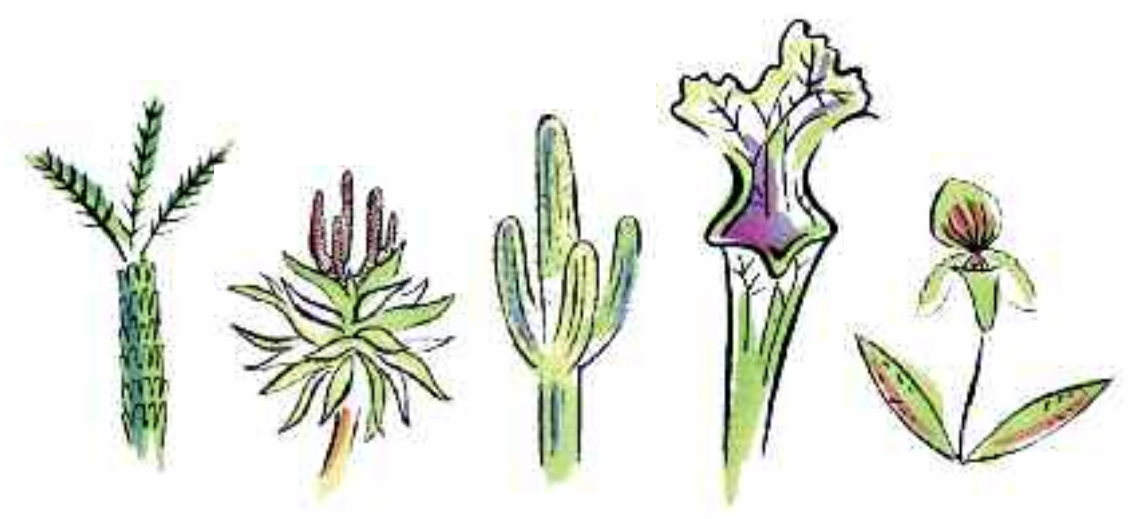
A CITES manual for botanic gardens



BGCI

Plants for the Planet

A CITES manual for botanic gardens

A CITES manual for botanic gardens
Second edition

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Recommended citation: Oldfield S. and McGough N. (Comp.), 2007. A CITES manual for botanic gardens. Second edition. Botanic Gardens Conservation International, Richmond, United Kingdom

ISBN: 1-905164-19-X

Acknowledgements
The authors wish to thank Milena Sosa Schmidt, CITES Scientific Officer (Flora) for her detailed comments on the draft text, Jon Barzdo and Stephen Nash for additional advice on the text and Suzanne Sharrock, BGCI for editorial support. Thanks are also due to John Donaldson for provision of information on the work of SANBI in relation to CITES, Gloria Su for information on Kadoorie Farm and Botanic Garden's orchid conservation work and Michael Kiehn for information on the CITES projects at the University of Vienna Botanical Garden and additional comments on the draft text. Financial support from the U.K. Department for Environment, Food and Rural Affairs is gratefully acknowledged.

Design:
John Morgan, Seascape. Illustrations: Rachel Fuller

Published by
Botanic Gardens Conservation International
Descanso House, 199 Kew Road
Richmond, Surrey TW9 3BW United Kingdom

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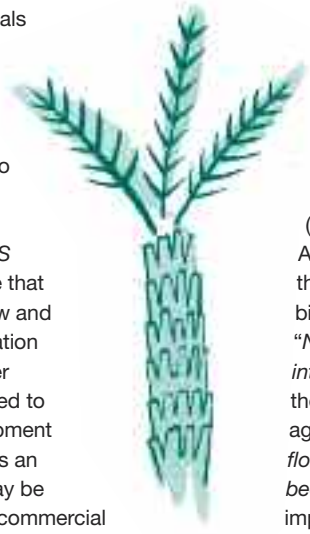
Preface

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to protect listed species of plants and animals against over-exploitation caused by international trade and to ensure that this trade is sustainable. CITES is arguably the most powerful of the international biodiversity conservation agreements because its provisions are translated into national laws in all the countries which sign up to it. The Convention has been in force for over 30 years and has been ratified by over 170 countries. Throughout its history botanic gardens have played an important role in the implementation of CITES for plant species and in raising awareness of the aims and requirements of the Convention. Much of the botanical expertise and information needed to ensure the effective operation of CITES continues to be provided by botanic gardens. It is generally recognised however that implementation of CITES for plants lags behind that for animals and there remains a need for more botanical input. Liaison between the CITES Secretariat and Botanic Gardens Conservation International (BGCI) has been officially recommended to help address this issue.

BGCI published the first edition of *A CITES manual for botanic gardens* in 1994. Since that time the Convention has evolved, with new and strengthened mechanisms for implementation and changes in direction reflecting broader biodiversity conservation thinking. The need to link biodiversity conservation with development issues is now generally accepted. There is an increased recognition that rural people may be dependent on the income they earn from commercial collecting of wild species and that control mechanisms need to take into account rural livelihoods. Traditionally the plants covered by the provisions of CITES have mainly been ornamentals threatened by commercial collecting from the wild for gardens and greenhouses. Conservation problems clearly remain for these horticultural groups and CITES implementation needs to be improved to concentrate on tackling illegal trade in endangered species such as tropical slipper orchids. However, more attention is now being focused on the need for CITES to work on major commercial groups of internationally traded species such as timbers and medicinal plants, providing significant new challenges for the Convention.

In parallel with the evolution in CITES over the past decade has been the growth in influence of the Convention on Biological Diversity (CBD). The CBD came into force on 29 December 1993 and has now been ratified by over 180 countries. The CBD aims to conserve biodiversity, ensure the sustainable use of biodiversity and ensure the fair and equitable sharing of benefits arising from the use of genetic resources. The aims of the CBD and CITES share essential similarities but the mechanisms for delivery differ considerably. One clear mechanism for synergy is provided by the CBD *Global Strategy for Plant Conservation* (GSPC), agreed by the Parties to the CBD in April 2002, which sets out specific targets for the conservation and sustainable use of plant biodiversity. Target 11 of the Strategy calls for, "*No species of wild flora endangered by international trade*". It is clearly consistent with the main purpose of the CITES Strategic Plan agreed in 2001: "*No species of wild fauna or flora subject to unsustainable exploitation because of international trade*". CITES implementation also helps to meet most of the other targets of the GSPC.



The CITES Strategic Vision for 2008-2013 aims to improve the working of the Convention so that international trade in wild plants and animals is increasingly and consistently conducted at sustainable levels. The goals and objectives of the Vision apply generally to all species groups covered by the Convention.

The aims of this revised edition of *A CITES manual for botanic gardens* are to reinforce the fundamental role of botanic gardens in the implementation of CITES and to urge all botanic gardens to do more to ensure that CITES is fully effective for plants and that the linked targets of the GSPC are met. Botanic gardens provide a unique resource in collections, expertise and contact with visitors and local communities to contribute to and promote a sustainable international trade in plants. Botanic gardens have become leaders in visitor education and capacity building. This expertise is a rich resource for CITES Parties as the Convention addresses new challenges. All botanic gardens have a role to play in ensuring that CITES has a positive impact and we hope that this manual will act as a catalyst for further action in conservation and sustainable plant use.

1. Introduction

Plants are a global resource that needs to be exploited wisely and carefully. Plants and plant products are used worldwide by human societies for a wide variety of practical and commercial uses. Increasing demands on the world's flora by a growing human population, with accelerated degradation and destruction of habitats, threaten many plant species with extinction or reduction of populations to levels at which they no longer provide us with these uses.

The regulation of international trade in plants represents a significant contribution towards the protection of commercially exploited species, especially those that currently face extinction in the wild. The world's botanic gardens have great potential to influence the future development of plant trade and to encourage the use of wild plants as a sustainable resource.

A central role for botanic gardens has traditionally been to act as *ex situ* repositories of wild plant germplasm. However, many botanic gardens are now evolving as multi-purpose botanical resource centres to study and conserve biodiversity, through research in botany, ecology and horticulture, habitat study, management and restoration, species reintroduction, environmental education and environmental sustainability. Not only do botanic gardens possess the techniques, infrastructure and expertise to provide practical measures and advice to protect threatened plants, but they may be in a position to act as intermediaries between the various scientific and commercial interests. Botanic gardens also provide an important link with local communities and in the education of future generations. These links are often much stronger and vibrant than are possible for the more formal government departments and CITES authorities.

This booklet summarises the principles and practices of CITES as a reference for botanic gardens. It highlights the mechanisms for botanic gardens to comply with the provisions of the Convention and to avoid unintentional participation in illegal or unsustainable plant trade. It also emphasises the positive role that botanic gardens can and should play in helping to implement CITES and to limit detrimental consequences of trade in endangered plants.

CITES provides a mechanism to regulate and monitor the international trade in threatened wild plants or plants which may become threatened in the future without regulation. Implementing provisions of the Convention is complex and demanding given the diverse nature of trade routes and practises, the wide range of species covered by the Convention and the limited information on sustainability for many of the species harvested from the wild. Botanic gardens should have a central role in the enforcement and extension of CITES, as part of their general strategy and code of practice for plant conservation. Guidance on the development of a garden's individual conservation mission is provided by the *International Agenda for Botanic Gardens in Conservation* (Wyse Jackson & Sutherland, 2000) which provides a short checklist for implementation of CITES (see Box 1).

Box 1. The *International Agenda for Botanic Gardens in Conservation*

The *International Agenda* was developed by and for botanic gardens in association with BGCI. Published in 2000, it provides a mechanism by which botanic gardens can directly contribute to the implementation of the CBD GSPC and also undertake a wide range of related conservation and sustainable development objectives. Implementation of CITES is integral to the *Agenda*. Over 400 botanic gardens worldwide have adopted the *International Agenda* demonstrating their commitment to securing plant diversity for the benefit of people and the planet.

Box 2. Internationally traded orchids threatened with extinction

Vietnamese orchid species considered to be Endangered in accordance with IUCN Red List categories, based on preliminary evaluations, which are included in Appendix I of CITES include the slipper orchids *Paphiopedilum barbigerum* var. *lockianum, P. callosum, P. dianthum, P. emersonii, P. gratixianum, P. hangianum, P. helenae, P. henryanum, P. malipoense, P. micranthum, P. purpuratum*, and *P. tranlienianum*. These species are considered to be approaching the Critically Endangered category and are directly threatened by illegal international trade. Species of other Vietnamese genera such as *Aerides, Calanthe, Cymbidium, Dendrobium, Phalaenopsis* and *Vanda*, which are also directly threatened by collecting for international trade, are included in Appendix II of CITES (Averyanov *et al*., 2003). Botanic gardens can provide an important resource for the propagation of these species and can help provide guidance on cultivation requirements. Many rare and endangered slipper orchids died in cultivation when first introduced from the wild because knowledge of native habitats was limited. Botanic gardens in the countries of origin can provide the missing link in this knowledge chain and help prevent a surge in unsustainable trade when new species are discovered.

The collection of certain rare or commercially desirable plant species for trade poses the major threat to their survival in the wild. This is especially the case where their habitat itself may be threatened or where these species occur naturally in low numbers. It is regretable that some professional and knowledgeable amateur botanists and horticulturists, as well as apparently reputable commercial interests in horticulture, continue to collect plants indiscriminately from the wild. Not only do these individuals and organizations ignore ethical considerations, but too often they fail to take account of laws that exist to protect plants in the wild.

Botanic gardens should, of course, be fully aware of and respect legislation relating to plant conservation, be it local, national or international. Furthermore they should operate in the spirit of equitable access to, and sharing the benefits from the use of, all plant diversity, a principle that is core to the CBD. Whenever planning to acquire plant material from overseas, botanic gardens should be familiar with the laws on the collection and trade in plants in the countries from where they intend to obtain material, contacting the relevant national or international authorities for advice. The whole rationale for acquiring and maintaining rare plants in living collections needs to be carefully considered in line, for example, with the *International Agenda*. A sensible approach is needed that recognises the necessity to cultivate particular plants, whilst at the same time rigorously controlling their collection from the wild.

International monitoring and control of the trade in threatened plants through CITES is today the principal means of international cooperation and monitoring of plant trade. It is vitally important that botanic gardens are aware of the workings of CITES and act within the bounds of its provisions.

2. Outline of CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), is also known as the Washington Convention. It was signed on 3 March 1973 and came into force on 1 July 1975. The Convention provides an international legal framework for the regulation of trade in those plant and animal species that are exploited commercially for international trade. The treaty operates through the issue and control of export and import permits for a number of clearly defined species listed in three Appendices. CITES allows trade in plant species that can withstand current rates of exploitation, but prevents trade in those that face extinction.

At the end of June 2007, 171 nations were member states or Parties to the Convention and had agreed to be bound by its provisions. This group of nations has therefore become a global network for international cooperation in the management and regulation of plant trade in endangered species. For the small number of countries that are not Party to CITES the Convention applies even stricter controls. The CITES website (www.cites.org) provides full details of all CITES Parties and key contact points in each country.

The implementation of CITES internationally is facilitated by a Secretariat based in Geneva, Switzerland. The international CITES Secretariat, which is funded by contributions from each Party, assists national CITES Authorities and arranges a meeting of representatives from the members of CITES (Conference of the Parties) every three years. The aim of these meetings is to review the working of the Convention and to consider alterations to its Appendices (species listings or delistings). Amendments agreed come into force 90 days after the meeting of the Conference of Parties.

Each member nation is responsible for the implementation of CITES in their own jurisdiction, including the appointment of at least one Management Authority and Scientific Authority. Member states are required to have their own national legislation to implement the Convention and this may be stricter than the provisions of the Convention itself. CITES provides a baseline for the regulation of trade in wild plants, and some countries apply stricter rules, for example prohibiting all exports of their native wild plants.

Within the 27 member states of the European Community (EC), the legislation of CITES is implemented by means of EC regulations. These regulations go further than CITES, for example EC member states require import licences for all plants listed on CITES in addition to the basic CITES export permit from the country of origin. The EC also regulates an additional list of species in international trade under Annex D of their wildlife trade regulation (for website and contact details see References and Resources).

In addition to providing national legislation, CITES member states are encouraged to develop and implement effective management programmes for the conservation and recovery of species, so that the species will no longer meet the criteria for inclusion in the Appendices.

Which plants are covered by CITES?

There are three CITES Appendices. For plants, the Appendices include orchids, cacti and some other succulents, cycads, certain genera of geophytes and carnivorous plants, and a range of timber species and medicinal plants (see Box 3). Approximately 300 plant species are included in CITES Appendix I and over 28,000 in Appendix II which includes the entire orchid and cactus families. Only a handful of plants are listed on CITES Appendix III but over the past 15 years some countries have used this Appendix to help control international trade in certain tree species.

Appendix I includes plant species *threatened with extinction*, for which international trade must be subject to particularly strict regulation, and only authorized in exceptional circumstances.

It should be noted that trade in artificially propagated Appendix I species and hybrids is permitted, provided appropriate permits are obtained (see page 13 for a CITES definition of "artificially propagated").

Rare exemptions for wild plants may be granted for genuine research projects concerned with the biology or conservation of these species, but the material still requires import and export permits and positive advice from the Scientific Authority from the country of export and the country of import.

Only flasked seedlings or tissue cultures of orchid species included in Appendix I, obtained *in vitro*, either in solid or liquid media and transported in sterile containers, are exempted from CITES control if they have been artificially propagated in accordance with the definition provided by CITES.

Appendix II includes species that are not threatened with extinction at present, but may become so if unregulated trade continues.

This is the most extensive Appendix in terms of numbers of species listed. Trade is permitted under licence of both wild and artificially propagated material, provided an appropriate permit is obtained. Usually seeds, pollen, seedling or tissue cultures obtained *in vitro*, either in solid or liquid media transported in sterile containers, and cut flowers of artificially propagated plants, are exempted from CITES controls through the annotations for species included in Appendix II. Material for scientific research (including living plants, seed, pollen, DNA or herbarium specimens of wild or artificially propagated plants), may be exported without a licence between CITES-registered scientific institutions. However, as a precaution before any such export takes place, checks should be made with the relevant CITES Authority.

Appendix III lists species that are threatened locally with extinction through commercial exploitation and therefore subject to trade controls within certain nations. International trade in this material requires an export permit from the country that listed the species or a certificate of origin when the material is exported from other range states. A Party to the Convention may nominate a species for Appendix III at any time. All that is required is that the species be native to that country and have some form of legal protection.

Appendix III helps regulate legal trade but there is no statement of sustainability – no 'non-detriment finding' (see p. 11). There are only seven plant species currently included in Appendix III.

In general, and subject to the constraints of national or local legislation, CITES encourages the sustainable use of natural plant resources, since this gives local communities an income, thereby encouraging both the protection of their adjacent environment and the continuation of any traditional landscape management practices that may conserve particular species-rich habitats.

The exemptions from CITES controls are varied and may change following a meeting of the CITES Conference of the Parties. It is important that botanic gardens regularly check with their national CITES Management Authority to ensure that they are fully up to date with the CITES controls. However, the following points should be noted:

- Plants *in vitro* culture from legal origin, cut flowers from artificially propagated orchids and cultivated vanilla pods are excluded from the provisions of CITES.

- A range of artificially propagated orchid hybrids **subject to strict conditions** are not controlled by CITES

- Dried plants, herbarium specimens, material preserved in spirit, DNA samples and samples for DNA analysis and growing material of wild and artificially propagated plants for genuine scientific study fall within the provisions of CITES, but for scientific institutions registered under CITES, special, simplified regulations exist. Institutions need to register with their Management Authority and transfer can only take place between such CITES registered institutions (see Chapter 3).

Proposals to amend the Appendices

Countries that are Parties to the Convention can recommend changes to the Appendices in accordance with a set of listing criteria for species that take into account biological and trade considerations. Organisations such as the Food and Agriculture Organization of the United Nations (FAO), the International Tropical Timber Organization (ITTO), the World Conservation Union (IUCN), TRAFFIC and the United Nations Environment Programme – World

Box 3. Categories of use of CITES listed plants

Ornamental
Many of the species listed in the Appendices of CITES are ornamental plants including cacti and other succulents, orchids, cycads, palms, insectivorous plants and bulbs. The CITES species are frequently grown and displayed by botanic gardens.
The unrivalled popularity of these groups has contributed to the decline in the wild of some of the most attractive species by unscrupulous collectors. For example, despite the fact that most orchids in cultivation are of hybrid origin, there still exists a trade in unlicensed, wild-collected endangered plants.
The botanic garden community can help local gardens mobilise to support legal cultivation.

Medicinal
At present there are over 60 plant species whose main use is medicinal listed on the Appendices of CITES. A range of other species may have secondary medicinal uses such as orchids and Aloes which are listed mainly because of their trade as ornamentals. Many botanic gardens are involved in the conservation of medicinal plants and have a key role in supporting sustainable sourcing of CITES listed species.

Timber
At present there are about 80 tree species included in the Appendices of the Convention. These include a few commercially traded species such as Ramin *Gonystylus* spp. from Southeast Asia, the South American mahoganies *Swietenia* spp. and African teak *Pericopsis elata.* With over 1,000 tree species threatened by international trade and growing awareness of the level of illegality associated with the timber trade, CITES clearly needs to be more involved in monitoring and regulating trade in threatened or potentially threatened tree species. Botanic gardens have an important role to play in informing the public about sustainable and legal sourcing of timber.

Conservation Monitoring Centre (UNEP-WCMC) play an important role in analysing amendment proposals put forward by the Parties and making recommendations on the appropriateness of adding species to the Appendices, transferring species between Appendices or de-listing. The proposals are debated by Conferences of the Parties and where necessary are subject to voting procedures. In general amendment proposals for plants have not attracted as much public attention and heated debate as proposals for animals. The increasing use of CITES to control the illegal and unsustainable trade in high profile timbers such as mahogany has however widened the interest in amendment proposals for plants.

National CITES Authorities

Within each member nation a CITES Management Authority is operated by the appropriate administrative office, designated by government. The responsibilities of the Management Authority in relation to plant species include:

- To make national policy on wildlife trade issues.
- To prepare and circulate official information on CITES
- To provide information about CITES to traders, NGOs and the public
- To issue permits and certificates
- To inspect and monitor incoming plant material in co-operation with national customs officers
- To detain illegally traded plants and to pursue prosecution of the trader
- To undertake training
- To provide co-ordination with the CITES Secretariat
- To liaise with the National Central Bureau of Interpol
- To monitor the level of trade, in the form of annual and biennial reports to CITES
- To set up a strategy for seized or confiscated plants.

Within each member nation a CITES Scientific Authority should also operate under the auspices of a designated body, again usually governmental. CITES specifies that the Scientific Authorities should be independent of Management Authorities in order to provide independent scientific advice. There are a range of different models for Scientific Authorities, some are government departments or agencies, some are independent research institutions and some are based on a committee structure with a wide range of membership reflecting the variety of species listed in the Convention. Botanic gardens can play a role as Scientific Authority in their own right or as part of a committee structure. Animal issues and experts frequently dominate the CITES arena. It is important that

botanic gardens remind the formal CITES authorities of their expertise and their right to take their place in the national and international CITES framework.

Making a non-detriment finding

The Scientific Authority works in close collaboration with the CITES Management Authority, providing scientific advice on the conservation and taxonomic status in relation to the import, export or licensing of plant material. One of the key responsibilities for a Scientific Authority is to carry out non-detriment findings (NDF) for species listed in Appendix I and Appendix II prior to the granting of export permits by the Management Authority. The extent to which Scientific Authorities implement this requirement of the Convention is variable and robust procedures are in place only in a few countries. This partly results from a lack of information regarding how an NDF can be undertaken in practice, particularly for plant species.

The Scientific Authority is also required to monitor both the export permits granted for Appendix II species and actual exports. The Scientific Authority should determine when levels of export need to be limited to ensure that the species can play its role in the ecosystems in which it occurs and well above the level at which that species might become eligible for inclusion in Appendix I. When the Scientific Authority considers that export levels are excessive it should advise on suitable measures to limit the grant of export permits.

Other tasks undertaken by the Scientific Authority include ensuring that the purpose of the import of specimens of Appendix I species is not detrimental to their survival and that the recipients have suitable facilities to care for the species; advising as to whether scientific institutions meet the criteria for registration (see Chapter 3); analysis of information on the biological status of species affected by trade to assist in the preparation of proposals to amend the Appendices and review of proposals to amend the Appendices submitted by other Parties.

Box 4. The role of Kew as UK CITES Scientific Authority for plants

The Royal Botanic Gardens, Kew is the UK CITES Scientific Authority for plants. The Kew Herbarium supplies vital information on the taxonomy and nomenclature of species in trade. Herbarium staff also have a wide knowledge of the conservation status and distribution of species, their use and frequency seen in trade. Much information is gained from staff working in the field. Horticultural staff have a extensive knowledge of CITES species in cultivation and also have a keen eye for new species entering trade. Staff in the Jodrell Laboratory assist in the identification of CITES timbers and medicinal plants and are also now working on the application of DNA techniques to the identification of timbers in trade. The Conventions and Policy Section at Kew co-ordinates this expertise and information and advises the UK CITES Management Authority. This unit also carries out training programmes for CITES Enforcement Officers and produces training manuals for the global CITES network. All botanic gardens can carry out some of these roles for CITES - they have expertise which is unique to their garden.

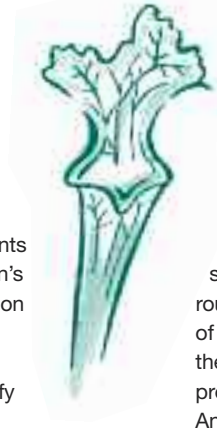
International trade monitoring

The monitoring of trade is an essential tool for achieving the aims of CITES. Scientific Authorities are required to monitor both export permits for Appendix II species as well as levels of actual exports. In addition to this national monitoring system, the trade records maintained by CITES Parties are reported to the CITES Secretariat on an annual basis. The CITES annual reports submitted by all Parties together provide statistical information on the total volume of world trade in CITES species. This data on levels of trade is very valuable in assessing the impact on wild species. Furthermore by comparing reported exports and imports an indication is given of how well Parties are implementing CITES requirements. Information from the Annual Reports, is entered into the central CITES Trade Database which is managed by UNEP-WCMC on behalf of the CITES Secretariat.

CITES Plants Committee

The CITES Plants Committee was established at the sixth meeting of the Conference of the Parties in 1987 to fill gaps in biological and other specialized knowledge regarding plant species that are (or might become) subject to CITES trade controls. The role of the Plants Committee is to provide technical support to decision-making about plants and the Convention. The Plants Committee has regional representation, elected on an individual expert basis including experts from botanic gardens, and is responsible for the preparation of regional directories for each of the six CITES regions. In addition, it includes one expert on plant nomenclature elected by the Conference of the Parties. These directories provide a range of contacts in each of the CITES regions. The directories and full details of the CITES Plants Committees activities, reports of meetings and contact details of the representative for each region can be found on the CITES website (www.cites.org). Botanic gardens might seek to become members of their governmental delegations to the Plants Committee or to become the official representative. Botanic gardens should ensure that they are included on the regional representatives email list so as to be kept up to date with activities in their region.

The Plants Committee meets on an annual basis either in Switzerland or in a host country. These meetings are an ideal opportunity for botanic gardens to contribute as active observers. Despite having only 10 voting members, attendance at Plants Committee meetings now reaches around 100 participants, made up of official government Parties and non-governmental observers. Full interpretation in English, Spanish and French is provided. A number of the CITES regions have also instituted regional CITES plant meetings and training seminars. Full details of these and other meetings can be found in the CITES calendar on the CITES website. Botanic gardens provide ideal venues for such regional or national meetings or workshops.



One of the key objectives of the CITES Plants Committee is to ensure that the Convention's Appendices correctly reflect the conservation and management needs of plant species. This is through (i) regular review of the Appendices to ensure that listed taxa satisfy the relevant criteria, and (ii) evaluation of information on currently unlisted species that are subject to significant international trade, to determine whether they require CITES listing.

Significant trade reviews

The CITES Plants Committee also has a specific mandate to identify Appendix II species that are subject to significant levels of trade that may be damaging to wild populations. This is part of the so-called "Review of Significant Trade" a central activity in the implementation of CITES which helps to ensure that appropriate measures are taken for the sustainable management of species listed in Appendix II. Based on review and assessment of relevant biological and trade information, recommendations can be made for action by the range State with time limits for their implementation to ensure compliance with the Convention. The result of the Significant Trade Review process generally removes the need for importing countries to apply stricter domestic measures (such as import bans or externally-imposed export quotas for range states) on a unilateral basis. It should also ensure that Appendix I listing for the species is not considered necessary.

As a result of the "Review of Significant Trade" process a range of projects are coordinated by the CITES Secretariat to ensure that trade occurs on a sustainable basis. To date, botanic gardens have not had a major input into these projects. However, botanic gardens do have a definite role to play here in linking to local communities that collect wild plants used in trade. Botanic gardens can also help to identify and produce protocols for plants that would benefit from being brought into cultivation to replace or supplement plants that are collected from the wild. However, it should be noted that full scale commercial propagation is usually much removed from the local communities that once gained from the use of these species.

CITES nomenclature

With over 30,000 plants listed in the CITES Appendices it is very important to have guidance on the names to be used. The CITES Plants Committee includes expertise on plant nomenclature. The Committee recommends standard names for plant species, to the level of subspecies or botanical variety. The standard reference lists for plants produced for CITES are listed in the reference section on page 20. The Appendices are reviewed routinely by the Plants Committee to ensure correct use of nomenclature, and other documents are reviewed by the Committee as required. New or updated names are proposed to the Conference of the Parties for adoption. An important aspect of the work of the Committee is to verify that changes in the names used to refer to species do not cause changes in the scope of protection of the taxon concerned.

3. CITES procedures

CITES licensing procedures

In general CITES operates through a system of permits and certificates. This system is strictly applied, controlled and monitored at an international level.

For international trade, all specimens of species listed on CITES Appendices must have an export permit from the country of origin obtained from the CITES Management Authority of that country. The issuance of an export permit confirms that the removal of the plant (or animal) will not pose a threat to the survival of that species in the wild and that the export is in accordance with national law in the exporting country.

Wild collected specimens of species listed on Appendix I also require an import permit. This is obtained from the CITES Management Authority of the country to which the plant specimens are being imported.

Many countries also require an import permit for Appendix II species in addition to the export permit from the country of export. The CITES website contains a country directory with full contact details of every CITES Management Authority across the globe. Many countries now charge for CITES permits. However, there are usually exemptions from these fees for conservation purposes.

Note also that:

- The Convention allows other types of documents than the usual export or import permit or re-export certificate to be used for artificially propagated Appendix II plants. For example, since plant shipments always have to be accompanied by a phytosanitary certificate, the Parties have decided that this document could also be used as a certificate of artificial propagation for Appendix II species subject to a number of conditions. Generally, the certificate of artificial propagation is rarely used. Phytosanitary certificates (issued by a Management Authority) are currently used by: Austria, Belgium, Denmark, Canada, Germany, Italy, Luxembourg, the Netherlands, the Republic of Korea, Singapore, Sweden and Switzerland.

- European Community (EC) regulations require that all plant material from species listed in Appendix I or II of CITES entering the EC should have an EC import permit in addition to the export permit of the country of origin (see contact details in reference section).

- Under the CBD, requirements for Access and Benefit Sharing go beyond the requirements of CITES in that national regulations for access to all plant material should be respected.

What is the definition of "artificially propagated"?

CITES defines artificially propagated plants as those that are:

a) grown under controlled conditions; and
b) grown from seeds, cuttings, divisions, callus tissues or other plant tissues, spores or other propagules that either are exempt or have been derived from cultivated parental stock;

'under controlled conditions' means in a non-natural environment that is intensively manipulated by human intervention for the purpose of plant production. General characteristics of controlled conditions may include but are not limited to tillage, fertilization, weed and pest control, irrigation, or nursery operations such as potting, bedding or protection from weather; and 'cultivated parental stock' means the ensemble of plants grown

under controlled conditions that are used for reproduction, and which must have been, to the satisfaction of the designated CITES authorities of the exporting country: i) established in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild; and ii) maintained in sufficient quantities for propagation so as to minimize or eliminate the need for augmentation from the wild, with such augmentation occurring only as an exception and limited to the amount necessary to maintain the vigour and productivity of the cultivated parental stock.

Registration for scientific institutions

Botanic gardens should consider registering as scientific institutions with their CITES Management Authority, especially if they undertake regular exchange of material covered by CITES. Registration procedures are simple, details are available from the national CITES Management Authority. Parties are encouraged to register their scientific institutions to facilitate scientific exchange of specimens needed to conduct taxonomic and species-conservation research.

Why bother to register?
Registration allows botanic gardens to take full advantage of the special provisions of CITES for the international movement of plant material for scientific purposes. These provisions allow free movement of non-commercial loans, donations or exchanges between scientific institutions registered by the Management Authority of their state, of herbarium specimens, other preserved, dried or embedded museum specimens, and live plant material, all of which carry a label issued or approved by a Management Authority.
Movement of plant material between botanic gardens may include loans, donations or exchanges of:

- seeds, cuttings or growing plants
- dried or other preserved museum/herbarium specimens
- DNA samples

The important points to remember with regard to these special provisions are:

1. Both institutions must be registered with CITES, i.e. the sender and the recipient.
2. Plant material may include collections from the wild as long as it has a label issued or approved by a Management Authority and it is exported through a registered scientific institution with the approval of that institution.
3. All material must be accompanied by an appropriate CITES label.
4. Any material collected on expeditions in another country by collectors who are not working together with a national registered institution and intend to take the material back to their home country, will need a CITES export permit.

The CITES website (www.cites.org) has a register of scientific institutions worldwide. This regularly updated list gives full details of institutions registered in all countries, including their registration numbers.

Box 5. Suggested model for a CITES Label

CITES

Country Name

Scientific Exchange between CITES Registered Institutions

CITES Label approved by the Management Authority of .....

Name & address of exporting institution:

CITES Code Number: **Signature of responsible officer:**

Name & address of importing institution:

CITES Code Number:

Contents of Package:
(Herbarium species/preserved, dried or embedded museum species/live plant material for scientific study)

4. The contribution of botanic gardens to the implementation of CITES

Botanic gardens have moral and legal responsibilities with regard to CITES and must be seen to be within the law and above reproach. Furthermore, botanic gardens clearly have a major role in improving implementation and awareness of CITES. This work will be fostered by BGCI, especially through its database of botanic garden holdings of threatened plants and its worldwide education programme. Involvement in CITES and its implementation should also become a major concern of national and regional botanic garden and plant conservation networks.

The world's botanic gardens hold collections of some 100,000 species of higher plants, the largest reserve of plant diversity outside natural and semi-natural habitats, and have the technical skills needed to maintain large reserves of germplasm. At the practical level of implementing the provisions of CITES, botanic gardens should therefore be able to provide the conservation and scientific communities with a range of services.

Botanic gardens are a very important source of the botanical information that is needed for CITES to function effectively. Botanical input is needed for example in the development of CITES amendment proposals, development of non-detriment findings and management plans for CITES-listed plants, periodic review of the Appendices, and Significant Trade Reviews for plants. At a national level botanical information is needed by the CITES Management and Scientific Authorities and internationally by the CITES Secretariat, CITES Plants Committee and relevant international organisations. BGCI will operate as a liaison body helping to ensure that botanical information relating to CITES is made available to the appropriate organisations.

Botanic gardens can contribute to the protection of species and taxa threatened with extinction through illegal or unsustainable commercial exploitation in a number of differing but complementary ways. It is a duty of the Management Authority of each member nation of CITES to establish a strategy for the control and utilization of all confiscated plants. This will frequently mean the involvement of botanic gardens, who may already be giving advice to their country's Management and Scientific Authorities.

Box 6. Kadoorie Farm & Botanic Garden supporting orchid conservation and CITES implementation

Kadoorie Farm and Botanic Garden plays a key role in the conservation of the orchids of Hong Kong and Mainland China particularly in the orchid rich provinces e.g. Yunnan, Guizhou, Guangxi, Guangdong and Hainan. Hong Kong itself has over 120 native orchids, 13 of which are endemic. Staff from Kadoorie have undertaken field surveys to assess the conservation status of the native orchids and 180 native species are grown within the Garden for *ex-situ* conservation. The work in the limestone areas of Southern China has been carried out in collaboration with the CITES Management Authority of China and the Institute of Botany of the Chinese Academy of Sciences. The joint programme focuses on first hand information collection and the development of conservation plans for the orchid species and their habitats and studies of potential for sustainable use. A manual of *Common Species of Orchids in Trade in China* for the customs is being produced for preventing illegal trade. Kadoorie is also researching threatened orchid propagation techniques. Over 70 species have been successfully propagated in bulk using aseptic seed culture. The specimens raised in this way will be used for transplantation back into the wild and urban greening. Kadoorie also assists in the care of confiscated orchids before and after court proceedings.

Box 7. South Africa's National Botanical Gardens support implementation of CITES

In South Africa, the National Botanical Gardens (including Kirstenbosch) form part of the South African National Biodiversity Institute, and therefore have strong links with the implementation of CITES. SANBI provides administrative and logistical support to the Scientific Authority, which means organising Scientific Authority meetings and dealing with routine Scientific Authority matters. One of the key functions of the Scientific Authority is to issue non-detriment findings for species in trade and SANBI plays an important role in collating and synthesising information on the distribution, demographics and trade volumes of plant species listed on CITES as a basis for non-detriment findings. For example, SANBI is currently involved in an assessment of trade and its impact on populations of *Hoodia gordonii*. The implementation of CITES is often hampered by problems with identification and SANBI's science programmes produce checklists and identification guides for Southern African plant species, and staff in the herbaria and gardens run identification courses for specific CITES-listed taxa such as cycads. SANBI has also been at the forefront of efforts to develop molecular tools that may help identify CITES species in trade, such as developing DNA fingerprints for cycads and participating in the global DNA barcoding initiative.

Botanic gardens as rescue centres for confiscated plant material

Botanic gardens in general provide a unique combination of horticultural skills and botanical expertise. This makes them appropriate centres for holding plant material that has been taken from individuals by the statutory authorities. This material may be held either on a temporary basis after initial confiscation by customs or police, or on a permanent basis following formal seizure or any successful legal action in the courts against that individual. Maintaining this material is unlikely to be an easy task for botanic garden staff and it is as well to consider the implications at an early stage, and to plan a definite programme for managing such demands in the short and long term (See Box 8).

Confiscated plant material, by its very nature, is unlikely to have phytosanitary documentation and is often in poor condition. The arrival, too often sudden, of a frequently substantial consignment of plants may be a burden to already extended material and human resources. Nevertheless, the material should be maintained so that it can be put to good use - and it may provide evidence towards a successful prosecution. Plants can be used for the conservation and perhaps reintroduction of the species, to raise public awareness of conservation issues, as well as enhancing the value of a garden's collections.

If appropriate, botanic gardens, especially those that possess well-documented germplasm collections, can utilize confiscated plant material to augment their existing plant genetic resources. In the modern garden these may include traditional living plant collections, together with seed-banks, *in vitro* tissue cultures and cryopreserved material held by the garden or related institutions. Even plants that have poorly documented origin may be valuable if the species is threatened.

Propagation of threatened plants for the horticultural trade under strict control in botanic gardens will take the pressure off surviving wild populations, whilst bringing the price down to an acceptable commercial level. Extending the activities of botanic gardens into the sphere of commercial trade will put them at the centre of the work of CITES and can realise new sources of income for the gardens. Botanic gardens should however consider very carefully the implications of entering into commercial trade before they act. Such activities are best piloted in the countries of origin of the plants concerned or by means of access and benefit sharing agreements between partner gardens in different countries.

It may be impossible to return the plants to the source country for restocking surviving wild populations. Plants may have come from more than one source, even outside the country of origin, be poorly documented or, if returned to the wild, be once more at the mercy of plant collectors. However, there is an onus on CITES Authorities to ascertain whether return is a viable option. Much seized plant material is of stock which is artificially propagated, for example orchid hybrids which merely lack the right documentation. Such seizures are decreasing as CITES removes such "supermarket plants" from regulation.

Box 8. Action to be taken on receipt of seized or confiscated plants

If a botanic garden accepts seized or confiscated plant material, its care may impose various horticultural, practical and legal burdens on the staff of the garden. It is the role of the Scientific Authority to determine whether the recipient of live Appendix I specimens is suitably equipped to house and care for them. For all seized or confiscated material it is important to consider the following before any plants are accepted.

- Establish close links through the Management Authority with customs, police or other bodies who have seized or confiscated the plants.
- Agree with your national enforcement agency a process that will be implemented when you receive detained or confiscated plants – this will avoid any later problems
- Inform/train your staff with regard to this process and post small reminder notices in your plant reception areas

As part of this process you should:

- Ascertain whether the plants are likely to be treated as evidence in any legal process that may require 'chain of evidence' procedures to be put in place to ensure that the evidence will be admissible in court.
- Estimate the additional costs to your gardens for holding such material and agree how this is to be covered with your CITES Authorities.
- Find out why the material was seized or confiscated and what you are allowed to do with it.
- Make a full inventory of the material received and if possible photographs.
- Note whether the plants were wild-collected or artificially propagated.
- Consider what the legal implications are should the plants not survive.
- Review the health of the plants.
- Verify the names of the plants, calling in outside expertise if necessary.
- Find out or decide what is (likely) to be the ultimate fate of the plants.
- Set up a plan of procedures to follow for the management of any material received.
- Consider whether the plants fit in with your current policy for the garden's collections.
- Develop close contacts with other botanic gardens nationally to share the responsibility efficiently for the management of seized or confiscated plants.
- Investigate the chances of returning the seized plant material to its country of origin.
- Keep in regular touch with your country's CITES Management and Scientific Authorities.

Advice and training for customs and legal authorities

Botanic gardens generally have staff with particular expertise in plant identification. This expertise can be used to advise and inform members of the customs or legal professions, who usually have no botanical training or knowledge. Consultation with botanic gardens staff may relate not only to the identification of plant material but also, wherever possible, whether or not the material is of wild or cultivated origin. The Royal Botanic Gardens, Kew has produced a series of training guides on CITES-listed plants which are available for use by botanic gardens. These are included in the reference section.

Staff may be able to provide advice on the commercial value of plants and their likely country of origin. They can also assist the CITES Scientific Authority of their country by providing data on the status in the wild and on the potential or actual trade of particular species.

They may be able to assist CITES Management Authorities in the establishment of national nursery registration systems. Very often botanic gardens themselves are selected to be the Scientific Authority.

Extension of CITES internationally through education and lobbying

Botanic gardens can considerably aid the work of CITES by explaining and publicising their involvement, encouraging unregistered gardens to register with their country's CITES Management Authority, and interpreting the need for a sustainable trade in plants to the public. They may be able to:

- encourage their country to implement CITES effectively for plants, and
- provide advice to national legislators and national CITES Authorities

They can make a major contribution in their role as centres of education in plants and botany, informing the public about CITES and its activities, and encouraging the public to think about the origin of rare plants in trade. Gardens can create CITES trails through their grounds, for example linking the fascinating stories of rare orchids and Ramin timber from the Orang Utan habitats of Southeast Asia to the wood in children's games.

Representation of the interests of local communities

Botanic gardens can advise on problems of sustainable or unsustainable exploitation in their local area, region or country. Botanic gardens often cooperate with local communities that may use and trade in wild plants, something that is particularly important where the plants may be entering international trade. CITES is increasingly taking into account the livelihoods of rural communities in its decision making processes. Botanic gardens are unique in that they can bring together scientists, local people and the wider public in education programmes about the wise use of the native flora.

Box 9. The CITES-*Bulbophyllum* checklist-projects at the Botanical Garden, University of Vienna

The Botanical Garden of the University of Vienna (HBV) holds a large living collection of *Bulbophyllum* species. In recent years, the Madagascan *Bulbophyllum*-taxa have been intensively studied at the HBV, working in close collaboration with the Parc Botanique et Zoologique de Tsimbazaza, Madagascar.

For CITES implementation, species checklists are valuable tools for accurately monitoring international trade. This holds especially true for genera like *Bulbophyllum* the largest orchid genus with c. 1.800 pantropically distributed species and more than 3.000 published names. Because of its expertise, the HBV got financial support from the Austrian CITES Management Authority to prepare a CITES checklist for *Bulbophyllum*. This project was also supported by the CITES Plants and Nomenclature Committees. The final checklist was officially presented as the work of the Botanical Garden, University of Vienna, at the CITES Conference of the Parties in 2007 (see Sieder *et al*. 2007).

5. A CITES checklist for botanic gardens

The following checklist may help to define an individual botanic garden's policy and procedures.

- Contact and find out about your national CITES Authorities.
- If your country is not a party to CITES, encourage it to accede to the treaty as soon as possible.
- Do your country's field botanists or botanic gardens staff have knowledge of particular threatened plants?
- Develop an institutional policy towards CITES.
- Consider registering your institution with the national Management Authority of CITES.
- Check your collections for plants on the CITES Appendices and maintain complete documentation for these species.
- Distribute information about CITES to all your staff and ensure they understand what is required of them.
- Assign clear staff responsibility for CITES matters with a designated person where appropriate.
- Agree and implement an institutional Code of Conduct for the accession of rare or threatened wild plants, whether or not they are listed by CITES.
- Always obtain export and, if necessary, import permits and CITES labels.
- Ensure that no illegally collected plants come into your collections 'through the back door'.
- Compile procedures for obtaining the necessary licences for the import or export of CITES-listed plants with your collaborating institutions.
- Publicise the value and requirements of CITES and your role in its implementation through plant displays, exhibits, educational materials and leaflets, and press releases.
- Consider ways in which you can become more closely involved in plant trade issues nationally and internationally, working collaboratively for example with national CITES Authorities, the CITES Plants Committee, BGCI, TRAFFIC and IUCN/SSC.
- Be willing and able to advise local and national authorities on matters relating to plants in trade, especially those that may be endangered by commercial exploitation. You may also be able to assist in warning the trade with respect to the introduction of alien invasive species and plant pests
- Establish a long-term programme for the cultivation, propagation and distribution of plants endangered in the wild by trade, including those listed by CITES, in order to reduce or even remove the market in illegally traded plants.
- Distribute propagated plant material, as appropriate, to:
  - the nursery trade, selected private growers and collectors;
  - conservation organisations and other bodies, for use in habitat restoration or species recovery programmes;
  - other botanic gardens for conservation and research, both nationally and internationally.
- Assess the extent to which you can assist national CITES Authorities as a national rescue centre for plants seized or confiscated, and devise a programme for maintaining and utilising such material.

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Web Sites

There are a large number of sites of some interest to CITES workers. Many national CITES authorities have their own dedicated websites.

CITES Home Page: Official site of the CITES Secretariat. The CITES website provides a comprehensive source of information on all aspects of CITES including the Appendices, national contact details and regional directories of CITES plant experts, lists of Parties, Resolutions and other documents.
CITES Secretariat
International Environment House
Chemin des Anémones
CH-1219 Châtelaine, Geneva
Switzerland
Tel: +41 (0)22 917-8139/40
Fax: +41 (0)22 797-3417
Email: info@cites.org
www.cites.org.

European Commission: Information on the Wildlife Trade Regulations that implement CITES within the 27 countries of the European Union.
European Commission
Environment DG
Information Centre
Office: BU-9 01/11
B - 1049 Brussels
Belgium
http://ec.europa.eu/environment/cites/legislation_en.htm and www.eu-wildlifetrade.org.
UNEP-WCMC also host http://www.unep-wcmc.org/species/trade/eu/

IUCN - The World Conservation Union: The world's largest professional conservation organisation. IUCN brings together governments, non-governmental organisations, institutions and individuals to help nations make the best use of their natural resources in a sustainable manner. www.iucn.org.

IUCN Species Survival Commission: SSC is the IUCN's foremost source of scientific and technical information for the conservation of endangered and vulnerable species of flora and fauna. Specific tasks are carried out on behalf of IUCN, such as the monitoring of vulnerable species and their populations, the implementation and review of conservation action plans and the provision of guidelines, advice and policy recommendations to governments, agencies and organisations regarding conservation and management of species and their populations.
IUCN/SSC Wildlife Trade Programme
219a Huntingdon Road
Cambridge CB3 ODL
United Kingdom
Telephone: +44 (0)1223 277980
Fax: +44 (0)1223 277908
www.iucn.org/themes/ssc.

UNEP - World Conservation Monitoring Centre: The UNEP-WCMC provides information services on the conservation and sustainable use of the world's living resources, and assists others in the development of information systems. Their activities include supporting the CITES Secretariat. Information on international wildlife trade and trade statistics may be requested from the Species Programme of UNEP - WCMC. Now an office of the UN, based in Cambridge, UK, the Centre's work is an integral part of the United Nations Environment Programme (UNEP), headquartered in Nairobi, Kenya.
UNEP-WCMC
219 Huntingdon Road
Cambridge CB3 0DL
United Kingdom
Tel: +44 (0)1223 277314
Fax: +44 (0)1223 277136
email: info@unep-wcmc.org
www.unep-wcmc.org/index.html.

TRAFFIC International: TRAFFIC is a programme of WWF and the IUCN established to monitor the trade in wild plants and animals. The TRAFFIC Network is the world's largest wildlife trade monitoring programme with offices covering most parts of the world. The Network works closely with the CITES Secretariat.
TRAFFIC International
219a Huntingdon Road
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Email: traffic@trafficint.org
www.traffic.org.

Earth Negotiations Bulletin: Tracks the major environmental negotiations as they happen.
Also extensive archive material and lots of photographs of the meetings.
www.iisd.ca.

Glossary

Amendment proposal – a proposal put forward by a party to CITES to amend the Appendices of the Convention which lists the species covered by the provisions of CITES.

Artificially propagated – a term strictly defined by CITES for plant material that has been grown under controlled conditions.

Conference of the Parties – a decision-making meeting of parties to CITES held ever 2-3 years at which policy and enforcement issues and amendment proposals are discussed.

Non-detriment finding – a decision based on advice from the Scientific Authority that export will not have a negative impact on the survival of the species in the wild.

Range state – a country which falls within the geographical range of a species included in the Appendices of CITES.

Party – a country that has ratified CITES.

Significant trade review – a review of the levels of trade in Appendix II species carried out according to standard procedures to determine what measures may need to be taken to trade is not detrimental to the survival of the species.

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