CONABIO 2018; Agustin-Sandoval et al. 2017; Rojas-Rodríguez & Torres-Córdoba 2016; Paiz & Chacón 2016; Molina & Porfirio 2012; Negreros et al. 2010; Lorenzi 2002). Research in clonal propagation from twigs collected from elite trees has been conducted for *R. donnell-smithii (T. donnell-smithii)* and *T. rosea* (Gonzáles-Rodriguez et al. 2010). In **Panama**, *T. rosea* was used to reforest degraded areas on an experimental basis and the yield proved to be good, despite the slow growth rate, also on dry sites (Wishnie et al. 2007). In **Venezuela** there are plantations with this species in the states of Barinas and Monagas. Also, in **Jamaica** *T. rufescens* and *T. rosea* are commonly cultivated. *Tabebuia heterophylla* is also grown in plantations in Puerto Rico (USA).

So far, *H. serratifolius* is rarely utilized in forest plantations due to the lack of information regarding its development in both nursery and field conditions (Vieira & Weber 2017). The costs for the production of seedlings were found to be five times higher than for the production of *Swietenia macrophylla* seedlings (Pinto et al. 2021).

Several species of *Handroanthus* and *Tabebuia* are commercially nursery-grown for urban landscape planting and street trees in countries with suitable environmental conditions. However, no indication was found on timber plantations outside of South America, Central America and the Caribbean.

8.5 Habitat conservation

About half of the Brazilian forest area (243 million ha) was identified as PFP "Permanent Forest Property", including public, federal and private forests (Indigenous Lands and Legal Reserves based on long-term land ownership for forest users. Forest management units for timber production within the

PFP comprise 34.25 million hectares or 14% of the PFP. Owners and users are responsible for management. Forest area that is not classified as PFP is open for conversion to other land uses (TFT-TTAP 2013). A positive example for a Sustainable Use Conservation Unit is the Altamira National Forest in the central-southwest part of Pará. Its area of 689,000 hectares predominantly covered by dense ombrophilous forest (SFB-ITTO 2005) includes a protected area that presents a significant extension of ancient forests. Altamira is embedded in the so-called Xingu River Basin Corridor, with an area of more than 26 million hectares and 18 Indigenous Lands (24 ethnic groups), various sustainable uses and fully protected areas, identified as areas of great importance for the preservation of biodiversity (SFB-ITTO 2005).

Mainly due to management actions, including the declaration of a ban in 1978 (Rivas et al. 2015) and the application of *in-vitro* cultures, the populations of *H. chrysanthus* and *H. billbergii*, have recovered in **Ecuador** (Indacochea et al. 2018).

8.6 Safeguards

9. Information on similar species

As described in detail under section 3.4, wood of different species of the three genera *Handroanthus, Tabebuia* and *Roseodendron* cannot be distinguished either macroscopically or microscopically (G. Koch *in litt*. to Bundesamt für Naturschutz (BfN) 2021). Standing trees can easily be distinguished from other tree species (Brancalion et al. 2018).

Timber of the following species is commonly confused with ipê in trade, although it can be differentiated using microscopic characters (IUCN and TRAFFIC 2019 and references therein). None of these species are currently included in the CITES Appendices; all are present in range States where the three proposed genera are also present:

- *Acosmium* spp.: Bolivia and Brazil
- *Leptolobium* spp. (Lapachillo, lapachin): from Mexico to Argentina
- *Dicorynia guianensis* Amsh.: Suriname and French Guiana
- *Dicorynia paraensis* Benth. (Angélique, basralocus): Brazil, Colombia and Venezuela
- *Dipteryx odorata* (Aubl.) Willd.: Brazil, Colombia, French Guiana, Guyana, Suriname and Venezuela
- *Dipteryx alata* Vog. (Cumarú): Brazil.

10. Consultations

A consultation was distributed by Costa Rica to all range States on February 28th, 2022 (see **Annex 10).**

11. Additional remarks

The absence of international mechanisms to monitor and control international trade in these vulnerable and endangered species led to their overexploitation, very high international trade volumes as well as laundering and illegal trafficking. CITES-listing would help to regulate this trade towards a sustainable volume and in a manner that is not detrimental to the survival of the species. The phenomenon that all 113 species might be traded under the same trade name and the fact that timber of the different species is hardly distinguishable strongly suggests the listing of all species of *Handroanthus*, *Tabebuia* and *Roseodendron* in order to avoid enforcement problems and loopholes for timber laundering.

12. References

Aguirre-Mendoza Z., Loja A., Solano M. y Aguirre N. (2015): Especies Forestales más aprovechadas del Sur del Ecuador. Universidad Nacional de Loja. Ecuador. 128p.

Agustín-Sandoval, W.G., Espinosa-Zaragoza, S., Avendaño-Arrazate, C.H., Reyes-Reyes, A.L., Ramírez-González, S.I., López-Báez, O., Andrade-Rodríguez, M. & Rangel-Zaragoza, J. (2017): Calidad De Semillas De Primavera (*Roseodendron donnell-smithii* Miranda syn *Tabebuia donnell-smithii* Rose). Retrieved 2021 from:

https://www.researchgate.net/publication/316527671_CALIDAD_DE_SEMILLAS_DE_PRIMAVERA_Roseodendron_donnell-smithii_Miranda_syn_Tabebuia_donnell-smithii_Rose

Apodaca-Martínez, M., Curiel-Alcaraz, G.M., Mendoza-Briseño, M.A., Vargas-Mendoza, M., Valdez Hernández, J.I. & Platas Rosado, D.E. (2014): El Plan Costa como una mejor opción de manejo para especies forestales tropicales de Jalisco. – Revista mexicana de ciencias forestales 5 (22): 10-25.

Awang, D.V.C., Dawson, B.A., Ethier, J.-C., Gentry, A.H., Girard, M. & Kindack, D. (1995): Naphthoquinone Constituents of Commercial Lapacho/Pau d'arco/Taheebo Products. Journal of Herbs, Spices & Medicinal Plants 2(4). https://doi.org/10.1300/J044v02n04_05 .

BARROS, M. G. (2001). Pollination ecology of *Tabebuia aurea* (Manso) Benth. & Hook. and *T. ochracea* (Cham.) Standl. (Bignoniaceae) in Central Brazil cerrado vegetation. Brazilian Journal of Botany, 24, 255-261.

Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019): *Handroanthus impetiginosus*. The IUCN Red List of Threatened Species 2019: e.T144297143A149007648. Retrieved 2021 from http://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144297143A149007648.en.

Brancalion, P.H., de Almeida, D.R., Vidal, E., Molin, P.G., Sontag, V.E., Souza, S.E. & Schulze, M.D. (2018): Fake legal logging in the Brazilian Amazon. Science advances, 4 (8): https://www.science.org/doi/pdf/10.1126/sciadv.aat1192

Campos, J.L.A., & Albuquerque, U.P. (2021): Indicators of conservation priorities for medicinal plants from seasonal dry forests of northeastern Brazil. Ecological Indicators, 121, 106993.

Castro, M., Sierra, R., Calva, O., Camacho, J., López, F. & Lozano, P. (2013): Zonas de Procesos Homogéneos de Deforestación del Ecuador: Factores promotores y tendencias al 2020. Programa GESOREN-GIZ y Ministerio de Ambiente del Ecuador. Quito, Ecuador. 157 p. Retrieved 2021 from https://www.researchgate.net

CATIE (2018): Modelos de negocios para el manejo forestal en América Central. Editores Margarita Gutiérrez Vizcaíno. Guillermo A. Navarro. Lorena Orozco Vílchez. 1ra edición Turrialba Costa Rica 2018.

CITES Scientific Authority of France *in litt.* to CITES Scientific Authority of Germany, 2021.

CNCFlora (2018): http://cncflora.jbrj.gov.br/portal/pt-br/listavermelha. Retrieved 2021.

CONABIO (2018): Tabebuia rosea. Retrieved 2021 from http://www.conabio.gob.mx/conocimiento/info_especies/arboles/doctos/11-bigno7m.pdf

CONAFOR (2018): Tabebuia donnell-smithii. Retrieved 2021 from https://www.cnf.gob.mx:8443/snif/especies_forestales/detalles.php?tipo_especie=27

Costa, E.V.S., Brígido, H.P.C., Coelho-Ferreira, M.R., Brandão, G.C. & Dolabela, M.F. (2017): Antileishmanial Activity of *Handroanthus serratifolius* (Vahl) S. Grose (Bignoniaceae). Hindawi, Evidence-Based Complementary and Alternative Medicine, 2017.

De Candolle, A.P. (1838) : Revue sommaire de la famille des Bignoniacées. Genève: Bibliotheque Universelle de Genève. 20 p.

DOF 14/11/2019 Secretaria de Medio Ambiente y Recursos Naturales (2019): MODIFICACIÓN del Anexo Normativo III, Lista de especies en riesgo de la Norma Oficial Mexicana NOM-059-SEMARNAT-2010, Protección ambiental-Especies nativas de México de flora y fauna silvestres-Categorías de riesgo y especificaciones para su inclusión, exclusión o cambio-Lista de especies en riesgo, publicada el 30 de diciembre de 2010. Retrieved 2021 from https://www.dof.gob.mx/nota_detalle.php?codigo=5578808&fecha=14/11/2019

Dos Santos, S.R. (2017): A atual classificação do antigo gênero *Tabebuia* (Bignoniaceae) sob o ponto de vista da anatomía da madeira. – Balduinia 58, 15-VII-2017: 10-24. Retrieved 2021 from http://dx.doi.org/10.5902/2358198028146.

Dos Santos, M.F., Dos Santos, L.E., da Costa, D.L., Vieira, T.A. & Lustosa, D. C. (2020): *Trichoderma* spp. on treatment of *Handroanthus serratifolius* seeds: effect on seedling germination and development. Heliyon 6 (6), e04044.f.

Duke, N. 2010. *Tabebuia palustris*. The IUCN Red List of Threatened Species 2010: e.T178801A7610513. Retrieved 29 September 2018 from http://dx.doi.org/10.2305/IUCN.UK.2010-2.RLTS.T178801A7610513.en.

Esquivel-Mimenza, H., Ibrahim, M., Harvey, C.A., Benjamin, T. & Sinclair, F.L. (2011): Dispersed trees in pasturelands of cattle farms in a tropical dry ecosystem. Tropical and subtropical agroecosystems, 14 (3).

Ferreira Alves, M., Oliveira Duarte, M. , Oliveira, P.E. & Salles Sampaio, D. (2013): Self-sterility in the hexaploid *Handroanthus serratifolius* (Bignoniaceae), the national flower of Brazil. Acta Botanica Brasilica 27: 714-722.

Forest Legality Initiative (2016). Logging and export bans. Retrieved 3 March 2019 from https://forestlegality.org/content/logging-and-export-bans.

FAO & UNEP (2020): The State of the World's Forests 2020. Forests, biodiversity and people. Rome. Retrieved 2021 from https://doi.org/10.4060/ca8642en.

Gentry A.H. (1992): Bignoniaceae Part II (Tribe Tecomeae). Flora Neotropica, Monograph 25 (II): 1-300.

Global Forest Watch (2002). The state of Venezuela's forests: A case study of the Guayana Region. Caracas, Venezuela. pp.156

Gómez Castellanos, J.R., Prieto, J.M., & Heinrich, M. (2009): Red Lapacho (*Tabebuia impetiginosa*) - a global ethnopharmacological commodity? Journal of Ethnopharmacology, 121(1), 1–13.

Gonsioroski, G., Sazima, I., Silva, M.A.R. & Ubaid, F.K. (2021): Blooming meal: flower eating by the Blue-crowned Trogon *Trogon curucui*. Biota Neotropica, 21.

González Torres, L.R., Palmarola, A., González Oliva, L., Bécquer, E.R., Testé, E. & Barrios, D. (Eds.) (2016): Lista roja de la flora de Cuba. Bissea 10 (número especial 1): 1-352.

González, H.A., Magaña M.A. & Sánchez A.S. (2018): Servicios ecosistémicos brindados por *Tabebuia rosea* (Bertol.) DC. Centro, Tabasco, México. – Revista Iberoamericana de Bioeconomia y Cambio Climático 4 (7): 834-850.

Government of Suriname (1992). Forest Management Law. Suriname. http://sbbsur.com/wp-content/uploads/2014/08/Wet-Bosbeheer_compleet.pdf

Grandtner, M.M. & Chevrette, J. (2013): Dictionary of trees, volume 2: South America: Nomenclature, taxonomy and ecology. Academic Press.

Greenpeace (2015): The Amazon's Silent Crisis. Licence to launder. FOREST CRIME FILE. Sau Paulo.

Greenpeace (2018): Imaginary trees, real destruction. Greenpeace Brasil, São Paulo, Brazil.

Grose, S.O. & Olmstead, R.G. (2007a): Evolution of a charismatic neotropical tree: Molecular phylogeny of *Tabebuia* s.l. and allied genera (Bignoniaceae). Systematic Botany, v. 32 (3): p. 650-659.

Grose, S.O. & Olmstead, R.G. (2007b): Taxonomic revisions in the polyphyletic genus *Tabebuia* s.l. (Bignoniaceae). – Systematic Botany 32 (3): 660-670.

Herrero-Jáuregui, C., Guariguata, M.R., Cárdenas, D., Vilanova, E., Robles, M., Licona, J.C. & Nalvarte, W. (2013): Assessing the extent of "conflict of use" in multipurpose tropical forest trees: a regional view. – Journal of environmental management 130: 40-47.

Hills, R. (2021a): *Handroanthus serratifolius*. *The IUCN Red List of Threatened Species* 2021: e.T61985509A145677076. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T61985509A145677076.en.

Retrieved 25 May 2022.

Hills, R. (2021b): *Handroanthus impetiginosus*. *The IUCN Red List of Threatened Species* 2021: e.T144297143A173394208. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T144297143A173394208.en.

Retrieved 25 May 2022.

Hills, R. (2021c). *Handroanthus capitatus*. *The IUCN Red List of Threatened Species* 2021: e.T61985445A145654078. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T61985445A145654078.en.

Retrieved 25 May 2022.

IBAMA (2011): Instrução Normativa No 15, de 6 de dezembro de 2011. Retrieved 3 March 2019 from http://www.ibama.gov.br/sophia/cnia/legislacao/IBAMA/IN0015-061211.PDF.

IBAMA (2016): Ibama desarticula esquema milionário para exportação ilegal de ipê. Retrieved 2021 from: http://www.ibama.gov.br/noticias/58-2016/174-ibama-desarticula-esquema-milionario-para-exportacao-ilegal-de-ipe.

IBAMA (2018): Instrução Normativa No 13, de 24 de abril de 2018. Retrieved 3 March 2019 from http://www.in.gov.br/materia/-/asset_publisher/Kujrw0TZC2Mb/content/id/11981818/do1-2018-04-26-instrucao-normativa-n-13-de-24-de-abril-de-2018-11981814.

Indacochea, B., Parrales, J., Hernández, A., Castro, C., Vera, M., Zhindón, A. & Gabriel, J. (2018): Evaluación de medios de cultivo in vitro para especies forestales nativas en peligro de extinción en Ecuador. – Agronomía costarricense: Revista de ciencias agrícolas 42 (1): 63-89.

INPE (2020): A taxa consolidada de desmatamento por corte raso para os nove estados da Amazônia Legal (AC, AM, AP, MA, MT, PA, RO, RR e TO) em 2019 é de 10.129 km2. Retrieved 2021 from: http://www.inpe.br/noticias/noticia.php?Cod_Noticia=5465

INPE (2021): A taxa consolidada de desmatamento por corte raso para os nove estados da Amazônia Legal em 2020 foi de 10.851 km2. Retrieved ### from: http://www.inpe.br/noticias/noticia.php?Cod_Noticia=5811#:~:text=Este%20valor%20representou%20um%20aumento,Legal%20por%20Sat%C3%A9lite (PRODES)

ITTO (2015): Biennial review and assessment of the world timber situation 2013-2014. International Tropical Timber Organization Publications. Retrieved 6 March 2019 from https://www.itto.int/annual_review/.

ITTO (2017): Biennial review and assessment of the world timber situation 2015-2016. International Tropical Timber Organization Publications. Retrieved 6 March 2019 from https://www.itto.int/annual_review/.

IUCN (2022): The IUCN Red List of Threatened Species. Version 2021-3. Retrieved 5 April 2022 from: https://www.iucnredlist.org.

IUCN &TRAFFIC (2019): Inclusion of Trumpet Trees *Handroanthus* spp., *Tabebuia* spp. and *Roseodendron* spp. in Appendix II with annotation #6. IUCN/TRAFFIC Analyses of Proposals to CoP18: Prop. 49.

Jiménez, F.M.L. 2003. Estado de la diversidad biológica de los árboles y bosques en Costa Rica. Documentos de Trabajo: Recursos Genéticos Forestales.FGR/46S Servicio de Desarrollo de Recursos Forestales, Dirección de Recursos Forestales, FAO, Roma. (http://www.fao.org/docrep/007/j0601s/j0601s00.htm#TopOfPage).

Juárez García, A. & Saragos Méndez, J. (2015): Estructura diamétrica de árboles en potreros de la región Bajo Mixe, Oaxaca. Teoría y Praxis 18.

Judd, W.S. & Timyan, J. 2021. *Tabebuia conferta*. The IUCN Red List of Threatened Species 2021: e.T121392829A161795940. https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T121392829A161795940.fr. Accessed on 03 June 2022.

Junior, C.H.S., Pessôa, A.C., Carvalho, N.S., Reis, J.B., Anderson, L.O. & Aragão, L.E. (2021): The Brazilian Amazon deforestation rate in 2020 is the greatest of the decade. – Nature Ecology & Evolution, 5 (2): 144-145.

Justiniano, M.J., Fredericksen, T.S. & Nash, D. (2000): Ecología y silvicultura de especies menos conocidas Tajibos o Lapachos *Tabebuia* spp. Gomes ex AP de Candolle Bignoniaceae. Bolivia: Editora El País 60.

G. Koch *in litt*. to Bundesamt für Naturschutz (BfN), 2021.

Leguía Aliaga, J.D., Villegas Quino, H. & Aliaga Lordemann, J. (2011): Deforestación en Bolivia: una aproximación espacial. Revista Latinoamericana de Desarrollo Económico (15): 7-44.

Leon, Williams 2009. Anatomía de la madera y clave de identificación para especies forestales vedadas en Venezuela. Revista Forestal Venezolana, Año XLIII, Volumen 53(1) enero-junio, 2009, pp. 51-62

Lozada, J.R. (2007): Situación Actual y Perspectivas del Manejo de Recursos Forestales en Venezuela. Revista Forestal Venezolana 51 (2): 195-218.

Lohmann, L.G. (2015): Bignoniaceae in Lista de Espécies da Flora do Brasil. Jardim Botânico do Rio de Janeiro. Retrieved 20 April 2017 from http://floradobrasil.jbrj.gov.br/jabot/floradobrasil/FB117466.

Lorenzi. H. (2002): Instituto Plantarum de Estudos da Flora; Brazil. ISBN 85-86714-17-8.

Martins, K., Ribas, L.A., Moreno, M.A. & Wadt, L.H. de O. (2008): Conseqüências genéticas da regeneração natural de espécies arbóreas em área antrópica, AC, Brasil. Acta Botanica Brasilica, 22: 897-904. Retrieved 2021 from https://dx.doi.org/10.1590/S0102-33062008000300025.

Mattos, J.R. (1970): *Handroanthus*, 1970 um novo gênero para os "ipês" do Brasil. – Loefgrenia 50: 1-4.

MMARN Ministerio de Medio Ambiente y Recursos Naturales de la República Dominicana (MMARN) (2011): Lista de Espécies en peligro de extinción, amenazadas o protegidas de la República Dominicana (Lista Roja).

Ministerio Agricultura y Riego (MAR) (2016): Resolución Ministerial Nº505-2016-MINAGRI República del Perú 29 de septiembre de 2016.

Ministerio de Medio Ambiente y Agua (MMAA) (2012): Libro Rojo de la Flora amenazada de Bolivia. Vol. I. Zona Andina. La Paz. 600 p.

Mitré, M. (1998): *Tabebuia striata*. The IUCN Red List of Threatened Species 1998: e.T30571A9563494. Retrieved 29 September 2018 from http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T30571A9563494.en.

Molina, C. & Porfirio, F. (2012): Comportamiento y manejo de *Tabebuia rosea* (Bertol) DC en Zamorano, Honduras. (Bachelor's thesis, Zamorano: Escuela Agrícola Panamericana).

Müller, R., Larrea-Alcázar, D.M., Cuéllar, S. & Espinoza, S. (2014): Causas directas de la deforestación reciente (2000-2010) y modelado de dos escenarios futuros en las tierras bajas de Bolivia. – Ecología en Bolivia 49 (1): 20-34.

Muñoz-Flores, H.J., Castillo-Quiroz, D., Castillo-Reyes, F., Sáenz-Reyes, J.T., Avila-Flores, D. & Rueda-Sánchez, A. (2016): Potential Areas for Commercial Timber Plantations of *Tabebuia rosea* (Bertol.) DC. in Michoacan, Mexico. – Open Journal of Forestry 7 (01): p. 48.

Museo de Historia Natural (MHN) (2010): Libro Rojo de las Plantas de los Cerrados del Oriente Boliviano. Santa Cruz, Bolivia.

Nascimento, A.R.T., Felfili, J.M. & Meirelles, E.M. (2004): Florística e estrutura da comunidade arbórea de um remanescente de Floresta Estacional Decidual de encosta, Monte Alegre, GO, Brasil. – Acta Botanica Brasilica 18: 659-669.

Negreros-Castillo, P., Apodaca-Martinez, M. & Mize, C. (2010): Efecto de sustrato y densidad en la calidad de plántulas de cedro, caoba y roble. – Madera y Bosques 16 (2) 2010: 7-18.

Norman, M., & Zunino, A. R. (2022). Demand for luxury decks in europe and north america is pushing ipê to the brink of extinction across the amazon basin & threatening the forest frontier. Forest Trends March 2022

Oliveira, A.B., Raslan, D.S., Miraglia, M.C.M.E. & Mesquita, A.A.L. (1990): Estrutura química e atividade biológica de naftoquinonas de Bignoniaceas brasileiras. – Química Nova 13 (4): 302-307.

Osorio, L.P., Mas, J.F., Guerra, F. & Maass, M. (2015): Análisis y modelación de los procesos de deforestación: un caso de estudio en la cuenca del río Coyuquilla, Guerrero, México. – Investigaciones geográficas 88: 60-74.

Pacheco, C., Aguado, I. & Mollicone, D. (2011): Las causas de la deforestación en Venezuela: un estudio retrospectivo. – Biollania 10 (1): 281-292.

Paiz, B.A.M. & Chacón, E.A.V. (2016): Factores de sitio y crecimiento de plantaciones de Palo Blanco (*Tabebuia donnell-smithii Rose*) en Guatemala. – Revista Cubana de Ciencias Forestales: CFORES 4 (2): 8.

Pineda-Herrera, E., Valdez-Hernández, J.I. & Pérez-Olvera, C. De la P. (2016): Crecimiento en diámetro y fenología de *Tabebuia rosea* (Bertol.) DC. en Costa Grande, Guerrero, México. – Acta Universitaria 26 (4): 19-28. doi: 10.15174/ au.2016.914.

Pinto, R.C., Pinheiro, C., Vidal, E. & Schwartz, G. (2021): Technical and financial evaluation of enrichment planting in logging gaps with the high-value species *Swietenia macrophylla* and *Handroanthus serratifolius* in the Eastern Amazon. – Forest Ecology and Management 495: 119380.

Prado, D. (1998): *Tabebuia lapacho*. The IUCN Red List of Threatened Species 1998: e.T34624A9879467. Retrieved 29 September 2018 from http://dx.doi.org/10.2305/IUCN.UK.1998.RLTS.T34624A9879467.en.

PROFEPA (2010). Procedimiento Administrativo de Inspección en Materia Ambiental https://www.profepa.gob.mx/innovaportal/v/546/1/mx.wap/procedimiento_administrativo_de_inspeccion_en_materia_ambiental.html

Richardson, V.A. & Peres, C.A. (2016): Temporal decay in timber species composition and value in Amazonian logging concessions. – PloS one 11(7): e0159035.

Richter, H.G., Gembruch, K. & Koch, G. (2014 onwards): CITESwoodID: descriptions, illustrations, identification, and information retrieval. In English, French, German, and Spanish. Version: 20th August 2019. delta-intkey.com

Rojas-Rodríguez, R. & Torres-Córdoba, G. (2016): Árboles del Valle Central de Costa Rica: reproducción cortés amarillo *Tabebuia chrysantha* (Jacq.) Nichols. – Revista Forestal Mesoamericana Kurú 13 (30).

Sánchez Hernández, S., Briseño, M., Alfonso, M., Hernández, G. & Vidal, R. (2017): Diversificación de la sombra tradicional de cafetales en Veracruz mediante especies maderables. – Revista mexicana de ciencias forestales 8 (40): 7-18.

Schulze, M., Grogan, J., Landis, R. M. & Vidal, E. (2008a): How rare is too rare to harvest? Management challenges posed by timber species occurring at low densities in the Brazilian Amazon. – Forest Ecology and Management 256 (7): 1443-1457.

Schulze, M., Grogan, J., Uhl, C., Lentini, M. & Vidal, E. (2008b): Evaluating ipê (*Tabebuia*, Bignoniaceae) logging in Amazonia: sustainable management or catalyst for forest degradation? –Biological Conservation 141 (8): 2071-2085.

Schulze, M. (2003): Ecology and behavior of nine timber tree species in Pará, Brazil: links between species life history and forest conservation and management. (Ph.D. Dissertation. The Pennsylvania State University, University Park, PA, USA).

SEMARNAT (2017): Certificados Fitosanitarios de Exportación emitidos por la SEMARNAT para materias primas forestales de especies tropicales. Periodo: septiembre de 2008 a diciembre de 2017. Sistema Nacional de Gestión Forestal (SNGF) de la SEMARNAT.

SFB - Brazilian Forest Service and International Tropical Timber Organization (ITTO) (2005): Sustainable production in national forests under forest concession regime. Final Report. Retrieved 2021 from http://www.itto.int/files/itto_project_db_input/2441/Competition/ITTO%20PD-142%20Rev2%20Final%20Report%20VF.pdf

Smith, J. & Schwartz, J. (2015): La deforestación en el Perú. Cómo las comunidades indígenas, agencias gubernamentales, organizaciones sin fines de lucro y negocios trabajan juntos para detener la tala de los bosques. WWF-PERÚ.

TFT-TTAP (2013): Country guide to timber legality: Brazil. https://vdocuments.mx/country-guide-to-timber-legality-brazil-guide-to-timber-legality-brazil-further.html?page=3

Valverde, J. C., Arias, D., Castillo, M., & Torres, D. (2021). Relación de la variabilidad climática con el crecimiento diamétrico de ocho especies arbóreas de bosque seco en Costa Rica. Ecosistemas, 30(1), 2092-2092.

van Zonneveld, M., Thomas, E., Castañeda-Álvarez, N.P., van Damme, V., Alcazar, C., Loo, J. & Scheldemann, X. (2018): Tree genetic resources at risk in South America. A spatial threat assessment to prioritize populations for conservation. – Diversity and Distributions 24 (6): 718-729. https://doi.org/10.1111/ddi.12724

Varela, H.V. (2015): Patrones de la vegetación y tipos de uso de la tierra en el valle del Patía. – Colombia Forestal 18 (1): 25-45.

Vieira, C. & Weber, O. (2017): Saturação por Bases no Crescimento e na Nutrição de mudas de Ipê-Amarelo. – Floresta e Ambiente 2017; 24: e20160019.

Wellesley, L. (2014): Illegal Logging and Related Trade: The Response in Brazil. London: Chatham House.

Wishnie, M.H., Dent, D.H., Mariscal, E., Deago, J., Cedeno, N., Ibarra, D., Condit, R. & Ashton, P.M.S. (2007): Initial performance and reforestation potential of 24 tropical tree species planted across a precipitation gradient in the Republic of Panama. – Forest Ecology and Management 243 (1): 39-49.

WCVP (2021): World Checklist of Vascular Plants, version 2.0. Facilitated by the Royal Botanic Gardens, Kew. Data retrieved through Plants of the World Online (POWO) (2021); Published on the Internet: http://www.plantsoftheworldonline.org/results?f=species_f&page.size=120&q=handroanthus.

Retrieved 12 August 2021; http://plantsoftheworldonline.org/results?f=species_f%2Caccepted_names&sort=name_asc&page.size=480&q=tabebuia. Retrieved 12 August 2021; http://plantsoftheworldonline.org/results?f=%2Cspecies_f%2Caccepted_names&q=Roseodendron. Retrieved 16 August 2021.

World Conservation Monitoring Centre (1998): *Tabebuia platyantha*. The IUCN Red List of Threatened Species 1998: e.T36075A9972249. Retrieved 2022 from https://www.iucnredlist.org/es/species/36075/9972249.

WRI (World Resources Institute) (2014) Forest Legality Initiative https://forestlegality.org/risk-tool/country/peru#tab-management.

ANNEX 1

List of species, of the genera *Handroanthus* (green) *Tabebuia* (blue) *and Roseodendron* (yellow) including synonyms and distribution.

Valid names / Species	Synonyms	Range
***Handroanthus albus* (Cham.) Mattos**	*Tabebuia alba* (Cham.) Sandwith	Argentina, Brazil, Paraguay
	Tecoma alba Cham.	
***Handroanthus arianeae* (A.H.Gentry) S.O.Grose**	*Tabebuia arianeae* A.H.Gentry	Brazil
***Handroanthus barbatus* (E.Mey.) Mattos**	*Bignonia barbata* E.Mey.	Bolivia, Brazil, Colombia, Venezuela
	Couralia toxophora (Mart.) Benth. & Hook.f. ex K.Schum.	
	Tabebuia barbata (E.Mey.) Sandwith	
	Tecoma barbata (E.Mey.) DC.	
	Tecoma toxophora Mart.	
	Zeyheria barbata (E.Mey.) Miq.	
***Handroanthus billbergii* (Bureau & K.Schum.) S.O.Grose**	*Tabebuia billbergii* (Bureau & K.Schum.) Standl.	Aruba, Bonaire, Colombia, Cuba, Curacao, Ecuador, Peru, Venezuela
	Tecoma billbergii Bureau & K.Schum.	
***Handroanthus botelhensis* (A.H.Gentry) S.O.Grose**	*Tabebuia botelhensis* A.H.Gentry	Brazil
***Handroanthus bureavii* (Sandwith) S.O.Grose**	*Handroanthus dentatus* (Bureau & K.Schum.) Mattos	Brazil
	Tabebuia bureavii Sandwith	
	Tecoma dentata Bureau & K.Schum.	
***Handroanthus capitatus* (Bureau & K.Schum.) Mattos**	*Tabebuia capitata* (Bureau & K.Schum.) Sandwith	Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Trinidad-Tobago, Venezuela
	Tabebuia glomerata Urb.	
	Tabebuia hypolepra Sprague & Sandwith	
	Tecoma capitata Bureau & K.Schum.	
	Tecoma leucoxylon var. *miquelii* DC.	
	Tecoma leucoxylon var. *pentaphylla* Bureau & K.Schum.	
***Handroanthus catarinensis* (A.H.Gentry) S.O.Grose**	*Tabebuia catarinensis* A.H.Gentry	Brazil
***Handroanthus chrysanthus* (Jacq.) S.O.Grose**	*Bignonia chrysantha* Jacq.	Belize, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panamá, Peru, Trinidad-Tobago, Venezuela **Introduced into:** Leeward Is., Puerto Rico (USA), Venezuelan Antilles, Windward Is
	Tabebuia chrysantha (Jacq.) G.Nicholson	
	Tecoma chrysantha (Jacq.) DC.	
***Handroanthus chrysotrichus* (Mart. ex DC.) Mattos**	*Gelseminum chrysotrichum* (Mart. ex DC.) Kuntze	Argentina, Brazil
	Tabebuia chrysotricha (Mart. ex DC.) Standl.	
	Tabebuia chrysotricha var. *obtusata* (DC.) Toledo	
	Tecoma chrysotricha Mart. ex DC.	
	Tecoma chrysotricha var. *obtusata* (DC.) Bureau & K.Schum.	
	Tecoma flavescens Mart. ex DC.	
	Tecoma grandis Kraenzl.	
	Tecoma obtusata DC.	
	Tecoma ochracea var. *denudata* Cham.	
***Handroanthus coralibe* (Standl.) S.O.Grose**	*Tabebuia coralibe* Standl.	Colombia
***Handroanthus coronatus* (Proença & Farias) Farias**	*Tabebuia coronata* Proença & Farias	Brazil
***Handroanthus cristatus* (A.H.Gentry) S.O.Grose**	*Tabebuia cristata* A.H.Gentry	Brazil
***Handroanthus diamantinensis* F.Esp.Santo & M.M.Silva**		Brazil
***Handroanthus floccosus* (Klotzsch) Mattos**	*Tabebuia floccosa* (Klotzsch) Sprague & Sandwith	Guyana
	Tecoma floccosa Klotzsch	

Valid names / Species	Synonyms	Range
***Handroanthus grandiflorus* F.Esp.Santo & M.M.Silva**		Brazil
***Handroanthus guayacan* (Seem.) S.O.Grose**	*Tabebuia guayacan* (Seem.) Hemsl.	Belize, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panamá, Peru, Venezuela
	Tecoma guayacan Seem.	
***Handroanthus heptaphyllus* (Vell.) Mattos**	*Bignonia heptaphylla* Vell.	Argentina, Bolivia, Brazil, Paraguay
	Handroanthus avellanedae var. *paullensis* (Toledo) Mattos	
	Handroanthus eximius (Miq.) Mattos	
	Handroanthus impetiginosus var. *lepidotus* (Bureau) Mattos	
	Tabebuia avellanedae var. *paulensis* Toledo	
	Tabebuia eximia (Miq.) Sandwith	
	Tabebuia heptaphylla (Vell.) Toledo	
	Tabebuia impetiginosa var. *lepidota* (Bureau) Toledo	
	Tabebuia ipe (Mart. ex K.Schum.) Standl.	
	Tecoma curialis Saldanha	
	Tecoma eximia Miq.	
	Tecoma impetiginosa var. *lepidota* Bureau	
	Tecoma ipe Mart. ex K.Schum.	
	Tecoma ipe var. *desinens* Sprague	
	Tecoma ipe f. glabra Sprague	
	Tecoma ipe f. grandiflora Sprague	
	Tecoma ipe f. lepidota Sprague	
	Tecoma ipe f. parviflora Sprague	
***Handroanthus impetiginosus* (Mart. ex DC.) Mattos**	*Gelseminum avellanedae* (Lorentz ex Griseb.) Kuntze	Argentina, Bolivia, Brazil, Colombia, Costa Rica, El Salvador, French Guiana, Guatemala, Honduras, Mexico, Nicaragua, Panamá, Paraguay, Peru, Suriname, Venezuela
	Handroanthus avellanedae (Lorentz ex Griseb.) Mattos	
	Tabebuia avellanedae Lorentz ex Griseb.	
	Tabebuia dugandii Standl.	
	Tabebuia impetiginosa (Mart. ex DC.) Standl.	
	Tabebuia ipe var. *integra* (Sprague) Sandwith	
	Tabebuia nicaraguensis S.F.Blake	
	Tabebuia palmeri Rose	
	Tabebuia schunkevigoi D.R.Simpson	
	Tecoma adenophylla Bureau & K.Schum.	
	Tecoma avellanedae (Lorentz ex Griseb.) Speg.	
	Tecoma avellanedae var. *alba* Lillo	
	Tecoma impetiginosa Mart. ex DC.	
	Tecoma integra (Sprague) Hassl.	
	Tecoma ipe var. *integra* Sprague	
	Tecoma ipe f. *leucotricha* Hassl.	
***Handroanthus incanus* (A.H.Gentry) S.O.Grose**	*Tabebuia incana* A.H.Gentry	Brazil, Colombia, Ecuador, Peru
***Handroanthus lapacho* (K.Schum.) S.O.Grose**	*Tabebuia lapacho* (K.Schum.) Sandwith	Argentina, Bolivia
	Tecoma lapacho K.Schum.	
***Handroanthus obscurus* (Bureau & K.Schum.) Mattos**	*Tabebuia obscura* (Bureau & K.Schum.) Sandwith	Brazil, Colombia, Peru, Venezuela
	Tabebuia obscura var. *schultesiana* (Sandwith) Sandwith	
	Tabebuia subtilis var. *schultesiana* Sandwith	
	Tecoma obscura Bureau & K.Schum.	
***Handroanthus ochraceus* (Cham.) Mattos**	*Tabebuia ochracea* (Cham.) Standl.	Argentina, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guyana, Honduras, Nicaragua, Panamá, Paraguay, Peru, Trinidad-Tobago, Venezuela
***Handroanthus parviflorus* F.Esp.Santo & M.M.Silva**		Brazil
***Handroanthus pedicellatus* (Bureau & K.Schum.) Mattos**	*Handroanthus catinga* (Bureau & K.Schum.) Mattos	Brazil
	Tabebuia pedicellata (Bureau & K.Schum.) A.H.Gentry	

Valid names / Species	Synonyms	Range
	Tecoma catinga Bureau & K.Schum.	
	Tecoma pedicellata Bureau & K.Schum.	
***Handroanthus pulcherrimus* (Sandwith) S.O.Grose**	*Tabebuia pulcherrima* Sandwith	Argentina, Brazil, Paraguay
	Tecoma petropolitana Glaz.	
***Handroanthus pumilus* (A.H.Gentry) S.O.Grose**	*Tabebuia pumila* A.H.Gentry	Brazil
***Handroanthus riodocensis* (A.H.Gentry) S.O.Grose**	*Tabebuia riodocensis* A.H.Gentry	Brazil
***Handroanthus selachidentatus* (A.H.Gentry) S.O.Grose**	*Tabebuia selachidentata* A.H.Gentry	Brazil, Bolivia
***Handroanthus serratifolius* (Vahl) S.O.Grose**	*Bignonia araliacea* Cham.	Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Trinidad-Tobago, Venezuela **Introduced into:** Cuba, Puerto Rico (USA)
	Bignonia conspicua Rich. ex DC.	
	Bignonia flavescens Vell.	
	Bignonia patrisiana DC.	
	Bignonia serratifolia Vahl	
	Gelseminum araliaceum (Cham.) Kuntze	
	Handroanthus araliaceus (Cham.) Mattos	
	Handroanthus atractocarpus (Bureau & K.Schum.) Mattos	
	Handroanthus flavescens (Vell.) Mattos	
	Tabebuia araliacea (Cham.) Morong & Britton	
	Tabebuia serratifolia (Vahl) G.Nicholson	
	Tecoma araliacea (Cham.) DC.	
	Tecoma atractocarpa Bureau & K.Schum.	
	Tecoma conspicua DC.	
	Tecoma nigricans Klotzsch	
	Tecoma patrisiana DC.	
	Tecoma serratifolia (Vahl) G.Don	
	Vitex moronensis Moldenke	
***Handroanthus speciosus* (DC. ex Mart.) ined.**	*Bignonia longiflora* Vell.	Brazil
	Gelseminum speciosum (DC. ex Mart.) Kuntze	
	Handroanthus longiflora Mattos	
	Handroanthus vellosoi (Toledo) Mattos	
	Tabebuia vellosoi Toledo	
	Tecoma alba var. *subdenudata* Bureau	
	Tecoma longiflora Bureau & K.Schum.	
	Tecoma speciosa DC. ex Mart.	
***Handroanthus spongiosus* (Rizzini) S.O.Grose**	*Tabebuia spongiosa* Rizzini	Brazil
***Handroanthus subtilis* (Sprague & Sandwith) S.O.Grose**	*Tabebuia subtilis* Sprague & Sandwith	Guyana, Venezuela
***Handroanthus uleanus* (Kraenzl.) S.O.Grose**	*Tabebuia uleana* (Kraenzl.) A.H.Gentry	Brazil, Colombia, Guyana, Venezuela
	Tecoma uleana Kraenzl.	
***Handroanthus umbellatus* (Sond.) Mattos**	*Handroanthus umbellatus* var. *lanceolatus* (Bureau & K.Schum.) Mattos	Brazil
	Tabebuia umbellata (Sond.) Sandwith	
	Tabebuia umbellata var. *lanceolata* (Bureau & K.Schum. ex Mart.) Toledo	
	Tecoma umbellata Sond.	
	Tecoma umbellata var. *lanceolata* Bureau & K.Schum.	
***Tabebuia acrophylla* (Urb.) Britton**	*Tabebuia rugosa* Leonard	Dominican Republic, Haiti
	Tecoma acrophylla Urb.	
***Tabebuia angustata* Britton**	*Tabebuia richardiana* Urb.	Cuba, Jamaica
	Tabebuia trinitensis Britton	
	Tecoma heptaphylla Mart.	
***Tabebuia arimaoensis* Britton**		Cuba
***Tabebuia aurea* (Silva Manso) Benth. & Hook.f. ex S.Moore**	*Bignonia aurea* Silva Manso	Argentina, Bolivia, Brazil, Paraguay, Peru
	Bignonia squamellulosa DC.	
	Gelseminum caraiba (Mart.) Kuntze	

Valid names / Species	Synonyms	Range
	Handroanthus caraiba (Mart.) Mattos	**Introduced into:** Leeward Is., Puerto Rico (USA), Curaçao
	Handroanthus leucophloeus (Mart. ex DC.) Mattos	
	Tabebuia argentea (Bureau & K.Schum.) Britton	
	Tabebuia caraiba (Mart.) Bureau	
	Tabebuia suberosa Rusby	
	Tecoma argentea Bureau & K.Schum.	
	Tecoma aurea (Silva Manso) DC.	
	Tecoma caraiba Mart.	
	Tecoma caraiba var. grandiflora Hassl.	
	Tecoma caraiba var. squamellulosa Bureau & K.Schum.	
	Tecoma leucophlaeos Mart. ex DC.	
	Tecoma squamellulosa DC.	
	Tecoma trichocalycina DC.	
***Tabebuia bahamensis* (Northr.) Britton**	*Tabebuia affinis* Britton & P.Wilson ex Alain	Bahamas, Cuba, Turks-Caicos Is.
	Tabebuia leonis Alain	
	Tabebuia turquinensis Alain	
	Tecoma bahamensis Northr.	
***Tabebuia berteroi* (DC.) Britton**	*Tabebuia anisophylla* Urb.	Cuba, Dominican Republic, Haiti
	Tecoma berteroi DC.	
***Tabebuia bibracteolata* (Griseb.) Britton**	*Tabebuia candicans* Borhidi & O.Muñiz	Cuba
	Tabebuia furfuracea Urb.	
	Tabebuia nervosa Urb.	
	Tabebuia nipensis Urb.	
	Tabebuia subcordata Urb.	
	Tecoma bibracteolata Griseb.	
***Tabebuia brooksiana* Britton**	*Tabebuia nigripes* Urb.	Cuba
***Tabebuia buchii* (Urb.) Britton**	*Tecoma buchii* Urb.	Haiti
***Tabebuia bullata* A.H.Gentry**		Dominican Republic
***Tabebuia calcicola* Britton**	*Tabebuia ekmanii* Urb.	Cuba, Haiti, Jamaica
	Tabebuia erosa Urb. & Ekman	
	Tabebuia hotteana Urb. & Ekman	
	Tabebuia jojoana Britton & P.Wilson ex Alain	
	Tabebuia triorbicularis Borhidi	
	Tabebuia triorbicularis var. obovata Borhidi	
	Tecoma leucoxylon var. reticulata Griseb.	
***Tabebuia caleticana* A.H.Gentry & D.Albert**		Cuba
***Tabebuia cassinoides* (Lam.) DC.**	*Bignonia cassinoides* Lam.	Brazil
	Bignonia obtusifolia Lam.	
	Bignonia tabebuya Vell.	
	Bignonia uliginosa Gomes	
	Catalpa cassinoides (Lam.) Spreng.	
	Proterpia obtusifolia (Lam.) Raf.	
	Spathodea magnolioides Cham.	
	Tabebuia magnolioides (Cham.) Miers	
	Tabebuia uliginosa (Gomes) DC.	
	Tecoma uliginosa Mart. ex DC.	
***Tabebuia clementis* Alain**		Cuba
***Tabebuia conferta* Urb.**		Haiti
***Tabebuia crispiflora* Alain**		Cuba, Dominican Republic
***Tabebuia densifolia* Urb.**	*Tabebuia picotensis* Urb.	Cuba, Dominican Republic, Haiti
***Tabebuia domingensis* (Urb.) Britton**	*Tecoma domingensis* Urb.	Dominican Republic
***Tabebuia dubia* (C.Wright) Britton ex Seibert**	*Bignonia dubia* L.	Cuba
	Tabebuia crassifolia Britton	
	Tecoma dubia C.Wright	
***Tabebuia elegans* Urb.**		Cuba

Valid names / Species	Synonyms	Range
***Tabebuia elliptica* (DC.) Sandwith**	*Bignonia atrovirens* DC.	
	Bignonia elliptica Cham.	
	Sparattosperma ellipticum (DC.) Bureau & K.Schum.	
	Tabebuia atrovirens (DC.) Standl.	
	Tecoma atrovirens DC.	
	Tecoma elliptica DC.	
***Tabebuia elongata* Urb.**		Cuba
***Tabebuia fluviatilis* (Aubl.) DC.**	*Bignonia aquatilis* E.Mey.	Brazil, French Guiana, Guyana, Suriname, Venezuela
	Bignonia digitata E.Mey.	
	Bignonia fluviatilis Aubl.	
	Couralia fluviatilis (Aubl.) Splitg.	
	Potamoxylon alba Raf.	
	Potamoxylon fluviatile (Aubl.) Pichon	
	Sparattosperma fluviatile (Aubl.) Miers	
	Tabebuia aquatilis (E.Mey.) Sprague & Sandwith	
	Tecoma meyeriana DC.	
	Zeyheria digitata (E.Mey.) Miq.	
	Zeyheria fluviatilis (Aubl.) Miq.	
***Tabebuia gemmiflora* Rizzini & A.Mattos**		Brazil
***Tabebuia glaucescens* Urb.**		Cuba
***Tabebuia gracilipes* Alain**		Cuba
***Tabebuia haemantha* (Bertol. ex Spreng.) DC.**	*Bignonia haemantha* Bertol. ex Spreng.	Puerto Rico (USA)
	Spathodea portoricensis Bello	
	Tecoma haemantha (Bertol. ex Spreng.) Griseb.	
***Tabebuia heterophylla* (DC.) Britton**	*Bignonia leucoxylon* L.	Anguilla, Antigua and Barbuda, Bahamas, Barbados, Sint Eustatius and Saba, Cayman Is., Cuba, Domenica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Monserrat, Puerto Rico (USA), Saint Kitts and Nevis, Saint Lucia, Saint Martin, Saint Vincent and the Grenadines, Trinidad and Tobago, Virgin Islands, British; U.S. Virgin Islands (United States of America - USA) **Introduced into:** USA (Florida, Hawaii) Aruba, Bonaire, Curaçao
	Bignonia pentaphylla L.	
	Handroanthus pentaphyllus Mattos	
	Leucoxylon acuminata Raf.	
	Leucoxylon riparia Raf.	
	Tabebuia arenicola Britton	
	Tabebuia beyeri Urb. & Ekman	
	Tabebuia brigandina Urb. & Ekman	
	Tabebuia camagueyensis Britton & P.Wilson	
	Tabebuia capotei Borhidi	
	Tabebuia curtissii (Britton) Britton	
	Tabebuia dictyophylla Urb.	
	Tabebuia geronensis Britton	
	Tabebuia gonavensis Urb.	
	Tabebuia heterophylla subsp. genuina Stehlé	
	Tabebuia leptopoda Urb.	
	Tabebuia lindahlii Urb. & Ekman	
	Tabebuia lucida Britton	
	Tabebuia pallida subsp. heterophylla (DC.) Stehlé	
	Tabebuia pentaphylla Hemsl.	
	Tabebuia riparia (Raf.) Sandwith	
	Tabebuia triphylla DC.	
	Tecoma eggersii Kraenzl.	
	Tecoma pentaphylla Juss.	
	Tecoma triphylla Mart. ex DC.	
***Tabebuia hypoleuca* (C.Wright) Urb.**	*Tabebuia acunana* Borhidi & O.Muñiz	Cuba
	Tabebuia hypoleuca subsp. nivea Borhidi & O.Muñiz	
	Tecoma hypoleuca C.Wright	
	Tecoma lepidophylla var. reticulata Griseb.	
***Tabebuia inaequipes* Urb.**	*Bignonia dura* Klotzsch ex R.Knuth	Cuba
***Tabebuia insignis* (Miq.) Sandwith**	*Gelseminum insigne* (Miq.) Kuntze	
	Handroanthus durus (Bureau & K.Schum.) Mattos	

Valid names / Species	Synonyms	Range
	Tabebuia dura (Bureau & K.Schum.) Sprague & Sandwith	Bolivia, Brazil, Colombia, French Guiana, Guyana, Peru, Suriname, Venezuela
	Tabebuia insignis var. *monophylla* Sandwith	
	Tabebuia insignis var. *pacimonensis* Sandwith	
	Tabebuia longipes Baker	
	Tabebuia roraimae Oliv.	
	Tecoma albiflora Ducke	
	Tecoma dura Bureau & K.Schum.	
	Tecoma insignis Miq.	
	Tecoma leucoxylon var. *salpingophora* Bureau & K.Schum.	
***Tabebuia jackiana* Ekman ex Urb.**		Cuba
***Tabebuia jaucoensis* Bisse**		Cuba
***Tabebuia karsoana* Trejo**		Puerto Rico (USA)
***Tabebuia lepidophylla* (A.Rich.) Greenm.**	*Bignonia lepidophylla* A.Rich.	Cuba
	Tecoma lepidophylla (A.Rich.) Griseb.	
***Tabebuia lepidota* (Kunth) Britton**	*Bignonia lepidota* Kunth	Anguilla, Antigua and Barbuda, Bahamas, Cuba, Guyana, Haiti, Saint Martin, British Virgin Islands
	Tabebuia coartata Urb.	
	Tabebuia pergracilis Britton & P.Wilson ex Alain	
	Tabebuia tortuensis Urb. & Ekman	
	Tecoma lepidota (Kunth) DC.	
	Tecoma lepidota var. *myrtifolia* M.Gómez	
***Tabebuia leptoneura* Urb.**		Cuba
***Tabebuia linearis* Alain**	*Tabebuia lopezii* Alain	Cuba
	Tabebuia rigida Alain	
***Tabebuia maxonii* Urb.**	*Tabebuia samanensis* Urb.	Dominican Republic
***Tabebuia microphylla* (Lam.) Urb.**	*Bignonia microphylla* Lam.	Cuba, Dominican Republic, Haiti
	Catalpa microphylla (Lam.) Spreng.	
	Tabebuia libanensis Urb.	
	Tabebuia ostenfeldii Urb.	
	Tabebuia truncata Urb.	
	Tecoma microphylla (Lam.) Urb.	
***Tabebuia moaensis* Britton**	*Tabebuia excisa* Urb.	Cuba
	Tabebuia litoralis Urb.	
	Tabebuia pachyphylla Britton	
	Tabebuia potamophila Urb.	
	Tabebuia wrightii Urb.	
	Tabebuia zolyomiana Borhidi	
***Tabebuia multinervis* Urb. & Ekman**		Haiti
***Tabebuia myrtifolia* (Griseb.) Britton**	*Tabebuia anafensis* Urb.	Cuba, Dominican Republic, Haiti
	Tabebuia anafensis subsp. munizii Borhidi	
	Tabebuia mogotensis Urb.	
	Tabebuia myrtifolia var. petrophila (Greenm.) A.H.Gentry	
	Tabebuia petrophila Greenm.	
	Tabebuia saxicola Britton	
	Tabebuia subsessilis Urb.	
	Tabebuia truncata var. sphenophylla Urb.	
	Tecoma myrtifolia Griseb.	
***Tabebuia nodosa* (Griseb.) Griseb.**	*Bignonia morongii* Britton	Argentina, Bolivia, Brazil, Paraguay
	Gelseminum nodosum (Griseb.) Kuntze	
	Tabebuia nodosa var. parviflora Griseb.	
	Tecoma nodosa Griseb.	
***Tabebuia obovata* Urb.**	*Tabebuia apiculata* Urb. & Ekman	Cuba, Dominican Republic, Haiti
	Tabebuia perfae Alain	
	Tecoma obovata (Urb.) Urb.	
***Tabebuia obtusifolia* (Cham.) Bureau**	*Bignonia leucoxyla* Vell.	Brazil
	Spathodea obtusifolia Cham.	

Valid names / Species	Synonyms	Range
	Tabebuia leucoxyla DC.	
***Tabebuia ophiolithica* Alain**		Dominican Republic
***Tabebuia orinocensis* (Sandwith) A.H.Gentry**	*Tabebuia insignis* var. *orinocensis* Sandwith	Colombia, Venezuela
***Tabebuia ovatifolia* Vattimo**		Brazil
***Tabebuia pallida* (Lindl.) Miers**	*Bignonia cranalis* E.H.L.Krause	Anguilla, Barbados, Dominica, Grenada, Guadeloupe, Martinique, Montserrat, Puerto Rico (USA), Saint Lucia, Saint Vincent and the Grenadines
	Bignonia pallida Lindl.	
	Tabebuia dominicensis Urb.	
	Tabebuia heterophylla subsp. *dominicensis* (Urb.) Stehlé	
	Tabebuia heterophylla subsp. *pallida (Lindl.) Stehlé*	
	Tabebuia pallida subsp. *dominicensis* (Urb.) Stehlé	
***Tabebuia palustris* Hemsl.**		Colombia, Costa Rica, Ecuador, Panamá
***Tabebuia paniculata* Leonard**		Dominican Republic
***Tabebuia pilosa* A.H.Gentry**		Brazil, Colombia, Venezuela
***Tabebuia pinetorum* Britton**		Cuba
***Tabebuia platyantha* (Griseb.) Britton**	*Tabebuia jamaicensis* Britton	Jamaica
	Tecoma brittonii Urb.	
	Tecoma brittonii var. *decussata* Urb.	
	Tecoma platyantha Griseb.	
***Tabebuia polyantha* Urb. & Ekman**	*Tabebuia dolichopoda* Urb. & Ekman	Dominican Republic, Haiti
	Tabebuia nivea Alain	
***Tabebuia polymorpha* Urb.**		Cuba
***Tabebuia pulverulenta* Urb.**	*Tabebuia cuneifolia* Urb.	Cuba
	Tabebuia ophiticola Alain	
	Tabebuia revoluta Alain	
***Tabebuia reticulata* A.H.Gentry**		Brazil
***Tabebuia revoluta* (Urb.) Britton**	*Tecoma revoluta* Urb.	Dominican Republic
***Tabebuia ricardii* M.Mejía**		Dominican Republic
***Tabebuia rigida* Urb.**	*Tecoma rigida* (Urb.) Urb.	Cuba, Puerto Rico (USA)
***Tabebuia rosea* (Bertol.) Bertero ex A.DC.**	*Bignonia fluviatilis* G.Mey.	Belize, Colombia, Costa Rica, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panamá, Venezuela **Introduced into:** Brazil, Cayman Is., Cuba, Dominican Republic, Gambia, Jamaica, Leeward Is., Puerto Rico (USA), Trinidad-Tobago, Venezuelan Antilles, Windward Is.
	Couralia rosea (Bertol.) Donn.Sm.	
	Sparattosperma roseum (Bertol.) Miers	
	Tabebuia mexicana (Mart. ex DC.) Hemsl.	
	Tabebuia pentaphylla var. *leucoxylon* Kuntze	
	Tabebuia pentaphylla var. *normalis* Kuntze	
	Tabebuia punctatissima (Kraenzl.) Standl.	
	Tecoma mexicana Mart. ex DC.	
	Tecoma punctatissima Kraenzl.	
	Tecoma rosea Bertol.	
***Tabebuia roseoalba* (Ridl.) Sandwith**	*Bignonia roseoalba* Ridl.	Bolivia, Brazil, Paraguay, Peru
	Handroanthus odontodiscus (Bureau & K.Schum.) Mattos	
	*Handroanthus piutinga (*Pilg.) Mattos	
	Handroanthus roseoalbus (Ridl.) Mattos	
	Sparattosperma neurocalyx Bureau & K.Schum.	
	Tabebuia odontodiscus (Bureau & K.Schum.) Toledo	
	Tabebuia odontodiscus var. violascens Toledo	
	Tabebuia papyrophloios (Bureau & K.Schum.) Melch.	
	Tabebuia piutinga (Pilg.) Sandwith	
	Tecoma mattogrossensis Kraenzl.	
	Tecoma odontodiscus Bureau & K.Schum.	
	Tecoma odontodiscus f. leucotricha Hassl.	
	Tecoma odontodiscus var. paraguariensis Hassl.	
	Tecoma papyrophloios Bureau & K.Schum.	
	Tecoma piutinga Pilg.	
	Tecoma schumanni Kraenzl.	

Valid names / Species	Synonyms	Range
***Tabebuia sagrae* Urb.**		Cuba
***Tabebuia sauvallei* Britton**	*Tecoma sanguinea* C.Wright	Cuba
***Tabebuia schumanniana* Urb.**	*Tecoma schumanniana* (Urb.) Urb.	Puerto Rico (USA)
***Tabebuia shaferi* Britton**	*Tabebuia maestrensis* Urb.	Cuba
	Tabebuia oligolepis Urb.	
***Tabebuia simplicifolia* Carabia ex Alain**		Cuba
***Tabebuia stenocalyx* Sprague & Stapf**		Brazil, French Guiana, Guyana, Trinidad-Tobago, Venezuela
***Tabebuia striata* A.H.Gentry**		Colombia, Panamá
***Tabebuia trachycarpa* (Griseb.) K.Schum.**	*Tabebuia cowellii* Britton	Cuba
	Tabebuia savannarum Britton	
	Tecoma trachycarpa Griseb.	
***Tabebuia vinos*a A.H.Gentry**		Dominican Republic
***Tabebuia zanonii* A.H.Gentry**		Dominican Republic
***Tabebuia* × *del-riscoi* Borhidi**	*Tabebuia* × *rosariensis* Borhidi	Cuba
***Tabebuia* × *perelegans* Borhidi**		Cuba
***Roseodendron chryseum* (S.F.Blake) Miranda**	*Cybistax chrysea* (S.F.Blake) Seibert	Colombia, Venezuela
	Tabebuia chrysea S.F.Blake	
	Tecoma chrysea (S.F.Blake) Pittier	
***Roseodendron donnell-smithii* (Rose) Miranda**	*Cybistax donnell-smithii* (Rose) Seibert	Colombia, El Salvador, Guatemala, Honduras, Mexico, Venezuela **Introduced into:** Ecuador, Puerto Rico (USA)
	Cybistax millsii Miranda	
	Roseodendron millsii (Miranda) Miranda	
	Tabebuia donnell-smithii Rose	
	Tabebuia millsii (Miranda) A.H.Gentry	
	Tecoma bernoullii K.Schum. & Loes.	

Fuente / Source for Taxonomy:

WCVP (2021): World Checklist of Vascular Plants, version 2.0. Facilitated by the Royal Botanic Gardens, Kew. Data retrieved through Plants of the World Online (POWO) (2021); Published on the Internet: http://www.plantsoftheworldonline.org/results?f=species_f&page.size=120&q=handroanthus. Retrieved 12 August 2021; http://plantsoftheworldonline.org/results?f=species_f%2Caccepted_names&sort=name_asc&page.size=480&q=tabebuia. Retrieved 12 August 2021; http://plantsoftheworldonline.org/results?f=%2Cspecies_f%2Caccepted_names&q=Roseodendron. Retrieved 16 August 2021

Source for distribution data:

http://www.worldfloraonline.org./search?query=handroanthus
http://www.worldfloraonline.org./search?query=tabebuia
http://www.worldfloraonline.org./search?query=roseodendron

Table listing species with global IUCN-threat categories, where assessed (IUCN 2022)

Valid names / Species	IUCN Red List assessment (Year of assessment)	Population trend	Population trend
***Handroanthus albus* (Cham.) Mattos**	Least Concern (2018)	Stable	Stable
***Handroanthus barbatus* (E.Mey.) Mattos**	Near Threatened (2020)	Decreasing	Decreasing
***Handroanthus bureavii* (Sandwith) S.O.Grose**	Least Concern (2018)	Unknown	Unknown
***Handroanthus capitatus* (Bureau & K.Schum.) Mattos**	Vulnerable (2020)	Decreasing.	Decreasing.
***Handroanthus chrysanthus* (Jacq.) S.O.Grose**	Vulnerable (2020)	Decreasing	Decreasing
***Handroanthus coralibe* (Standl.) S.O.Grose**	Vulnerable (2020)	Decreasing	Decreasing
***Handroanthus diamantinensis* F.Esp.Santo & M.M.Silva**	Data Deficient (2018)	Unknown	Unknown

Valid names / Species	IUCN Red List assessment (Year of assessment)	Population trend	Population trend
***Handroanthus grandiflorus* F.Esp.Santo & M.M.Silva**	Critically Endangered (2018)	Decreasing	Decreasing
***Handroanthus guayacan* (Seem.) S.O.Grose**	Least Concern (2020)	Unknown	Unknown
***Handroanthus heptaphyllus* (Vell.) Mattos**	Least Concern (2018)	Stable	Stable
***Handroanthus impetiginosus* (Mart. ex DC.) Mattos**	Near Threatened (2020) & Lower Risk/least concern (1998) Assessed as *Tabebuia impetiginosa*	Decreasing	Decreasing
***Handroanthus incanus* (A.H.Gentry) S.O.Grose**	Vulnerable (2020)	Decreasing	Decreasing
***Handroanthus lapacho* (K.Schum.) S.O.Grose**	Near Threatened (2020)	Decreasing	Decreasing
***Handroanthus obscurus* (Bureau & K.Schum.) Mattos**	Least Concern (2020)	Unknown	Unknown
***Handroanthus parviflorus* F.Esp.Santo & M.M.Silva**	Data Deficient (2018)	Unknown	Unknown
***Handroanthus pedicellatus* (Bureau & K.Schum.) Mattos**	Least Concern (2018)	Unknown	Unknown
***Handroanthus serratifolius* (Vahl) S.O.Grose**	Endangered (2020)	Decreasing	Decreasing
***Handroanthus speciosus* (DC. ex Mart.) ined.**	Least Concern (2018) (assessed as *Handroanthus vellosoi* (Toledo) Mattos)	Unknown	Unknown
***Handroanthus subtilis* (Sprague & Sandwith) S.O.Grose**	Near Threatened (2020)	Decreasing	Decreasing
***Handroanthus uleanus* (Kraenzl.) S.O.Grose**	Near Threatened (2020)	Unknown	Unknown
***Handroanthus umbellatus* (Sond.) Mattos**	Least Concern (2018)	Unknown	Unknown
***Tabebuia arimaoensis* Britton**	Vulnerable (1998)	Unspecified	Unspecified
***Tabebuia bahamensis* (Northr.) Britton**	Least Concern (2020)	Stable	Stable
***Tabebuia bibracteolata* (Griseb.) Britton**	Vulnerable (1998) & Vulnerable (1998) Assessed as *Tabebuia furfuracea*	Unspecified	Unspecified
***Tabebuia buchii* (Urb.) Britton**	Critically Endangered (2020)	Decreasing	Decreasing
***Tabebuia conferta* Urb.**	Endangered (2020)	Decreasing	Decreasing
***Tabebuia dubia* (C.Wright) Britton ex Seibert**	Vulnerable (1998)	Unspecified	Unspecified
***Tabebuia elliptica* (DC.) Sandwith**	Least Concern (2018)	Unknown	Unknown
***Tabebuia elongata* Urb.**	Endangered (1998)	Unspecified	Unspecified
***Tabebuia fluviatilis* (Aubl.) DC.**	Least Concern (2020)	Unknown	Unknown
***Tabebuia heterophylla* (DC.) Britton**	Least Concern (2019)	Unknown	Unknown
***Tabebuia hypoleuca* (C.Wright) Urb.**	Vulnerable (1998)	Unspecified	Unspecified
***Tabebuia insignis* (Miq.) Sandwith**	Near Threatened (2020)	Decreasing	Decreasing
***Tabebuia jackiana* Ekman ex Urb.**	Vulnerable (1998)	Unspecified	Unspecified
***Tabebuia multinervis* Urb. & Ekman**	Critically Endangered (2020)	Decreasing	Decreasing
***Tabebuia myrtifolia* (Griseb.) Britton**	Vulnerable (1998) Assessed as *T. anafensis*	Unspecified	Unspecified
***Tabebuia nodosa* (Griseb.) Griseb.**	Least Concern (2020)	Decreasing	Decreasing
***Tabebuia orinocensis* (Sandwith) A.H.Gentry**	Near Threatened (2020)	Unknown	Unknown
***Tabebuia pallida* (Lindl.) Miers**	Least Concern (2020)	Unknown	Unknown
***Tabebuia palustris* Hemsl.**	Vulnerable (2008)	Decreasing	Decreasing
***Tabebuia pilosa* A.H.Gentry**	Near Threatened (2020)	Unknown	Unknown
***Tabebuia platyantha* (Griseb.) Britton**	Lower Risk/near threatened (1998)	Unspecified	Unspecified
***Tabebuia polymorpha* Urb.**	Vulnerable (1998)	Unspecified	Unspecified
***Tabebuia reticulata* A.H.Gentry**	Least Concern (2018)	Unknown	Unknown
***Tabebuia rosea* (Bertol.) Bertero ex A.DC.**	Least Concern (2018)	Stable	Stable
***Tabebuia roseoalba* (Ridl.) Sandwith**	Near Threatened (2020)	Decreasing	Decreasing
***Tabebuia shaferi* Britton**	Vulnerable (1998) & Vulnerable (1998) Assessed as *T. oligolepis*	Unspecified	Unspecified
***Tabebuia striata* A.H.Gentry**	Vulnerable (1998)		

Valid names / Species	IUCN Red List assessment (Year of assessment)	Population trend	Population trend
***Roseodendron chryseum* (S.F.Blake) Miranda**	Near Threatened (2020)	Unknown	Unknown
***Roseodendron donnell-smithii* (Rose) Miranda**	Least Concern (2020)	Unknown	Unknown

Source:

IUCN (2022): The IUCN Red List of Threatened Species. Version 2021-3. Retrieved 5 April 2022 from: https://www.iucnredlist.org.

Distribution Map

Handroanthus serratifolius

Legend

EXTANT (RESIDENT)

Compiled by:

GTA 2020

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

Distribution of *Handroanthus serratifolius.*

Source: Hills, R. (2021): *Handroanthus serratifolius*. *The IUCN Red List of Threatened Species* 2021: e.T61985509A145677076. https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T61985509A145677076.en. Retrieved 25 May 2022.

ANNEX 3

Distribution of *Handroanthus impetiginosus*.

Source: Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019): *Handroanthus impetiginosus*. The IUCN Red List of Threatened Species 2019: e.T144297143A149007648. Retrieved 2021 from http://dx.doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144297143A149007648.en.

ANNEX 4

Extract from the CITESwoodID (Richter et al. 2014) - *Handroanthus* spp. (Ipe, Lapacho)

Growth rings, color, thread, etc.

Growth ring boundaries distinct, indistinct, or absent. Heartwood basically brown, yellow, green; occasionally with pronounced streaks. Sapwood color distinct from heartwood color. Heavy and hard wood (0.80–1.20 g / cm3). Thread (grain) crisscrossed present.

Broadleaf or conifer?

Vessels (pores) present (= broadleaf).

Vessels (pores). Diffuse porosity wood.

Clustered vessels (pores); usually in short radial groups (2–3 vessels). Medium vessels (60–95–175 µm); moderately common (23–40). Tyloses present. Other deposits in vessels (pores) present (bright yellow deposits known as "lapachol" or "ipeina").

Axial parenchyma. Axial parenchyma present;

not in bands. Other types of macroscopically visible axial parenchyma: vasicentric, wing-shaped aliform, confluent (sometimes also unilateral, forming semicircular plugs covering only one side of the vessel).

Radius

Fine radius. Large rays commonly less than 1 mm in height.

Stratified structure.

Stratified structure present. Strata of regular arrangement (horizontal or slightly inclined); 3–4 per axial millimeter.

Reference:

Richter, H.G., Gembruch, K. & Koch, G. (2014 onwards): CITESwoodID: descriptions, illustrations, identification, and information retrieval. In English, French, German, and Spanish. Version: 20th August 2019. delta-intkey.com

ANNEX 5

Brazil

Source: CoP18 Prop. 49 Inclusion of Trumpet Trees *Handroanthus* spp., *Tabebuia* spp. and *Roseodendron* spp. in Appendix II with annotation #6

Table 1: Timber volume of all ipê species exported from Brazil from 2010 – 2016; Source: IBAMA 2016; Please note that the names used in this proposal have been added.

Recorded species name	Name according to this proposal	m³
Tabebuia serratifolia	*Handroanthus serratifolius*	180110.1
Tabebuia spp.		61226.8
Tabebuia capitata	*Handroanthus capitatus*	2886.5
Tabebuia incana	*Handroanthus incanus*	2243.2
Tabebuia impetiginosa	*Handroanthus impetiginosus*	1643.9
Tabebuia ochracea	*Handroanthus ochraceus*	1439.0
Tabebuia vellosoi	*Handroanthus speciosus*	1436.1
Tabebuia alba	*Handroanthus albus*	1373.4
Tabebuia heptaphylla	*Handroanthus heptophyllus*	1245.9
Tabebuia chrysotricha	*Handroanthus chrysotrichus*	898.4
Tabebuia ipe	*Handroanthus heptaphyllus, H. impetiginosus*	318.6
Tabebuia barbata	*Handroanthus barbatus*	315.9
Tabebuia cassinoides		223.4
Tabebuia umbellata	*Handroanthus umbellatus*	115.0
Tabebuia aurea		67.4
Tabebuia caraiba	*Tabebuia aurea*	61.0
Tabebuia chrysantha	*Handroanthus chrysanthus*	49.5
Tabebuia angustata		24.3
Tabebuia roseo-alba	*Tabebuia roseoalba*	23.8
Tabebuia avellanedae	*Handroanthus heptaphyllus*	21.0
Total		**255723.1**

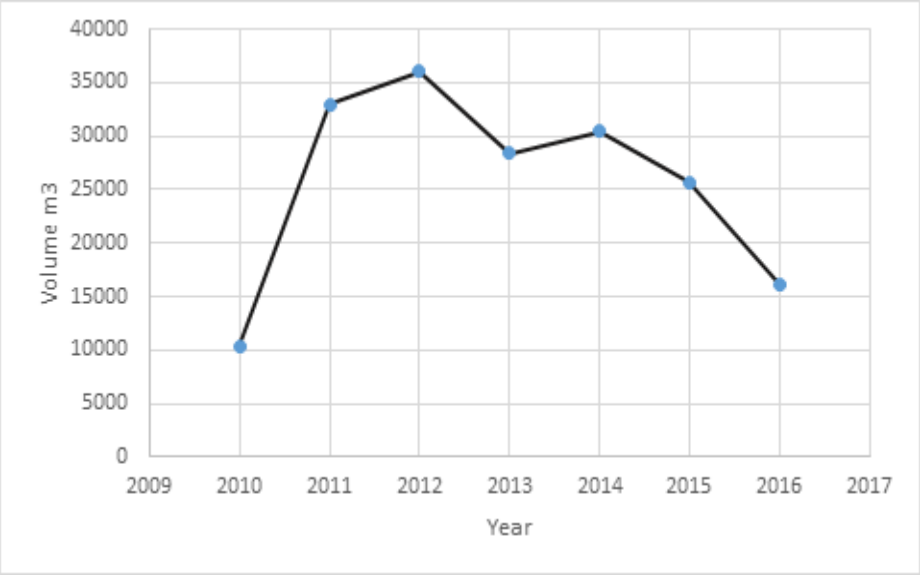


Figure 1: Timber of *Handroanthus serratifolius* exported (m³) from Brazil from 2010 – 2016; Source: IBAMA 2016

Table 2: Main products made from *Handroanthus serratifolius* exported from Brazil from 2010 – 2016; Source: IBAMA 2016

Product	**m^3**
Decking	134939.9
Sawnwood	30309.1
Flooring	6932.3
Other	4324.8
Clapboards	3604.0
Total	**180110.1**

Table 3: The ten main importing countries of products of *Handroanthus serratifolius* exported from Brazil between 2000 and 2016. Source: IBAMA 2016

Country	**m^3**
United States of America (USA)	51880.58
France	31062.10
Belgium	18534.16
United Kingdom	10458.83
Netherlands	10083.01
Portugal	8177.87
Panamá	5618.40
Denmark	5563.53
Japan	5448.27
China	5149.35

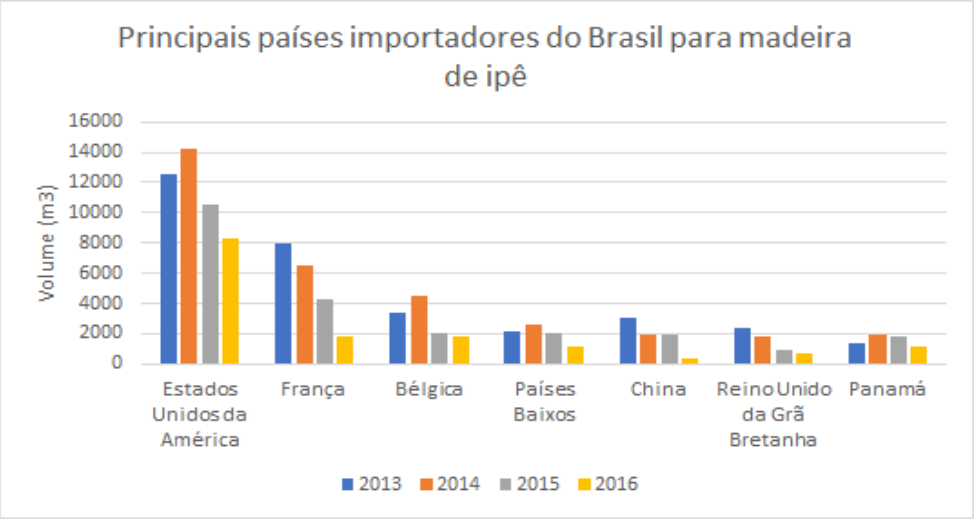


Figure 2: Annual volume of exported sawn wood in the years 2013 – 2015; Source: Sistema de documento de origen forestal DOF (IBAMA 2016).

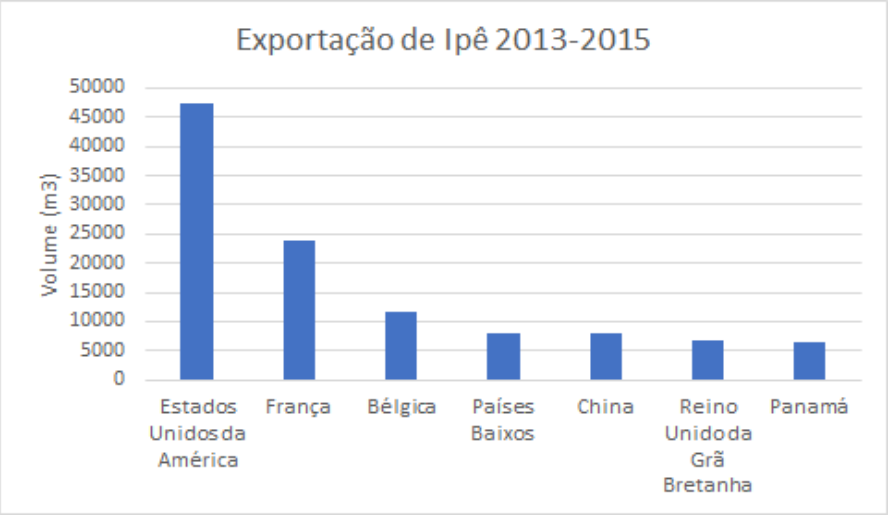


Figure 3: Total volume of sawn wood exported during the years 2013 — 2015, by destination country; Source: Sistema de documento de origen forestal DOF (IBAMA 2016).

ANNEX 6

Venezuela

Source: CoP18 Prop. 49 Inclusion of Trumpet Trees *Handroanthus* spp., *Tabebuia* spp. and *Roseodendron* spp. in Appendix II with annotation #6

Table 1: Export volume of Ipê species from Venezuela 2007 – 2017; Source: Ministerio del Poder Popular para Ecosocialismo y Aguas, de Venezuela

Genero/ Especie	Volumen m3 / Año										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Handroanthus											
Handroanthus impetiginosa	5.570	3.137	461	2.005	2.077	1.371	3.476	888	1.164	319	23
Tabebuia											
Tabebuia fluviatilis	230	-	-	-	1,87	-	-	-	-	-	-
Tabebuia rosea	5.271	3.355	2.640	2.865	1.593	1.188	2.735	2.908	1.838	2.133	3.111

Fuente: SIGEFOR

Table 2: Exported volume of sawn wood of *Tabebuia rosea* from Venezuala from 2007 – 2013; Source: Ministerio del Poder Popular para Ecosocialismo y Aguas, de Venezuela

Especie Tabebuia rosea							
Años	2013	2014	2015	2016	2017	2018	Sin año
Volumen de Madera (m^3)	0,335	4,563	2,3849	13,413	0,3	44	0,756
Productos Unidades	1060	2					

Please note that *Handroanthus impetiginosa* = *H. impetiginosus*

ANNEX 7

Peru

Source: CoP18 Prop. 49 Inclusion of Trumpet Trees *Handroanthus* spp., *Tabebuia* spp. and *Roseodendron* spp. in Appendix II with annotation #6

Main importing counties for sawn wood from *Handroanthus serratifolius* from Peru; Source: Ministerio de Agricultura y Riego de Perú

ANNEX 8
(Spanish only / en español únicamente / seulement en espagnol)

Information provided by Mexico:

C. Carlos Mario Orrego Vázquez

Autoridad Administrativa CITES

MINAE-SINAC

Costa Rica PRESENTE:

Estimado Señor Orrego:

Me refiero a su oficio SINAC-SE-CUSBSE-095 de fecha 13 de febrero del 2022 en el que solicita comentarios e invita a México a ser co-proponente de la propuesta para la inclusión al Apéndice II de la CITES de las 113 especies de los tres géneros de Handroanthus spp., Roseodendron spp. y Tabebuia spp.

Al respecto, a nombre de las Autoridades Administrativa (DGVS-SEMARNAT) y Científica (CONABIO) de México y después de revisar el borrador de propuesta y sus anexos le compartimos los siguientes comentarios:

1. *Consideramos importante reforzar la propuesta con información sobre los tres géneros, ya que mayormente está sustentada en datos de las especies H. serratifolius y H. impetiginosus y, a partir de éstos, se sugiere incluir a todas las especies por la dificultad de diferenciar su madera. No obstante, en otras secciones del documento se indica que esta problemática de similitud sólo se presenta con algunas especies.*

2. *Sugerimos especificar qué géneros/especies cumplen cada uno de los criterios de inclusión (cuáles por comercio y cuáles por similitud).*

3. *Observamos algunas discrepancias sobre la taxonomía que implicarían números distintos de especies en los géneros Tabebuia y Handroanthus (p.e. al comparar con Kew Gardens, Catalogue of Life y Tropicos), por lo que sugerimos verificarlo y revisar la congruencia con la nomenclatura que utiliza la CITES.*

4. *Sería importante actualizar la información de comercio (p.e. a los últimos 10 años, 2011 a 2021) y mencionar qué otras especies, además de H. serratifolius y H. impetiginosus, serían las más relevantes para el comercio internacional, señalar cómo han sido afectadas por éste con respecto al estado de conservación de sus poblaciones y fundamentar si dicho comercio es de las principales amenazas para sus poblaciones silvestres.*

5. *Consideramos relevante que se enriquezca la información sobre la biología, distribución (tomando en cuenta un anexo para señalar los países de distribución de las especies), información poblacional y de legislación en el cuerpo de la propuesta, ya que en su mayoría hace referencia únicamente a las especies H. serratifolius y H. impetiginosus.*

6. *Con respecto a la Anotación #17, sugerimos fortalecer el argumento para su uso, ya que el único producto comercializado que se menciona en el borrador de propuesta es la madera aserrada. En este sentido, sugerimos utilizar la Anotación #6, que particularmente para México, refleja de mejor manera los productos comercializados de estas especies.*

Tomando en cuenta lo anterior, no nos será posible ser co-proponentes, pero estamos en la mejor disposición de revisar la propuesta nuevamente si Costa Rica decide presentarla a la CoP19 con información adicional que muestre el cumplimiento de los criterios de la Resolución Conf. 9.24 (Rev. CoP17) para la inclusión de las especies en el Apéndice II.

*Por si fuera de utilidad, en el **Anexo** al presente le compartimos información disponible para las especies que se distribuyen en México.*

Esperamos que la información y comentarios sean de utilidad.

Sin más por el momento reciba un cordial saludo.

Atentamente,

M. en C. Sol Guerrero Ortiz

Subcoordinadora de la Autoridad Científica CITES

Firma en Ausencia del Biól. Hesiquio Benítez Díaz

Director General de Cooperación Internacional e Implementación

JNL

C.c.e.p. Biól. Roberto Aviña Carlin. - Director General de Vida Silvestre. - SEMARNAT

Dra. Blanca Alicia Mendoza Vera- Procuradora Federal de Protección al Ambiente - PROFEPA Ing. Ricardo Ríos Rodriguez.- Director de aprovechamiento Forestal.- DGGFS

ANEXO.- Información disponible sobre las especies Mexicanas de Handroanthus, Tabebuia y Roseodendron.

- *Bases de datos con información sobre las especies mexicanas, ecosistemas, aprovechamientos, plantaciones, datos del Inventario Nacional Forestal y de Suelos (INFyS), documentos/artículos con información biológica, catálogos, manuales sobre las caracteristicas mórfológicas de la madera de las especies mexicanas (Tabebuia rosae, Handroanthus chrysanthus, Handroanthus guayacan, Handroanthus impetiginosus, Roseodendron donnell-smithii, Tabebuia heterophylla) y mapas de distribución. Dicha información se encuentra disponible en la siguiente liga: Información para compartir*

- *De las 113 especies propuestas, 6 se distribuyen en México (Handroanthus chrysanthus, H. guayacan, H. impetiginosus, H. ochraceus, Roseodendron donnell-smithii, Tabebuia rosae). De esas 6 especies, 2 se encuentran en la lista de especies en riesgo nacional (NOM-059SEMARNAT-2010) como Amenazadas con ésos u otros nombres: Tabebuia palmeri (H. Impetiginosus) y Tabebuia crysantha (Handroanthus crysanthus).*

- *Asimismo, a continuación, proporcionamos información sobre los registros comerciales que se tienen en México:*

1. *Especies en riesgo (reguladas por la DGVS-SEMARNAT y PROFEPA)*

De acuerdo con la Dirección General de Vida Silvestre (DGVS), se tienen registrados 18 Unidades de Manejo para la Conservación de Vida Silvestre (UMA) y 7 Predios o Instalaciones que Manejan Vida Silvestre en Forma Confinada, Fuera de su Hábitat Natural (PIMVS) para el manejo intensivo de especies de los géneros Handroanthus y Tabebuia.

Asimismo, entre 2010 y 2022 fueron emitidas 29 autorizaciones para el aprovechamiento comercial de ejemplares de H. chrysanthus (T. chrysantha).

Cabe destacar que, de acuerdo con la base de datos de la DGVS, de 2019 a la fecha, en México no hay registros relacionados con movimientos transfronterizos de ejemplares, partes o derivados de especies de estos géneros,

De igual forma, la Procuraduría Federal de Protección al Ambiente (PROFEPA) cuenta con los siguientes registros de movimientos transfronterizos (enero 2017 a marzo de 2022):

a. Handroanthus

GÉNERO	TRÁMITE	AÑO	NO. DE TRAMITES	CANTIDAD	ORIGEN	FINALIDAD
Handroanthus	Importación	2020	13	118.919 m^3	ESTADOS UNIDOS	COMERCIAL
	Importación	2021	18	207.0243 m^3	BRASIL Y COLOMBIA	COMERCIAL
	Importación	2022	2	13.667 m^3	BRASIL	COMERCIAL

b. Tabebuia

Tabla 1. Movimientos transfronterizos de Tabebuia donnell-smithi.

GÉNERO	**TRÁMITES**	**AÑO**	**NO. DE TRAMITES**	**CANTIDAD**	**ORIGEN**	**DESTINO**	**FINALIDAD**
Tabebuia donnellsmithi	Exportación	2018	2	5 m^3	MÉXICO	ESTADOS UNIDOS	COMERCIAL
	Importación	2019	1	3 m^3	ESTADOS UNIDOS	MÉXICO	COMERCIAL
	Exportación	2020	2	2.27 m^3	MÉXICO	ESTADOS UNIDOS	COMERCIAL

Tabla 2. Movimientos transfronterizos de Tabebuia spp.

GÉNERO	**TRÁMITES**	**AÑO**	**NO. DE TRAMITES**	**CANTIDAD**	**ORIGEN**	**DESTINO**	**FINALIDAD**
Tabebuia	Importación	2017	33	357 m^3	COLOMBIA, BRASIL, ESTADOS UNIDOS Y CAMERÚN	MÉXICO	COMERCIAL
	Importación	2018	16	154 m^3	BRASIL, COLOMBIA, BOLIVIA Y ESTADOS	MÉXICO	COMERCIAL

					UNIDOS		
	Exportación	2018	2	5 m^3	MÉXICO	ESTADOS UNIDOS	COMERCIAL
	Importación	2019	24	197 m^3	BRASIL, COLOMBIA, PERÚ, ESTADOS UNIDOS E INDONESIA	MÉXICO	COMERCIAL
	Exportación	2019	1	1 m^3	MÉXICO	ESTADOS UNIDOS	COMERCIAL
	Importación	2020	20	176.74 m^3	COLOMBIA, BRASIL, PERÚ	MÉXICO	COMERCIAL
	Exportación	2020	2	2.27 m^3	MÉXICO	ESTADOS UNIDOS	COMERCIAL
	Importación	2021	17	141.2033 m^3	COLOMBIA, BRASIL, PERÚ	MÉXICO	COMERCIAL
	Importación	2022	3	13.759 m^3	BRASIL Y PERÚ	MÉXICO	COMERCIAL

c. Aseguramientos de los géneros Handroanthus, Tabebuia y Roseodendron

Tabla 3. Aseguramientos de especies de Handroanthus, Tabebuia y Roseodendron por año/municipio

Año	**Entidad**	**Municipio**	**Nombre Común**	**Nombre científico**	**Cantidad asegurada**	**Unidad**
2017	Colima	Manzanillo	Árbol Handroanthus	Tabebuia chrysantha	0.226	m3
2017	Chiapas	Tapachula	Mocoque En México	Tabebuia rosea	0.75	m3
2017	Tabasco	Cárdenas	Mocoque En México	Tabebuia rosea	35	piezas
2017	Tabasco	Huimanguillo	Mocoque En México	Tabebuia rosea	18.675	m3
2018	Colima	Ixtlahuacán	Árbol Handroanthus	Tabebuia chrysantha	0.1295	m3
2018	Colima	Ixtlahuacán	Árbol Handroanthus	Tabebuia chrysantha	0.1295	m3
2018	Baja California	Mexicali	Palo Blanco	Tabebuia donnell smithii	4.16	m3

2019	*Tabasco*	*Cunduacán*	*Mocoque En México*	*Tabebuia rosea*	*173*	*piezas*
2019	*Tabasco*	*Macuspana*	*Mocoque En México*	*Tabebuia rosea*	*9.543*	*m3*

Especies que no están catalogadas en riesgo (reguladas por DGGFS)

De acuerdo a la información del Sistema Nacional de Gestión Forestal (SNGF), existen registros de trámites para 7 especies del género Tabebuia, sin embargo, 2 de ellas corresponden a sinonimias de especies de los géneros Handroanthus y Roseodendron, de acuerdo a la siguiente tabla:

Tabla 4. Especies de Tabebuia registradas en el SNGF.

NP	***Especie registrada en SNGF***	***Sinonimia***
1	*Tabebuia rosea*	
2	*Tabebuia donnel smithii*	*Roseodendron donnel smithii*
3	*Tabebuia pentaphylla*	*Tabebuia rosea*
4	*Tabebuia crysantha*	
5	*Tabebuia guayacan*	
6	*Tabebuia impetiginosa*	*Handroanthus impetiginosus*
7	*Tabebuia sp*	

En el caso de autorizaciones para el aprovechamiento forestal maderable, se tienen 3 permisos vigentes con volumen autorizado para Tabebuia rosea, Roseodendron donnel smithi y Handroanthus impetiginosus.

En terrenos diversos a los forestales se han otorgado 478 constancias por la CONAFOR del año 2018 a marzo de 2022, para el aprovechamiento de 37,185 m3 de madera de las especies y ***Roseodendron donnel smithii,****, en los estados de Chiapas, Colima, Guerrero, Jalisco, Nayarit, Oaxaca, San Luis Potosí y Tabasco.*

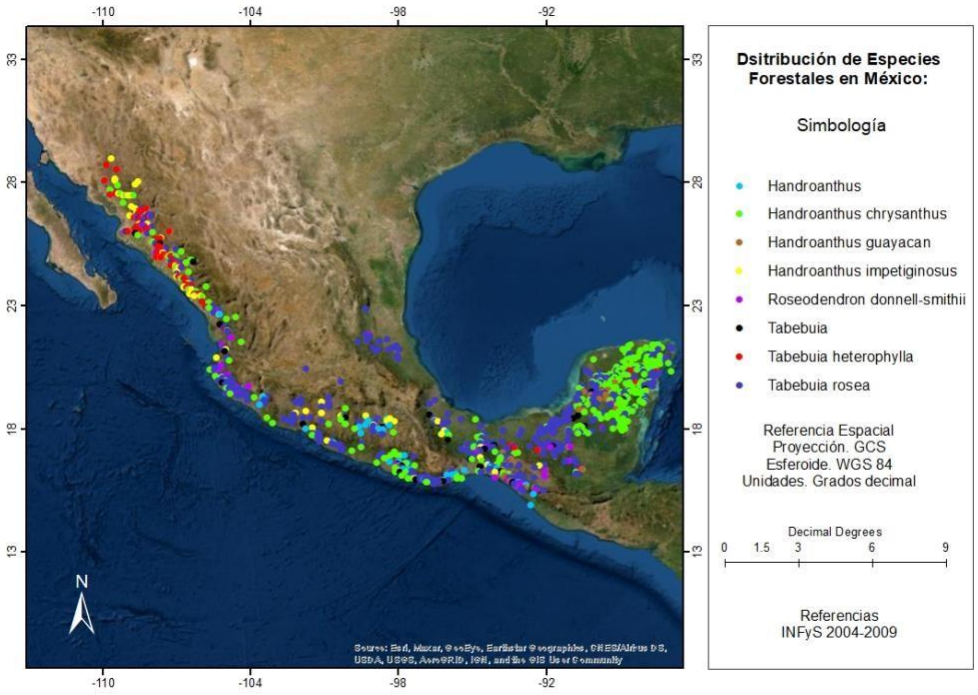
Para exportaciones: se reportan 6 trámites de certificados sanitarios en 2018 para 118m^3 de

Tabebuia, 2 trámites más en 2020 de Veracruz a China y en 2021 de Veracruz a China para 18m^3

El aprovechamiento forestal maderable para las especies se presenta más para árboles aislados (terrenos diversos a los forestales), siendo aprovechadas en un contexto local y regional principalmente y con volúmenes poco significativos.

En el periodo 1997 al 2022, se han registrado 1,451 trámites de plantaciones forestales comerciales ante la SEMARNAT y la CONAFOR, en 69,222 hectáreas, siendo ***Tabebuia rosea,*** *la principal especie a plantar. El establecimiento de plantaciones comerciales, disminuye la presión del aprovechamiento de las especies en vida silvestre.*

En el siguiente mapa se observa la distribución de las especies mexicanas reportadas en los sitios de muestreo de acuerdo con el Inventario Nacional Forestal y de Suelos (INFyS).


-110
-104
-98
-92
33
28
23
18
13
N
Dsitribución de Especies Forestales en México:
Simbología
Handroanthus
Handroanthus chrysanthus
Handroanthus guayacan
Handroanthus impetiginosus
Roseodendron donnell-smithii
Tabebuia
Tabebuia heterophylla
Tabebuia rosea
Referencia Espacial
Proyección. GCS
Esferoide. WGS 84
Unidades. Grados decimal
Decimal Degrees
0 1.5 3 6 9
Referencias
INFyS 2004-2009

ANNEX 9

French Guyana

Source: CoP18 Prop. 49 Inclusion of Trumpet Trees *Handroanthus* spp., *Tabebuia* spp. and *Roseodendron* spp. in Appendix II with annotation #6

Ebène verte (*Handroanthus serratifolius*) and Ebène rouge (*Handroanthus impetiginosus*) in French Guyana from 2007 to 2021; Source CITES Scientific Authority of France

	Inventory		**Exploitation**	
Year	**N stems**	**Volume m³**	**N logs**	**Volume** (unit not mentioned, supposably m³)
2007	207	1 418	72	702
2008	322	2 142	108	973
2009	378	2 562	290	1 454
2010	141	751	209	1 474
2011	200	1 120	210	1 439
2012	45	260	112	955
2013	161	862	129	845
2014	111	651	126	633
2015	144	910	202	685
2016	214	1 307	207	791
2017	285	1 581	187	578
2018	183	1 027	156	501
2019	139	735	299	1 133
2020	108	606	212	720
2021	98	549	105	330
Sum	**2 736**	**16 482**	**2 624**	**13 212**
Mean	182	1 099	175	881

ANNEX 10

Consultations

According to Resolution Conf. 9.24 (Rev. CoP 17) annex 6 all range states have to be consulted. This is a list of all countries that answered to the consultations.

De conformidad con la Res. Conf. 9.24 (Rev. CoP 17), anexo 6, ítem 10, hicimos la consulta con todos los países del área de distribución. Abajo se encuentran los países de los que recibimos contribuciones.

País	Respuesta a la consulta	Estado del área de distribución
Jamaica	En revisión y sin información adicional	Sí
México	Envió extensa información sobre el estado de estas especies, su distribución y las plantaciones comerciales con las que cuenta. (ver anexo 8)	Sí
EUA	Envió comentarios a la redacción de la propuesta	SI (Puerto Rico)
Colombia	Envía información sobre el comercio legal y el comercio ilícito de Handroanthus y Tabebuia. Manifiesta su interés para unirse como co proponente de la propuesta.	Sí

Exports of ipê from four Amazon Basin countries (in m3), 2017-2021

Export shipment origin	2017 (exports of ipê m^3)	2018 (exports of ipê m^3)	2019 (exports of ipê m^3)	2020 (exports of ipê m^3)	2021 (exports of ipê m^3)	Total ipê exported from Amazon Basin country 2017-2021 (m^3)
Brazil	77,846	94,258	99,323	101,310	76,643	449,381
Bolivia	3,052	2,473*	1,885**	no data	no data	7,410
Paraguay	1,955	1,663	1,231	922	1,306	7,077
Peru	974	1,183	1,157	923	1,508	5,744
TOTAL	**83,827**	**99,578**	**103,596**	**103,156**	**70,213**	**469,613**

Source: Norman and Zunino, Forest Trends 2022

Exports of ipê by species name listed in the product description field

Ipê species/ description provided in customs data	2017 (kg)	2018 (kg)	2019 (kg)	2020 (kg)	2021 (kg)	Total (kg)	% of total
Tabebuia/ Handroanthus serratifolia	54,935,369	66,985,987	74,434,838	78,120,919	59,695,707	334,172,820	64
Ipê	26,160,882	31,990,226	27,679,527	23,677,362	16,931,869	126,439,867	24
T./H. impetiginosa	1,064,093	3,799,161	7,130,266	9,151,859	8,270,014	29,415,393	6
Ipe-"*Tabebuia* spp."	5,599,774	2,916,260	1,090,660	689,887	783,109	11,079,689	2
Tajibo	1,457,736	1,413,183	1,988,774	68,428	29,980	4,958,102	1
Lapacho	1,251,624	1,137,177	705,297	453,568	727,051	4,274,717	1
T./H. roseoalba	959,571	925,451	653,591	679,250	723,375	3,941,238	1
T./H. capitata	701,147	461,998	888,684	458,206	275,364	2,785,399	1
T./H. vellosoi	149,918	391,265	476,283	1,206,012	362,258	2,585,736	1
Guayacan	733,982	434,404	418,464	441,370	422,546	2,450,766	0.5
T./H. incana	472,309	414,631	68,189	351,339	54,748	1,361,216	0.3
T./H. barbata	281,308	127,555	154,593	69,783	234,462	867,701	0.2
Brazilian walnut	no data	202,642	157,811	44,856	155,965	561,274	0.1
T./H. chrysantha	86,642	65,410	117,371	no data	73,089	342,512	0.1
Tahuari	no data	135,221	22,500	16,109	102,448	276,277	0.1
T./H. heptaphylla	6,818	27,796	no data	105,281	149,160	289,055	0.1
T./H. avellanedae	25,014	98,936	22,579	no data	no data	146,529	0.03
T./H. chrysotricha	no data	no data	18,064	no data	no data	18,064	0.004

Source: Norman and Zunino, Forest Trends 2022

ITTO Imports and Exports of IPE from 2018-2021

IMPORTS (QUANTITY)									
Reporter	**Partner**	**Product**	**Product HS Code**	**product_description**	**Quantity**	**2018**	**2019**	**2020**	**2021**
Brazil	Bolivia	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	7000	27680	6394	115430
USA	Belgium	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	2	1		
USA	Bolivia	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	1000	1351	174	
USA	Brazil	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	30108	31584	34528	
USA	Canada	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	3	20	8	
USA	France	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	17			
USA	Guyana	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	1024	927	823	
USA	Italy	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	202			
USA	Japan	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	154			
USA	Panama	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	20			
USA	Peru	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	4			
USA	Portugal	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm	M3	277	22	21	
USA	Spain	Sawnwood	4407290121	ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed,	M3	549	187	252	

				sanded or end-jointed, of a thickness exceeding 6 mm					
USA	**Suriname**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**	**77**	**69**	**40**	
USA	**Guatemala**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**		**25**		
USA	**Netherlds.**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**		**20**		
USA	**Venezuela**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**		**171**		
USA	**Chile**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**			**2**	
USA	**Congo**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**			**36**	
USA	**Germany**	**Sawnwood**	**4407290121**	**ipe wood, sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6 mm**	**M3**			**1**	
USA	**Bolivia**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut**	**M2**	**88**	**1082**	**327**	
USA	**Brazil**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut**	**M2**	**54108**	**39546**	**34852**	
USA	**China**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut**	**M2**	**1140**		**494**	
USA	**Netherlds.**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut**	**M2**	**486**			
USA	**Paraguay**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut**	**M2**	**12229**	**2278**		
USA	**Spain**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut**	**M2**	**520**	**552**		
USA	**Guatemala**	**Mouldings**	**4409220525**	**wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo,**	**M2**		**1281**		

				lapacho, brazilian walnut, and patagonian walnut					
USA	Chile	Mouldings	4409220525	wood flooring, end-matched, ipe (tabebuia spp.), also known as taheebo, lapacho, brazilian walnut, and patagonian walnut	M2			0	

EXPORTS (QUANTITY)									
Reporter	Partner	Product	Product HS Code	product_description	Quantity	2018	2019	2020	2021
Brazil	Argentina	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	171300	0	0	0
Brazil	Aruba	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	8487	6309	0	0
Brazil	Belgium	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	4615719	4305306	4605506	3380291
Brazil	Canada	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	360561	114944	788	246421
Brazil	Chile	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	2751	0	11	0
Brazil	China	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	2439030	1467493	1387700	582127
Brazil	Denmark	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	293767	101336	213998	115254
Brazil	Domin-Rep.	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	104050	26164	19734	20949
Brazil	France	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	4798706	4212517	2278509	1546807
Brazil	Georgia	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	2800	0	0	0
Brazil	Germany	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	857234	666241	173346	329697
Brazil	Guadeloupe	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	26122	4885	0	0
Brazil	Haiti	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	26856	0	0	0
Brazil	Hong Kong	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	274687	126750	22	0
Brazil	India	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	663044	180244	82076	45247
Brazil	Israel	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	669654	158058	133396	174044
Brazil	Italy	Sawnwood	44072920	Ipe wood, sawn/cut in sheets etc.thick.>6mm	KG	558906	430644	234174	172685

Brazil	**Japan**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**87612**	**124663**	**28203**	**28666**
Brazil	**Lithuania**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**27903**	**0**	**0**	**0**
Brazil	**Mauritius**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**74560**	**110150**	**0**	**0**
Brazil	**Mexico**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**26317**	**0**	**0**	**0**
Brazil	**Morocco**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**580**	**0**	**0**	**0**
Brazil	**Netherlds.**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**405994**	**574549**	**165791**	**195659**
Brazil	**Panama**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**107635**	**49314**	**0**	**0**
Brazil	**Portugal**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**1578753**	**2252415**	**2206144**	**2327221**
Brazil	**Puerto Rico (U.S.)**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**82165**	**0**	**5043**	**25596**
Brazil	**Reunion**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**26000**	**0**	**0**	**0**
Brazil	**S. Korea**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**527708**	**125232**	**106651**	**62774**
Brazil	**Spain**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**6592368**	**4827109**	**3495152**	**2255618**
Brazil	**St. Barthlmy.**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**24679**	**44545**	**153067**	**64935**
Brazil	**Sweden**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**26589**	**0**	**53137**	**0**
Brazil	**UK**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**126055**	**27559**	**0**	**0**
Brazil	**Uruguay**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**335413**	**220580**	**234866**	**254454**
Brazil	**USA**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**3890386**	**2322454**	**1653052**	**2097586**
Brazil	**Curacao**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**5554**	**0**	**0**
Brazil	**Greece**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**44466**	**0**	**0**
Brazil	**Malaysia**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**6992**	**8847**	**52638**
Brazil	**Paraguay**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**12854**	**0**	**0**
Brazil	**Singapore**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**3301**	**0**	**0**

Brazil	**South Africa**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**54490**	**0**	**0**
Brazil	**St. Maarten**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**64029**	**0**	**0**
Brazil	**Tunisia**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**80332**	**52214**	**0**
Brazil	**Viet Nam**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**76647**	**0**	**0**
Brazil	**Bosnia Herz.**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**0**	**23517**	**0**
Brazil	**Croatia**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**0**	**26180**	**0**
Brazil	**Cyprus**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**0**	**21980**	**517**
Brazil	**Jamaica**	**Sawnwood**	**44072920**	**Ipe wood, sawn/cut in sheets etc.thick.>6mm**	**KG**	**0**	**0**	**7089**	**0**

ANNEX 14

Information provided by COLOMBIA during the Consultation Process.

GENERO Handroanthus

Contexto

En el marco de administración de los recursos naturales, el Ministerio de Ambiente y Desarrollo Sostenible, y las entidades que hacen parte del Sistema Nacional Ambiental -SINA, cuentan con una herramienta denominada Salvoconducto Único Nacional en Línea para la movilización de especímenes de la diversidad biológica (SUNL) el cual es un Documento que ampara la movilización, re movilización y renovación en el territorio nacional de especímenes de la diversidad biológica, emitido por la autoridad ambiental competente, a través de la Ventanilla Integral de Trámites Ambientales en Línea (VITAL). Esta consolidación de la información permite analizar y revisar diferentes atributos del aprovechamiento y movilización de productos derivados del uso sostenible del bosque natural, para este caso es posible revisar el volumen en metros cúbicos (m^3) aprovechados y movilizados para las diferentes especies del género *Handroanthus* en **Colombia**.

Información

A partir de los Datos de la plataforma, nos indica lo siguiente:

Aprovechamiento, movilización y exportación

De acuerdo con el volumen reportado en la plataforma para *Handroanthus* en Colombia, se indica que el volumen aprovechado del género durante los años: 2019 (1013,9 m^3), 2020 (335,45 m^3) y 2021 (245,67 m^3). A nivel de las especies del género *Dipteryx* sobre las que se reportó un mayor aprovechamiento fueron: *Handroanthus billbergii* (72636,5 m^3), *Handroanthus chrysanthus* (23898,8 m^3), *Handroanthus serratifolius* (1726,83 m^3), *Handroanthus* sp. (347,9 m^3) y *Handroanthus guayacan* (14,28 m^3). El año 2021 fue, en el que se registró el mayor volumen aprovechado, donde predomina el aprovechamiento de la especie *Handroanthus chrysanthus*. A nivel geográfico en los Departamentos en los que se registra el aprovechamiento del mayor volumen en m^3 del género *Handroanthus* se da en La Guajira (15996,6 m^3), Cesar (740,36 m^3) y Antioquia (1089,87 m^3).

Durante el 2019, 2020 y 2021 el departamento en el que se registra el aprovechamiento del mayor volumen en m^3 del género *Handroanthus* se registró en Cesar, Huila y Caquetá, el detalle a nivel municipal en los municipios en los que se registra el aprovechamiento del mayor volumen en m^3 del género *Handroanthus* se registró en Manaure (15000 m^3), Barrancas (996,6 m^3), Ituango (990,77 m^3), Aipe (719,94 m^3) y Puerto Colombia (695,6 m^3).

En relación, con las incautaciones al tráfico ilegal, indicamos que, de acuerdo con la información oficial aportada por las diferentes Autoridades Ambientales, hasta la fecha se ha realizado la incautación de un total de 83,4 m^3, siendo *Handroanthus billbergii* la especie más incautada con 61,92 m^3, seguida en menor proporción por *Handroanthus chrysanthus* con un volumen incautado de 21,5 m^3. Donde el año 2019 es el año en el que se realizó el registro del mayor número de incautaciones, reflejadas en un total de 11 actas en las que se referencia únicamente la especie *Handroanthus billbergii*. De otra parte, en el 2019 de reportaron 9 actas de incautación por parte de las autoridades ambientales en las que se hace referencia a la incautación de las especies *Handroanthus billbergii* y *Handroanthus chrysanthus*.

GENERO Tabebuia

Contexto

En el marco de administración de los recursos naturales, el Ministerio de Ambiente y Desarrollo Sostenible, y las entidades que hacen parte del Sistema Nacional Ambiental -SINA, cuentan con una herramienta denominada Salvoconducto Único Nacional en Línea para la movilización de especímenes de la diversidad biológica (SUNL) el cual es un Documento que ampara la movilización, re movilización y renovación en el territorio nacional de especímenes de la diversidad biológica, emitido por la autoridad ambiental competente, a través de la Ventanilla Integral de Trámites Ambientales en Línea (VITAL). Esta consolidación de la información permite analizar y revisar diferentes atributos del aprovechamiento y movilización de productos derivados del uso sostenible del bosque natural, para este caso es posible revisar el volumen en metros cúbicos (m³) aprovechados y movilizados para las diferentes especies del género *Tabebuia* en Colombia.

Información

A partir de los Datos de la plataforma, nos indica lo siguiente:

Aprovechamiento, movilización y exportación

De acuerdo con el volumen reportado en la plataforma para *Tabebuia* en Colombia, se indica que el volumen aprovechado del género durante los años: 2019 (63,73 m³), 2020 (10777,3 m³) y 2021 (16721,77 m³). A nivel de las especies del género *Tabebuia* sobre las que se reportó un mayor aprovechamiento fueron: *Tabebuia rosea* (25700,28 m³), *Tabebuia* sp. (1731,32 m³), *Tabebuia ochracea* (156,34 m³), *Tabebuia chrysantha* (8,78 m³) y *Tabebuia heterophylla* (2 m³). El año 2021 fue, en el que se registró el mayor volumen aprovechado, donde predomina el aprovechamiento de la especie Tabebuia rosea. A nivel geográfico en Los Departamentos en los que se registra el aprovechamiento del mayor volumen en m³ del género *Tabebuia* se da en Sucre (11331,985 m³), Choco (10350 m³) y Antioquia (3341,29 m³).

Durante el 2019, 2020 y 2021 el departamento en el que se registra el aprovechamiento del mayor volumen en m³ del género *Tabebuia* se da en el Sucre, Choco y Antioquia, el detalle a nivel municipal en los que se registra el aprovechamiento del mayor volumen en m³ del género *Tabebuia* se da en Riosucio (6700 m³) Majagual (4555,04 m³) Carmen del Darién (3650 m³) Necoclí (2687,5) m³ San Benito ABAD (1226 m³) Guaranda (1171,1 m³) y Tolúviejo (1025,33 m³).

Respecto al número de permisos de exportación para especies del género *Tabebuia* otorgados por la ANLA durante los años 2019 y 2020, se indica que para el año 2019 se otorgó un único permiso de aprovechamiento para *Tabebuia serratifolia* (1), en el 2020 fueron otorgados dos permisos de aprovechamiento en total, uno para *Tabebuia rosea* (1) y otro (1) para *Tabebuia* sp. La especie del género Tabebuia sobre la cual la Autoridad Nacional de Licencias Ambientales (ANLA) aprobó la exportación del mayor volumen en m³ de aprovechamiento para exportación fue sobre *Tabebuia* sp (82 m³), seguida por *Tabebuia rosea* (20 m³) y *Tabebuia serratifolia* (11,97 m³).

En relación, con las incautaciones al tráfico ilegal, indicamos que, de acuerdo con la información oficial aportada por las diferentes Autoridades Ambientales, hasta la fecha se ha realizado la incautación de un total de 187,2 m³, siendo Tabebuia rosea la especie más incautada con 117,74 m³, seguida en menor proporción por las denominadas *Tabebuia chrysantha* con 37,64 m³, *Tabebuia bilberguii* con 31,147 m³.

Donde el año 2017 fue el año en el que se realizó la mayor incautación, con un volumen de 33,44 m³ de Tabebuia rosea y 3.38 m³ de *Tabebuia bilbergii .* A este lo sigue el 2012, con la incautación de 24,8 m³. Se indica que La mayor causal de incautación se presentó por la ausencia del permiso de aprovechamiento, ausencia del permiso de movilización, Aprovechamiento ilegal, como la falta de salvoconducto.