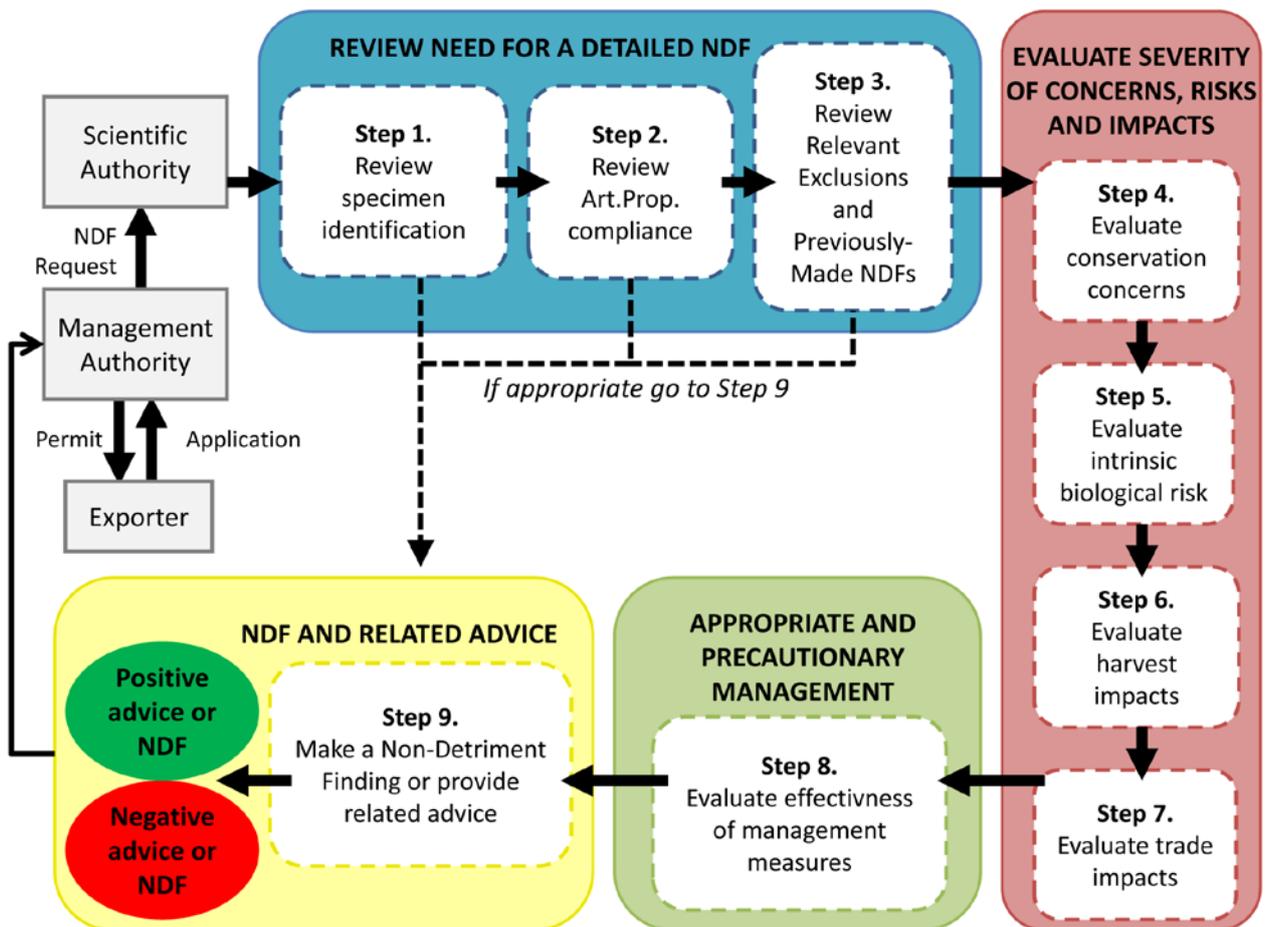


Daniel Wolf, Thomasina E.E. Oldfield, Uwe Schippmann,
Noel McGough and Danna J. Leaman

CITES Non-detriment Findings Guidance for Perennial Plants

A nine-step process to support CITES Scientific
Authorities making science-based non-detriment
findings (NDFs) for species listed in CITES Appendix II

Version 3.0



CITES Non-detriment Findings

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Cover illustration: Nine-step pathway for making Non-Detriment Findings for perennial plant species listed in CITES Appendix II

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MAKING NDFs FOR PERENNIAL PLANTS: A NINE-STEP PROCESS

Non-Detriment Findings in the CITES Context

Ensuring trade is within sustainable limits is at the core of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). According to the Convention, Parties shall allow trade in specimens of species included in Appendix II only if the Scientific Authority of the State of export has advised that “such export will not be detrimental to the survival of that species” (Article IV).

Further, a Scientific Authority in each Party shall monitor both the export permits granted by that State for specimens of species included in Appendix II and the actual exports of such specimens. Whenever a Scientific Authority determines that the export of specimens of any such species should be limited in order to maintain that species throughout its range at a level consistent with 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, the Scientific Authority shall advise the appropriate Management Authority of suitable measures to be taken to limit the grant of export permits for specimens of that species (Article IV).

Collectively these requirements are referred to as ‘non-detriment findings’ (NDFs). How NDFs are made for Appendix II species is the responsibility of the Scientific Authority of each exporting Party. The Conference of the Parties (CoP) has decided not to adopt specific technical criteria for how NDFs are undertaken, instead the CoP adopted non-binding general guidelines on making NDFs, outlined in Resolution Conf. 16.7 on Non-detriment findings¹.

Why Is Guidance for Non-Detriment Findings Needed?

Considerable efforts have been made by some Parties, IGOs, and the Secretariat over the years to develop general and taxon-specific guidance for making NDFs; in particular significant advances have been achieved for plant taxa.

Key milestones include:

- The publication (and supporting workshops) of the IUCN Species Survival Commission’s ***Guidance for CITES Scientific Authorities: Checklist to assist in making non-detriment findings for Appendix II exports***²;
- The ***International Expert Workshop on CITES Non-Detriment Findings*** (Cancun, Mexico, 17-22 November 2008³), in particular the development of guidance at the workshop for perennial plants combining the IUCN checklist with elements derived from the International Standard for sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP, now included in the FairWild Standard version 2.0⁴);
- The CITES Virtual College module on making NDFs⁵.

The Guidance on CITES NDFs for Perennial Plants presented here in Version 3.0 is an output of the projects “Development of Training Modules for CITES Non-Detriment Findings (NDF) for Plants” and

¹ <http://www.cites.org/eng/res/16/16-07.php>. Resolutions may be revised at each CoP (e.g. Rev CoP16), links to these on the CITES website are updated accordingly.

² http://data.iucn.org/themes/ssc/our_work/wildlife_trade/citescop13/CITES/guidance.htm#guide

³ http://www.conabio.gob.mx/institucion/cooperacion_internacional/TallerNDF/taller_ndf.html

⁴ <http://www.fairwild.org/standard>

⁵ <https://eva.unia.es/cites/>

“Training Workshops zur Bestimmung nachhaltiger Quoten für CITES-Pflanzenarten”, both executed by TRAFFIC International on behalf of WWF Germany, with financial support from the German Federal Agency for Nature Conservation (BfN). These projects aimed to improve the guidance and training tools available to assist Scientific Authorities in making NDFs for perennial plants, based on existing work and significant recent advances in approach.

Additional outputs of this project, complementary to this Guidance document, include:

- *Consolidated Worksheets and Draft Report Format (see separate MS Excel file), and*
- *A Training Module for CITES Non-Detriment Findings for Perennial Plants.*

This Guidance, designed to build on previous milestones, describes a nine-step process enabling Scientific Authorities to make NDFs that are science-based, using information with data quality appropriate to the severity of conservation concerns, intrinsic biological risks, harvest impacts, and trade impacts identified for the species concerned.

Much of the content of this Guidance is based on the working group reports and case studies resulting from the “International Expert Workshop on CITES Non-Detriment Findings”, Cancun, Mexico, in November 2008. A first draft of this Guidance, and many useful contributions to its content, resulted from a small “Expert meeting on development of guidance and training for CITES non-detriment findings (NDF) for plants” in Mexico City, Mexico, in February 2012. A second draft was tested in an NDF training workshop in Hanoi, Viet Nam, in October 2012. Version 1.0⁶ was thereafter published as BfN-Skripten 358 in 2014. Version 1.0 was subsequently applied in an NDF-training workshop in November 2014 in Lima, Peru, with the attendance of six states of the Amazon Cooperation Treaty Organization (ACTO). The lessons learned in Peru led to Version 2.0, which was not published but used at workshops in June 2015 in Tbilisi, Georgia, and Shenzhen, China, in December 2015. This version, Version 3.0, has been revised on the basis of lessons drawn from the Georgia and China workshops and on feedback from other experts. Adrienne Sinclair carried out detailed reviews and provided in depth comments benefitting from the experience of the CITES Scientific Authority team in Canada, namely Gina Schalk and Lorna Brownlee.

Further revisions may be made to the current version of the nine-step process based on outcomes from implementation and comments from Parties, as this guide is for Parties to use and adapt to suit their own needs.

Although this document is intended to guide a Scientific Authority towards a decision, ultimately it will be necessary for the Scientific Authority to weigh up the risks and evidence to make its final NDF decision. This will require individual (or group) judgments; this Guidance is designed to draw out the information relevant to informing the process that leads to that final decision.

For more details on this Guidance, please contact:

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⁶ D.J. Leaman and T.E.E. Oldfield. (2014). CITES Non-detriment Findings Guidance for Perennial Plants. BfN Skript.

Using this NDF Guidance

This Guidance suggests **nine steps** that a Scientific Authority can take to make a science-based NDF. The overall process is shown in Figure 1.

- Steps 1-3 involve the evaluation of whether a detailed, science-based NDF is needed for the species and specimens concerned. Early decision (short cut to step 9) can be made in some cases.
- Steps 4-7 involve the evaluation of conservation concerns, intrinsic biological risks, harvest impacts, and trade impacts relevant to the species concerned.
- Step 8 involves the evaluation of whether the management measures in place adequately mitigate (= reduce the severity of) the concerns, risks, and impacts identified.
- Step 9 is the final step in making an NDF or in formulating other advice to the Management Authority based on the outcomes of Steps 1-8.

Each of the Guidance steps is comprised of the following components:

- “Rationale: Why is this Step Important?” summarizing the contribution of the guidance step to the overall NDF process
- A graphic presentation of the “Key Questions and Decision Pathway” for each step
- Guidance notes for each Key Question
- A description of the Endpoint for each step
- Useful sources and recommended information quality based on the severity of concerns, risks, and impacts identified in the previous steps
- (Steps 4-8 only) Tables of factors to consider in evaluating the severity of conservation concerns, intrinsic biological risks, harvest impacts, and trade impacts, and the level of rigour of management measures in place.

A set of Consolidated Worksheets is also provided in a separate MS Excel file. These worksheets can be used to record the sources consulted, the information relevant to each of the steps, and the outcome of the process. The Consolidated Worksheets may be used as a draft report format for the final NDF.

This Guidance is **not** intended to automatically generate the NDF-decision of a Scientific Authority, rather is it a tool to assist in making a well-informed decision. Anyone using the framework must use their own judgement; they may not agree with the level of risk the Guidance points to and are likely to have better insight than a generic tool. Assessing the risks is intended to guide someone to the level of detail and confidence that they have in the management that ensures the harvest and trade is going to be non-detrimental. The Guidance helps structure the relevant aspects and information to facilitate an individual conclusion on detriment.

This Guidance and the associated Consolidated Worksheets can be used in various ways, including:

- Self-training for members of Scientific Authorities needing guidance on how to make NDFs and related decisions, as a complement to the NDF Module of the CITES Virtual College
- Support material for training workshops
- Structure for written NDF reports, where appropriate

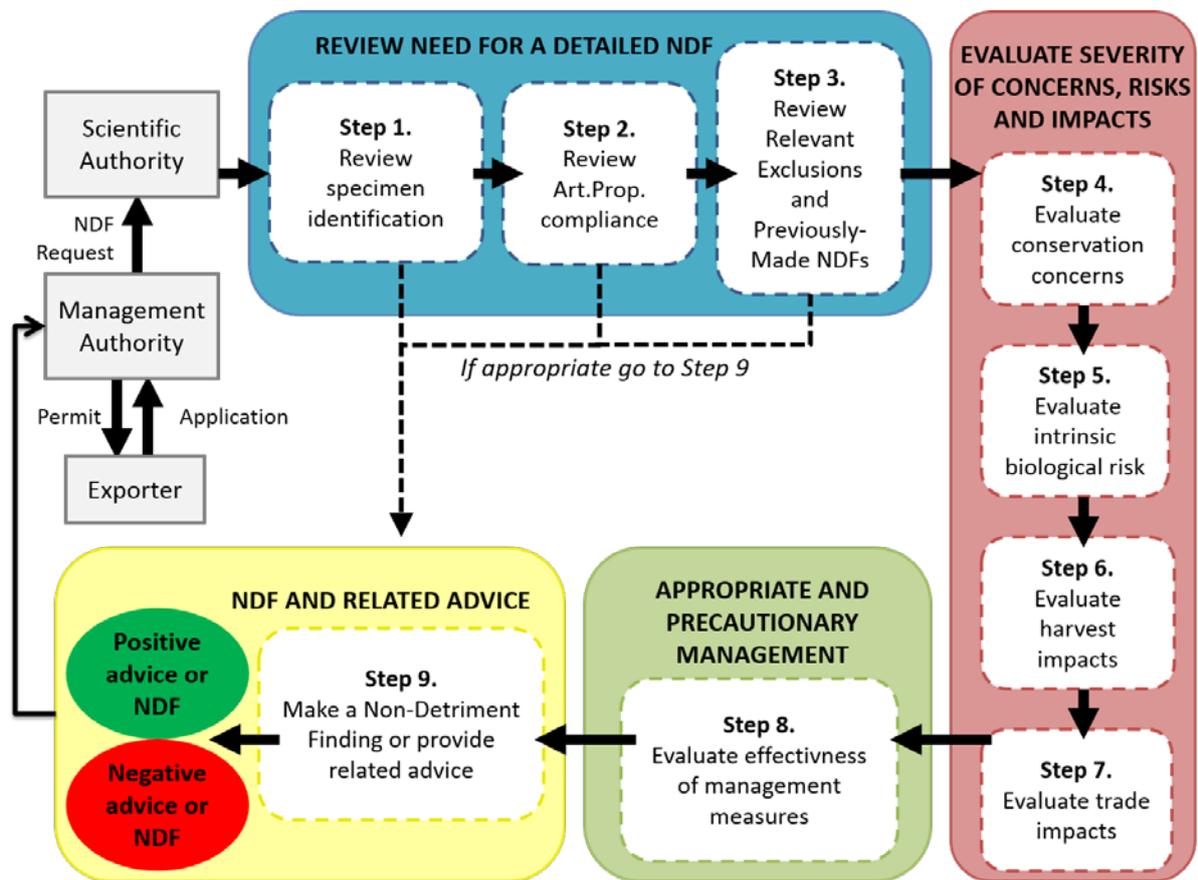


Figure 1. Nine-Step Pathway for Making Non-Detriment Findings for Perennial Plant Species Listed in CITES Appendix II

STEP 1

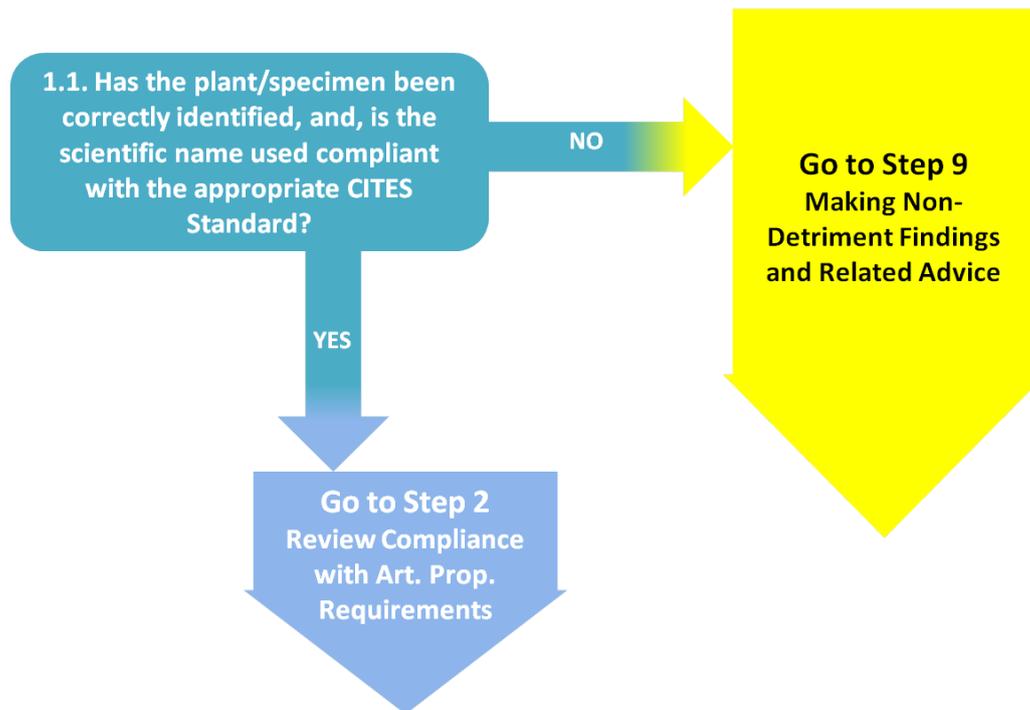
REVIEW SPECIMEN IDENTIFICATION

Rationale: why is this step important?

In order to make a non-detriment finding what species this is being made for must be known. Correct identification of specimens and agreement on taxonomic names for species in trade are essential to CITES implementation, and the making of NDFs. Plant species can be difficult to distinguish from others that look alike, whether the specimen is a whole plant, a plant part, or a derivative. Substitution of “look-alike specimens” of CITES-listed species is a challenge for the detection of illegal trade. Furthermore, it may be the case that multiple species are included in processed products or preparations, such as medicines; and it is therefore necessary to conduct a number of different NDFs for export of one product.

The classification and naming of species is a dynamic process that can lead to uncertainty and lack of consensus about specimen and species taxonomy, and can create confusion between current and out-dated information sources. Uncertainty about the identity and taxonomic status of the specimens entering trade can undermine the ability of Scientific Authorities to gather and evaluate information relevant to the species involved when undertaking an NDF. Therefore, these concerns need to be addressed in the process of making an NDF.

Key Questions and Decision Path for Step 1: Review Specimen Identification



Guidance for Step 1

Key Question 1.1. Is the Scientific Authority confident that the plant/specimen concerned has been correctly identified, and, is the scientific name used compliant with the appropriate CITES Standard?

Guidance notes:

The Scientific Authorities do not normally see the specimens for which a permit is being sought, therefore a judgement on the correct identification of the species must be made on the basis of the information supplied on the permit.

Identification of the specimen(s) may be considered clear if the following conditions are met:

- a) The specimen(s) for export is/are identified on the permit application to the level of species, subspecies, or botanical variety as appropriate; AND
- b) The taxon named on the export permit application is in accordance with the nomenclature adopted by CITES (see *Res. Conf. 12.11 Rev. CoP16* <http://www.cites.org/eng/res/12/12-11R16.php>).

The Scientific Authority may choose to correct a simple identification error or out-dated name or synonym where the correct name is obvious.

The Scientific Authority may refer concerns about taxonomic status of the specimen to the Nomenclature Specialist of the CITES Plants Committee. It may be useful to check whether the specimen has been identified by an expert at this time or previously so that the specimens are

Guidance for Step 1

highly likely to be those referred to on the permit application, and if not request verification.

Without a clear taxonomic identification of the specimens involved, the Scientific Authority may be unable to confidently apply species-related information required to determine whether the proposed trade will not be detrimental to the survival of the species.

If “Yes” (conditions a and b are met OR the Scientific Authority has corrected a simple error or outdated name): record concerns resolved and information sources used in the **Worksheet for Step 1**.

If “No” (condition a and b are not met) or in cases of uncertainty, the Scientific Authority may wish to request photos for identification or call upon the Management Authority to investigate a concern about the intentional or unintentional substitution of another species for the one named in the permit application, particularly in cases where look-alike species have significant levels of illegal trade. If the Management Authority is unable to resolve these concerns then describe any concerns about species identification in the **Worksheet for Step 1**, and **go to Step 9**: Decision 9.1.

Endpoint of Step 1: The Scientific Authority identifies any concerns about the identification of the specimens in trade. Confidence in the identification of specimens ensures that species information can be applied to the rest of the NDF process to determine whether the proposed trade will not be detrimental to the survival of the species.

Useful Sources and Examples of Recommended Information Quality

- List of standard references adopted by the Conference of the Parties / Flora [Annex 2, *Res. Conf. 12.11 (Rev. CoP16)* Standard nomenclature: <http://www.cites.org/eng/res/12/12-11R16.php>]
- CITES Database Species+ (<http://www.speciesplus.net/>)
- Nomenclature specialist of the CITES Plants Committee (<http://www.cites.org/eng/com/pc/member.php> – currently Mr Noel McGough)

References or tools not adopted by CITES but which are useful guides:

- World Checklist of Selected Plant Families (<http://apps.kew.org/wcsp/home.do>)
- Published national, regional, and global floras
- Identification guides and checklists reviewed by taxonomic experts
- Published papers or monographs reviewed by taxonomic experts
- Voucher specimens from the harvest site(s) specified in the application for export permit

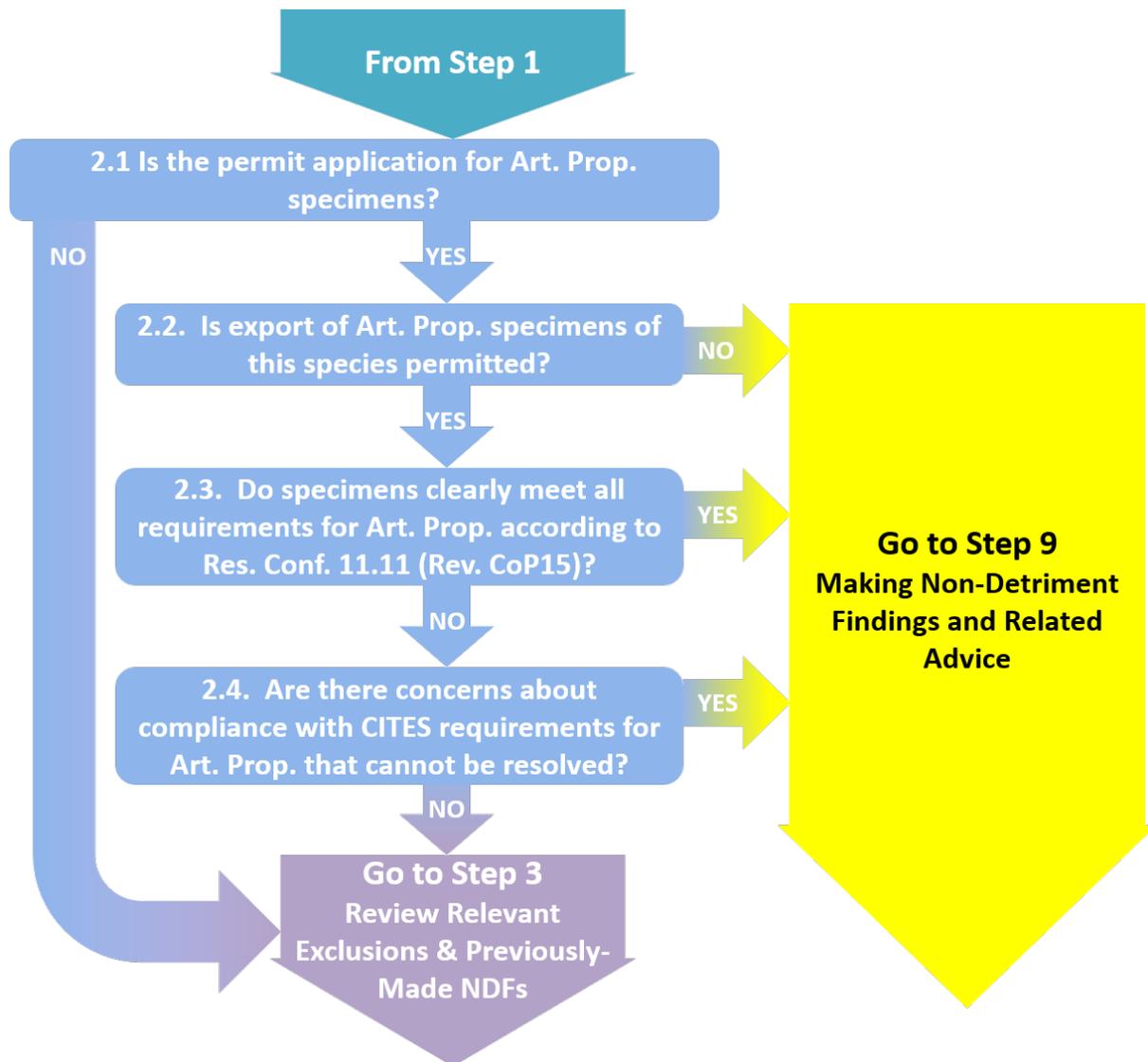
STEP 2

REVIEW COMPLIANCE WITH REQUIREMENTS FOR ARTIFICIAL PROPAGATION

Rationale: why is this step important?

If an export applicant presents sufficient information for the Scientific Authority to determine that the specimens clearly meet all CITES requirements for artificially propagated as defined in *Res. Conf. 11.11 (Rev. CoP15)*, a simple positive decision may be made to permit export. However, concerns about compliance with these requirements (such as illegal trade of wild-harvested specimens declared as artificially propagated, or use of wild parental stock for nursery propagation of seedlings for export trade) need to be investigated before allowing trade.

Key Questions and Decision Path for Step 2: Review Compliance with Artificial Propagation Requirements



Guidance for Step 2

Key Question 2.1. Is the permit application for artificially propagated specimens?

Guidance notes:

In most cases the Scientific Authority does not see the specimens to which the permit application refers. It is therefore important that the permit application contains sufficient information to enable the Scientific Authority to answer this and the following Key Questions in **Step 2**.

If “Yes”, record information sources used in the **Worksheet for Step 2** and go to Key Question 2.2.

If “No”, then **go to Step 3**.

Key Question 2.2. Is export of the artificially propagated specimens of this species permitted by national or relevant sub-national legislation?

Guidance notes:

National or sub-national legislation may specify exemptions or restrictions intended to support positive effects or limit detrimental impacts of artificial propagation on wild populations (e.g. collection of seeds and spores). A country may prohibit export of whole plants, including from artificial propagation.

Advice of the Scientific Authority must comply with national or relevant sub-national legislation, although the inspection of legality is the task of a Management Authority (Art. IV 2b of the Convention).

If “Yes”, record information sources used in the **Worksheet for Step 2** and go to Key Question 2.3.

If “No”, describe relevant legislation and record information sources used in the **Worksheet for Step 2** and **go to Step 9**: Decision 9.2.

Key Question 2.3. Do the specimens covered by the export permit application clearly meet all requirements for artificial propagation according to *Res. Conf. 11.11 (Rev. CoP15)*?

Guidance notes:

CITES requirements for artificial propagation are met if:

- a) The parental stock has been legally acquired and cultivated or wild-harvested in accordance with *Res. Conf. 11.11 (Rev. CoP15)*, and
- b) Specimens were produced from artificial propagation in accordance with *Res. Conf. 11.11 (Rev. CoP15)*.

If an export permit application contains sufficient information for the Scientific Authority to determine that the specimens clearly meet all CITES requirements for artificial propagation according to *Res. Conf. 11.11 (Rev. CoP15)*, a simple positive decision can be made enabling a permit to be issued for export.

The Scientific Authority could call upon the Management Authority for additional information to help confirm artificial propagation.

Specimens determined not to clearly meet all requirements for artificial propagation according to *Res. Conf. 11.11 (Rev. CoP15)* are not excluded at this step.

Guidance for Step 2

If “Yes”, record requirements met and information sources used in the **Worksheet for Step 2**, and **go to Step 9**: Decision 9.3.

If “No”, record information sources used in **Worksheet for Step 2** and go to Key Question 2.4.

NOTE: Some countries have introduced nursery registration schemes, which may confirm the artificial propagation of the species in accordance with *Res. Conf. 11.11 (Rev. CoP15)*. Where export permit applications for artificially propagated plants are frequently received for particular species, it may be useful for Scientific Authorities and Management Authorities to provide guidance on the necessary requirements for recognition of “artificial propagation”. A register of nursery or cultivating operations meeting these requirements may also facilitate decision making.

Some species may be propagated or cultivated for which the requirements of *Res. Conf. 11.11 (Rev. CoP15)* are not fully met. Although these may not strictly comply with *Res. Conf. 11.11*, harvest of these may pose no detriment to the wild populations. In such cases Steps 3 to 9 will help in the determination of non-detriment. For example the Scientific Authority may need to evaluate any impact on the wild population from sourcing of or replenishing mother stock.

Key Question 2.4. Are there concerns about compliance of the specimens with CITES requirements for artificial propagation that cannot be resolved by the Scientific Authority by undertaking a detailed NDF?

Guidance notes:

Concerns about compliance with *Res. Conf. 11.11 (Rev. CoP15)* may arise, for example:

- If there is significant uncertainty about whether the specimens are cultivated or from wild collection, or whether the parental stock was cultivated or from wild collection.
- If the species is not known to be produced nationally according to CITES criteria for conditions for artificial propagation or in sufficient volume to supply the quantity of specimens covered by the export permit application.

The Scientific Authority may be unable to state with confidence that the export of artificially propagated specimens complies with *Res. Conf. 11.11 (Rev. CoP15)* and will not have a detrimental impact on the wild population. The Scientific Authority may call upon the Management Authority for additional information or refer to the responsible authority for enforcement.

If “Yes”, record concerns and information sources used in the **Worksheet for Step 2** and **go to Step 9**: Decision 9.4.

If “No”, record information sources used in the **Worksheet for Step 2** and **go to Step 3**.

Endpoint of Step 2: Scientific Authorities make a decision about whether the specimens covered by the export permit application meet the Convention’s requirements for artificial propagation, enabling issue of an export permit; whether a detailed NDF is required to investigate concerns about non-compliance and detrimental effects on wild populations; or whether concerns about non-compliance require negative advice on this permit application.

Useful Sources and Examples of Recommended Information

- Export permit application information concerning source of specimens (wild / artificial propagation / unknown)
- National and sub-national legislation relevant to export of this species
- *Res. Conf. 11.11 (Rev. CoP15)*: Regulation of trade in plants (<http://www.cites.org/eng/res/11/11-11R15.php>)
- Nursery surveys and inventories
- Nursery registrations (http://www.cites.org/common/reg/e_nu.html)

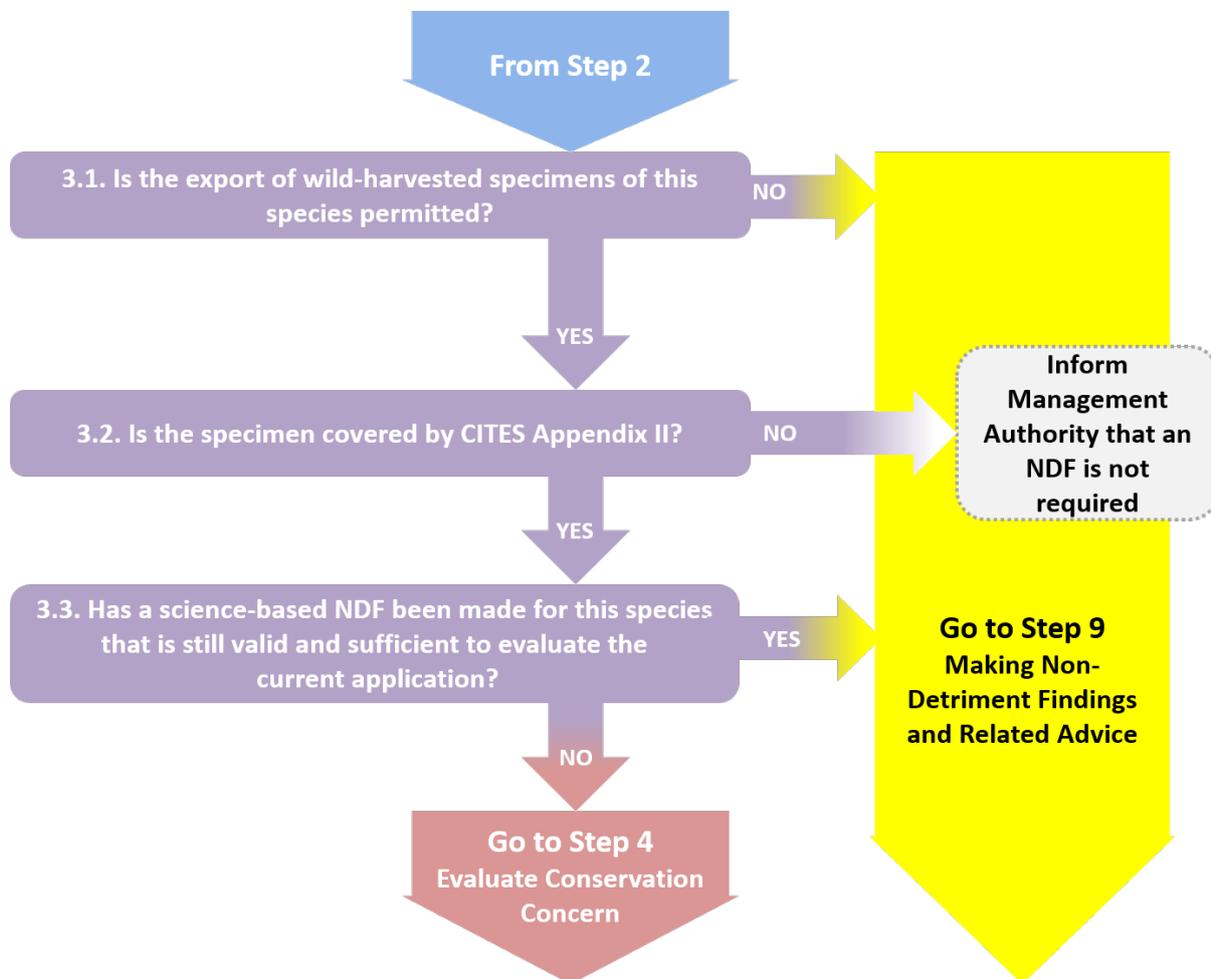
STEP 3

REVIEW RELEVANT EXCLUSIONS AND PREVIOUSLY-MADE NDFs

Rationale: why is this step important?

In addition to factors relating to specimen identification and meeting criteria for artificial propagation (if applicable), several other circumstances may make undertaking a detailed NDF unnecessary for Scientific Authorities resulting in a short cut to step 9 in this Guidance. These circumstances include: if harvest or export is prohibited by national legislation; if the relevant specimens are excluded from regulation by an annotation to the species listing in the CITES Appendices; or if the export permit application is consistent with previous science-based findings.

Key Questions and Decision Path for Step 3: Review Relevant Exclusions and Previously-Made NDFs



Guidance for Step 3

Key Question 3.1. Is the harvest or the export of wild-harvested specimens of this species permitted by national or relevant sub-national legislation or regulation?

Guidance notes:

- Advice of the Scientific Authority must comply with national or sub-national legislation, although the verification of legality is the task of a Management Authority (Art. IV 2b of the Convention).

If “Yes”, describe the legislation or regulation and its relevance in the **Worksheet for Step 3**, record information sources used, and go to Key Question 3.2.

If “No”, describe the legislation or regulation and its relevance in the **Worksheet for Step 3**, record information sources used, and **go to Step 9**: Decision 9.5.

Guidance for Step 3

Key Question 3.2. Is the specimen covered by CITES Appendix II?

Guidance notes:

- Some specimens are excluded from CITES control by the relevant numbered annotation to Appendix II or through the Interpretation section of the Appendices.

If “Yes”, record information sources used (e.g., Appendix II on the CITES Secretariat website or Species +) in the **Worksheet for Step 3**, and go to Key Question 3.3.

If “No”, describe the reason for exclusion and record information sources (e.g., an annotation) in the **Worksheet for Step 3**, record information sources used, and **go to Step 9: Decision 9.6**.

Inform the Management Authority that an NDF and CITES export permit are not required.

Key Question 3.3. Has the Scientific Authority previously made a science-based NDF for this species that is still valid and is sufficient to evaluate the specimens for the current export permit application?

Guidance notes:

In some cases, it may be possible for a Scientific Authority to make an NDF based on a previous NDF. The NDF may have been based on an export quota, harvest limit, or other management system in place.

For example, the quantity of specimens to be exported may be within a pre-determined quota deemed to be non-detrimental to species survival, or the impact of export of a small number of specimens may be easily evaluated based on previous findings.

The previous NDF can only be accepted if

- it considered conservation concerns, intrinsic biological risk, harvest impacts, trade impacts, and management measures in place (see Steps 4-8 of this Guidance document),
- the current export permit application is consistent with the previous applications;
- the proposed export of specimens is non-detrimental according to the previous finding.

A national export quota that establishes the maximum number of specimens of a species that may be exported over the course of year without having a detrimental effect on the species' survival can constitute an NDF. *However, a Scientific Authority may determine an existing national export quota to be detrimental to species survival.*

If “Yes”, describe the previously made NDF, record information sources used in the **Worksheet for Step 3**, and **go to Step 9: Decision 9.7**.

If “No”, record absence or deficiencies of a previous NDF, information sources used, and **go to Step 4**.

Endpoint of Step 3: Scientific Authorities may not need to undertake a detailed NDF if export of the specimens involved is prohibited by national or sub-national legislation, if the specimens are not covered by CITES Appendix II, or if the export permit application is consistent with previous science-based findings.

Useful Sources and Examples of Recommended Information

National and sub-national legislation relevant to export of this species

CITES Database Species+ (<http://www.speciesplus.net/>)

- Species Appendix listing
- Relevant annotations

Export permit application:

- Type of material, part or product (whole plant, plant parts, derivatives)
- Quantity (Number of specimens / volume of material to be exported)
- Purpose of export

Trade records:

Records of trade in specimens and species included in Appendices I, II, and III (in accordance with Art. VIII.6) (<http://trade.cites.org>)

Nationally established export quotas:

- *Res. Conf. 14.7 (Rev. CoP15)* on Management of nationally established export quotas (<http://www.cites.org/eng/res/14/14-07R15.php>)
- CITES export quotas (www.cites.org/eng/resources/quotas/index.php)

STEP 4

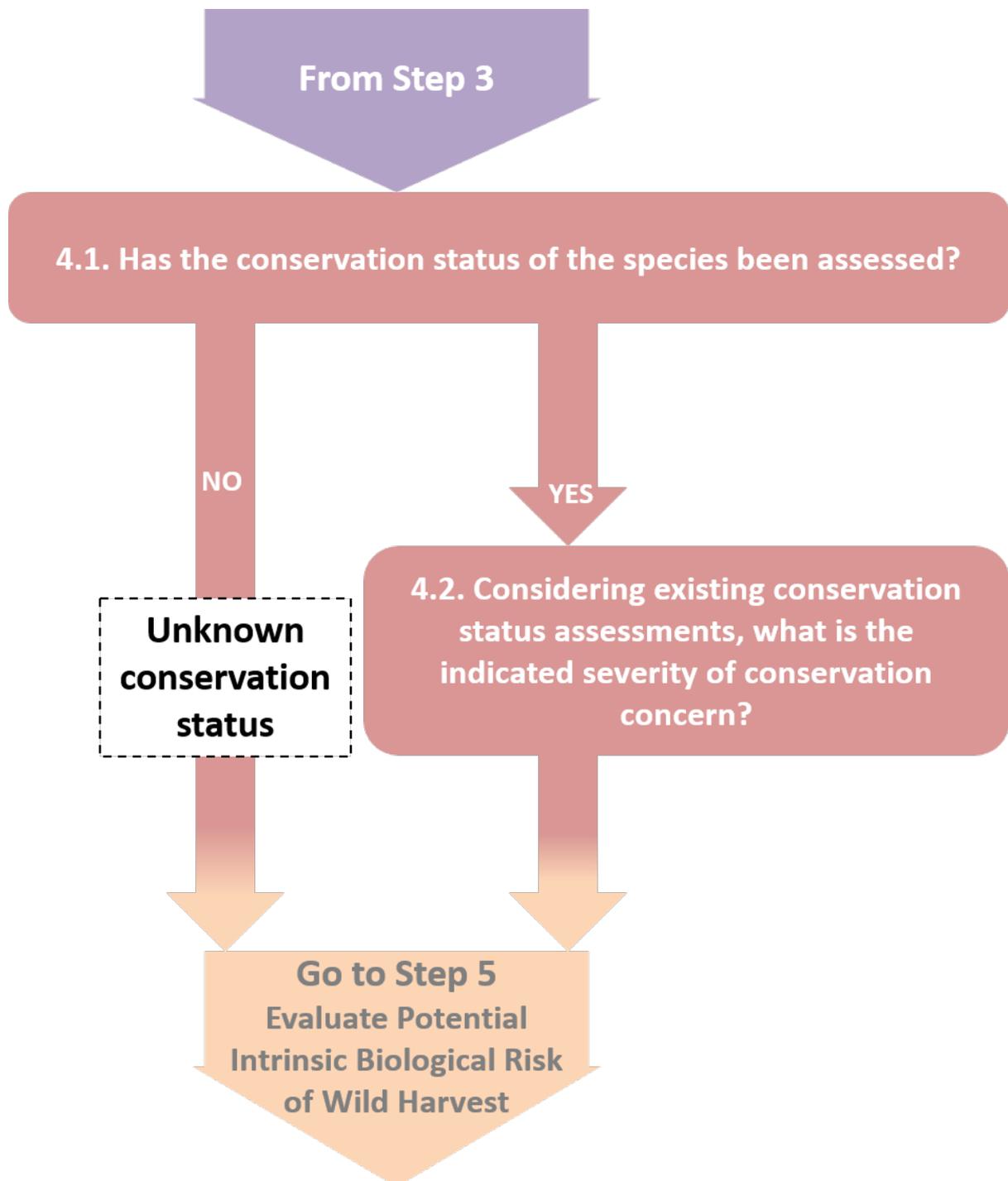
EVALUATE CONSERVATION CONCERN

Rationale: why is this step important?

This step considers existing conservation status assessments to document relevant threats and to support evaluation of the severity of conservation concern relevant to the harvest area of the species concerned. It is not intended that the Scientific Authority will undertake conservation status assessments as part of the NDF where these are lacking, out-dated, or incomplete.

Conservation status is an assessment of the likelihood that a species (or sub-population of the species) will become extinct in the near future. Conservation status assessment systems have a variety of forms (e.g., Red Lists, Red Data Books, threatened species listings) and a range of geographic scope (sub-national, national, regional, or global). The definition of assessment criteria and categories describing extinction risk also varies among assessment systems. A detailed, well-documented, and up-to-date conservation status assessment may therefore provide information relevant to several of the remaining steps of this Guidance.

**Key Questions and Decision Path for Step 4:
Evaluate Conservation Concern**



Guidance for Step 4

Key Question 4.1. Has the conservation status of the species been assessed at any geographic scope? In cases where an assessment does not exist, other information relevant to the conservation concern should be considered.

Guidance notes:

Any conservation status assessment of the species may provide information useful for Step 4 and other steps of this Guidance.

If “Yes”, record conservation status and scope of the assessment, information sources used, threats and the confidence you have in each assessment in **Worksheet for 4.1**, then go to Key Question 4.2.

If “No”, note “unknown” in **Worksheet for 4.2** and go to **Step 5**.

Key Question 4.2. What is the severity (“Low”, “Medium”, “High”, or “Unknown”) of conservation concerns and identified threats relevant to the harvest area?

Guidance notes:

Refer to the table of **Factors to Consider: Conservation Concerns** to evaluate the severity of conservation concern relevant to the harvest area based on existing relevant conservation status assessments.

A national conservation status assessment is most relevant to the national scope of NDFs, but many species included in CITES Appendix II do not have national assessments. In some jurisdictions species conservation status is evaluated only at sub-national levels (e.g. state or province), and some species may have been assessed only at the regional or global scope. Where a national assessment is lacking or out-dated, a global or regional assessment can provide useful information about threats and indicate the severity of concern. However, caution must be taken when considering the national implications of global conservation status, particularly for a widespread or globally distributed species. A national or sub-national population may be considered threatened (e.g. by localized impacts on locally small populations) while the global population may not qualify as threatened. Alternatively, the global population of a species may be considered threatened, but particular national or sub-national populations may be more secure (e.g. based on the absence of threats or the management in place).

Conservation status assessments may take many factors into account to evaluate risk of extinction. These factors may be relevant to other Steps in this Guidance. For example:

- Number of individuals remaining in the population or sub-population being assessed, and recent trends in population size (Steps 5 and 6)
- Barriers to reproduction and dispersal, such as population fragmentation (Step 5)
- Known threats, such as harvest and trade impacts, loss or degradation of habitat (Steps 6 and 7)
- Existence and effectiveness of management systems in place (Step 8)

If the national population or sub-population(s) of the species has been included in more than one assessment system or geographic scope of assessment, it is best to consider assessments and information most relevant to the harvest area with the most up to date and reliable data.

Use the **Worksheet for Step 4.2** to record:

Guidance for Step 4

The severity of conservation concern (“Low”, “Medium”, “High”, or “Unknown”) indicated in the table of **Factors to Consider: Conservation Concerns**.

To support the evaluation of appropriate rigour of existing management measures (Step 8), the severity of conservation concern “Low”, “Medium”, “High”, and “Unknown” will be transferred to the **Worksheet for Step 8**.

→ Go to Step 5.

Endpoint of Step 4: Based on existing conservation status assessments, threats contributing to the risk of extinction of the national population or sub-population(s) are documented, and severity of conservation concern relevant to the harvest area is evaluated by the Scientific Authority.

Useful Sources and Examples of Recommended Information

Sub-national and national conservation status assessment systems:

- State, provincial, and national Red Data books
- On-line national Red Lists: (<http://www.regionalredlist.com>)
- National conservation assessments
- Conservation Data Centres (for example, see www.natureserve-canada.ca/en/cdcs.htm)

Multi-country / regional conservation status assessment systems:

- NatureServe Explorer (United States and Canada) (<http://www.natureserve.org/explorer/>)
- Red Data Book of the Russian Federation (http://2mn.org/eng/rdrbf_en.htm)
- North Africa Freshwater Biodiversity (regional application of IUCN Red List categories and criteria)
(http://www.iucn.org/about/union/secretariat/offices/iucnmed/iucn_med_programme/species/species_assessments/freshwater_habitats/freshwater_northafrica/)

Global conservation status assessment systems:

- IUCN Red List of Threatened Species (<http://www.iucnredlist.org>)

Factors to Consider: Conservation Concerns

The factors and indicators defined in this table use information from existing conservation status assessments in simple rankings of severity of conservation concern. These rankings use IUCN Red List categories and criteria as a benchmark against which Scientific Authorities can compare any existing assessment categories and criteria applied in national, sub-national, and other relevant conservation status evaluations.

Use the **Worksheet for Step 4** to evaluate the severity of conservation concern relevant to the harvest area.

| Factor | Severity of Conservation Concern | Example Indicators |
|---|---|--|
| Severity of conservation concern relevant to the harvest area | Low | The species, population, or sub-population has been assessed and is not considered to be threatened . The assessment or listing is based on defined criteria (e.g., IUCN Red List category Least Concern/LC or equivalent categories used in other systems). Note that the absence of conservation status assessment cannot be assumed to indicate that the species, population, or sub-population is not threatened. |
| | Medium | The species, population, or sub-population has been assessed and is considered to nearly qualify as threatened . The assessment or listing is based on defined criteria (e.g., IUCN Red List categories Near Threatened/NT, Vulnerable/VU, or equivalent categories used in other systems). |
| | High | The species, population, or sub-population has been assessed and qualifies as threatened . The assessment or listing is based on defined criteria (e.g., IUCN Red List Critically Endangered/CR, Endangered/EN, or equivalent categories used in other systems). |
| | Unknown | The conservation status of the species is unknown (e.g. Data Deficient/DD, Not Evaluated/NE or equivalent categories used in other systems) |
| | Explanation of this factor: This factor considers any existing sub-national, national, regional, or global conservation status assessments that include population or sub-population(s) of the species within the country undertaking the NDF. Certain assessments may be more relevant to the harvest area. In cases where an assessment does not exist, other threat information should be recognized to evaluate the severity of conservation concern. | |

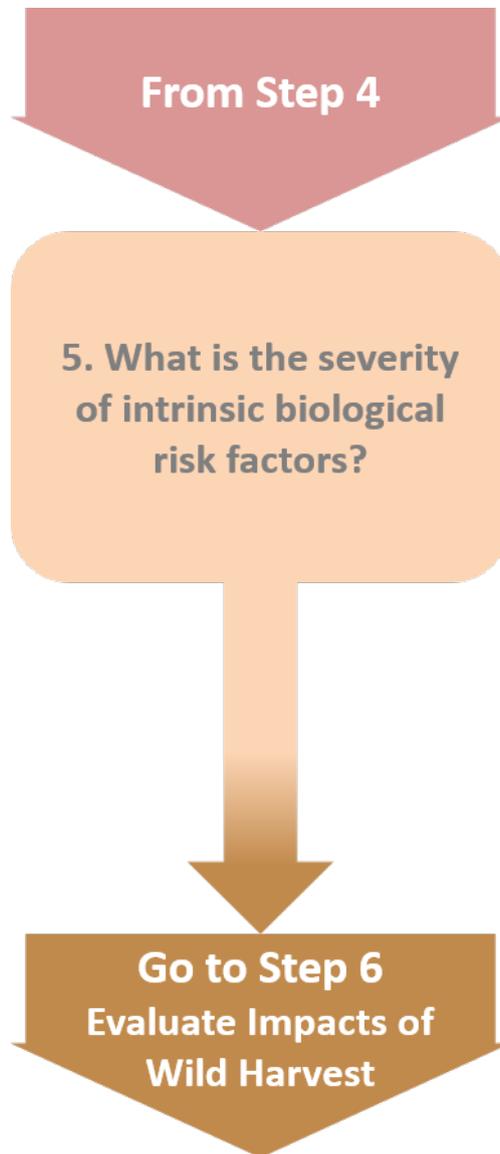
STEP 5

EVALUATE POTENTIAL INTRINSIC BIOLOGICAL RISKS OF WILD HARVEST

Rationale: why is this step important?

Some plant species are naturally more susceptible to detrimental effects of wild harvest and commercial trade than other species, based on intrinsic biological characteristics. In this Guidance, “intrinsic biological risk” is understood to indicate that certain biological characteristics contribute to the risk that wild harvest will be detrimental to species survival. Using the intrinsic biological characteristics, Scientific Authorities can identify the particular biological factors that contribute to higher or lower severity of risk that wild harvest will be detrimental to species survival. The higher the severity of risk, the greater the requirements for information quality, effective management, and precaution that should be sought for the NDF in Steps 6-9.

**Key Question and Decision Path for Step 5:
Evaluate Potential Intrinsic Biological Risk of Wild Harvest**



Guidance for Step 5

Key Question 5. Consider the intrinsic biological characteristics that affect the potential risk of wild harvest to species survival. Is the severity of intrinsic biological risk indicated for each of these factors “Low”, “Medium”, “High”, or “Unknown”?

Guidance for Step 5

Guidance notes:

From the many intrinsic biological characteristics that might be considered relevant to the impact of wild harvest on species survival, the following have been consistently identified in CITES discussions and documents related to making science-based NDFs:

- 1) Plant part harvested and plant life form
- 2) Geographic distribution
- 3) National population size and abundance
- 4) Habitat specificity and vulnerability
- 5) Regeneration
- 6) Reproduction
- 7) Role of the species in its ecosystem

Indicators of severity of risk associated with each of these intrinsic biological characteristics that affect the risk of wild harvest to species survival are elaborated below in the table of **Factors to Consider: Intrinsic Risk of Wild Harvest to Species Survival**.

Recommended information quality: For species lacking relevant conservation status assessments in Step 4, Scientific Authorities will need to gather any available information about intrinsic biological characteristics for Step 5. For species with conservation status identified in Step 4 as “Low concern”, it is likely sufficient for Scientific Authorities to use routine verification sources (see first column of table “Useful Sources and Examples of Recommended Information Quality”) to gather any additional information needed about the species’ intrinsic biological characteristics to complete Step 5. For species identified in Step 4 as “Medium”, “High” or “Unknown” conservation concern, the effort to locate available higher-quality information is recommended to fill any remaining information gaps for Step 5.

Use the **Worksheet for Step 5** to record available information corresponding to each of these factors, the severity of risk indicated, the sources used and the confidence in the sources.

To support the evaluation of appropriate rigour of existing management measures (Step 8), summary lists of “Low”, “Medium”, “High”, and “Unknown” intrinsic biological risk factors will be transferred to the **Worksheet for Step 8**.

→Go to Step 6.

Endpoint of Step 5: Ranking of intrinsic biological risk is used to guide Scientific Authorities to seek higher quality information about harvest and trade impacts related to higher risk and unknown intrinsic biological characteristics (Steps 6 and 7), to require greater management rigour for higher levels of severity of risk (Step 8), and to use greater precaution in making NDFs for those species with overall higher intrinsic biological risk (Step 9).

Useful Sources and Examples of Recommended Information Quality

| All Species / Specimens Requiring a Detailed NDF | Species with Medium, High, and Unknown Severity of Conservation Concern Identified in Step 4 |
|--|---|
| <p>Routine verifications:</p> <ul style="list-style-type: none"> • Permit application • Results of detailed conservation status assessments (outputs from Step 4 recorded in Worksheet for Step 4) • Scientific publications and databases providing taxonomic description of species, floras, vegetation type / zone maps | <p>Existing information, where available:</p> <ul style="list-style-type: none"> • Herbarium records • Vegetation surveys and inventories • Ecological risk assessments • Relevant knowledge and expertise from scientists, harvesters, local communities, other resource managers • Management plans • Resource assessments |

Factors to Consider: Intrinsic Biological Risk of Wild Harvest

The factors and indicators defined in this table use information about the intrinsic biological characteristics of the species concerned with a ranking of risk severity level: Low, Medium, High, and Unknown. Scientific Authorities can identify specific factors of risk and evaluate the general severity of risk of wild harvest to species survival by using this table in combination with the **Worksheet for Step 5**.

For most species, information will be available for Factors 1 and 2, but not for all of the factors included in the table. Record available information and unknown factors in the **Worksheet for Step 5**.

| Intrinsic biological factors related to risk | Risk severity | Example Indicators |
|--|---------------|---|
| 1. Plant part harvested versus life form of species | Low | Harvest of abundant leaves, flowers or fruits |
| | Medium | Exudates (sap, resin); harvest of offshoots from parent plant (e.g., cycads) |
| | High | Harvest of whole plants; harvest of bulbs, bark or roots; apical meristems (growing tip) of monocarpic species (= plants that flower and produce seeds only once in their lifetime) |
| | Unknown | Information about this factor is unavailable |

| Intrinsic biological factors related to risk | Risk severity | Example Indicators |
|--|--|---|
| | | <p>Explanation of this factor:</p> <p>The resilience of the species concerned is dependent on the plant part that is harvested in relation to the ability of the individual plant and the harvested population to recover. For example, harvest of leaves from a tree species is regarded as having a low risk of killing the tree or decreasing the population over time, while harvest of roots from an herbaceous species rates as high risk because each plant harvested may be destroyed by the harvest. For the evaluation of this factor, the life form of the species (annual, biennial, perennial, geophyte, shrub, and tree) has to be taken into account.</p> <p>The impacts of harvest practices that are more destructive than necessary to obtain the material used in trade (e.g., if entire tree branches are cut to harvest leaves), are considered in Step 6, Factor 1: "Impact of harvest on individual plants".</p> |
| 2. Geographic distribution | Low | Distribution is widespread, commonly occurring through the country (likely in several countries) |
| | Medium | Distribution is restricted to a relatively small part of the country (and likely to few countries) |
| | High | Distribution is locally restricted, i.e. endemic, found in only one or few localities |
| | Unknown | Information about this factor is unavailable |
| | <p>Explanation of this factor:</p> <p>This factor assesses the known (primarily) national / (secondarily) global range and distribution of the species. Consider whether the distribution of the species is broad and continuous, or to what degree it is restricted and fragmented.</p> | |
| 3. National population size and abundance | Low | Sub-populations of the national population are large and spread homogeneously across the landscape |
| | Medium | Sub-populations of the national population mostly medium-sized, sometimes large, unevenly distributed |
| | High | Sub-populations of the national population are always small; scattered in low density across the landscape |
| | Unknown | Information about this factor is unavailable |
| | <p>Explanation of this factor:</p> <p>This factor assesses the spatial distribution across the range of the species. It assesses whether populations are large, abundant and homogeneous or small, clumped and scattered. This factor may be assessed differently in different range countries because a species that is distributed across national political boundaries may be more abundant in the centre of its natural range and less abundant at the periphery, as well as other factors affecting the species.</p> | |

| Intrinsic biological factors related to risk | Risk severity | Example Indicators |
|---|---|--|
| 4. Habitat specificity and vulnerability | Low | Species is highly adaptable to various habitat types; the habitat is stable (not declining in area or quality) |
| | Medium | Species is adapted to a few stable habitat types or is adapted to a variety of habitat types that are declining in area or quality |
| | High | Species is narrowly specific to one habitat type or to only a few threatened habitat types that are declining in area or quality |
| | Unknown | Information about this factor is unavailable |
| | Explanation of this factor: This factor assesses habitat preference of the species concerned. It looks at the availability and abundance of habitats occupied and also at the threat to these habitats. | |
| 5. Regeneration | Low | Species is fast growing, reproduces early and/or easily re-sprouting after harvest |
| | Medium | Growth rate medium and partly re-sprouting after harvest |
| | High | Species is slow growing, late to reproduce and/or not re-sprouting |
| | Unknown | Information about this factor is unavailable |
| | Explanation of this factor: This factor assesses the recovery capacity of the individual plant: i.e., the ability to regenerate the material harvested. Aspects of this are the general growth rate and especially the (re-)sprouting capability (rhizomes, creepers, clonal growth) of perennials. | |
| 6. Reproduction | Low | Species reproduces asexually or is wind pollinated; many viable seeds with abiotic dispersal; long-lived seed bank |
| | Medium | Species reproduces mainly sexually and has common pollinators; seed dispersal biotic with common dispersers |
| | High | Species is dioecious (male and female flowers on separate plants) or monocarpic (flowers and sets seed only once); adapted to specialised pollinators and/or seed dispersers; produces few viable seeds; short-lived seed bank |
| | Unknown | Information about this factor is unavailable |

| Intrinsic biological factors related to risk | Risk severity | Example Indicators |
|--|---|--|
| | <p>Explanation of this factor:</p> <p>This factor evaluates the relative reproductive specialization of the species concerned, where asexual reproduction, abiotic pollination and seed dispersal (e.g., by wind or water), and abundant pollinators and seed dispersers are less specialized than sexual reproduction, biotic pollination and seed dispersal, and infrequent pollinators and seed dispersers, as well as whether species have short or long-lived seed banks for regeneration. A reduction in availability of individual plants or reproductive parts (flowers, seeds) will have a greater impact on plant species with more specialized adaptations.</p> <p>This factor very generally addresses the recovery capacity of the harvested population: i.e., the ability of the remaining plants to rebuild the population or to repopulate areas where individuals or sub-populations have been removed.</p> | |
| 7. Role of the species in its ecosystem | Low | Based on research there are no dependent species or key functions |
| | Medium | Not relevant: see explanation below |
| | High | Keystone species, nurse plant, major food source for other species |
| | Unknown | Information about this factor is not available |
| | <p>Explanation of this factor:</p> <p>This factor considers the role of the species in the ecosystem and whether ecosystem processes are interrupted or changed by the harvest of the species. Is the species a keystone or guild species, do other species depend on it for survival (e.g., food source)?</p> <p>Note: Information about this factor is not commonly available, but may be included in some detailed conservation status assessments. A “medium” indicator is not meaningful for this factor. A species either does, or does not, have a known key ecosystem function as defined.</p> | |

STEP 6

EVALUATE IMPACTS OF WILD HARVEST

Rationale: why is this step important?

The impacts of wild harvest can be detrimental to the individual plants, to the harvested populations, and to the national population of the species concerned overall, as well as to the species' ecosystem and other species on which it depends. Scientific Authorities can identify and evaluate these impacts by considering the best currently available information about the harvest practice used and harvest intensity (e.g. proportion affected of the individual plant, harvested populations, and the national population overall). Although population decline may be caused by impacts unrelated to wild harvest (which may have been identified in existing conservation status assessments in Step 4), population trends can also be a useful indicator of detrimental impact of wild harvest.

In some cases, existing management measures may mitigate (= reduce the severity of) harvest impacts. Management measures are considered in Step 8. Therefore, this Step looks at actual impact of the harvest for the export in question rather than potential impact. However, it is important to consider this in relation to other harvest of the species (legal and illegal and for domestic use and trade) in order to assess the detriment of harvesting on the species.

The greater the severity of wild harvest impact on the species concerned, the greater are the requirements of information quality, management rigour, and precaution that Scientific Authorities should apply to the NDF.

Key Question and Decision Path for Step 6: Evaluate Impacts of Wild Harvest



Guidance for Step 6

Key Question 6 Considering the impacts of harvest, is the severity of harvest impact on individual plants, target populations, the national population, and on other species “Low”, “Medium”, “High”, or “Unknown”?

Guidance notes:

Factors that affect the impact of wild harvest on species survival are elaborated below in the table **Factors to Consider: Impacts of Wild Harvest**.

Guidance for Step 6

When considering harvest impact the total actual off-take should be considered, which may include a large proportion of wasted material, harvest for domestic use and illegal harvest.

Recommended information quality: For species with “Medium”, “High” or “Unknown” ratings in Steps 4 and 5, the effort to locate higher-quality information should focus on any remaining information gaps for Step 6. For species lacking relevant conservation status assessments in Step 4, Scientific Authorities will need to gather any available information on harvest impacts for Step 6. For species with conservation status identified in Step 4 as “Low conservation concern” and “intrinsic biological risks” identified as “Low” in Step 5, it is likely sufficient for Scientific Authorities to use routine verification sources to gather any additional information needed about actual harvest impacts to complete Step 6.

Use the **Worksheet for Step 6** to record available information corresponding to each of the harvest impact factors and the severity of impact indicated (see table of Factors to Consider: Impacts of Wild Harvest, below).

To support the evaluation of appropriate rigour of existing management measures (Step 8), summary lists of “Low”, “Medium”, “High”, and “Unknown” harvest impact factors will be transferred to the **Worksheet for Step 8**.

→Go to Step 7.

Endpoint of Step 6: Based on the best available information of recommended quality, Scientific Authorities determine the severity of impact of wild harvest on individual plants, on the harvested populations, the national population, and on other species. The harvest impact is used to guide Scientific Authorities to expect greater management rigour for higher levels of severity of harvest impact (Step 8), and to use greater precaution in making NDFs for those species with higher or unknown severity of harvest impact (Step 9).

Useful Sources and Examples of Recommended Information Quality

| All Species / Specimens Requiring a Detailed NDF | Species with Medium, High and Unknown Severity of Conservation Concern or Risk Identified in Steps 4-5 | |
|--|---|--|
| <p>Routine verifications:</p> <ul style="list-style-type: none"> • Permit application (e.g., number or volume of specimens included in relation to other permits for the same species in the current year) • Conservation status assessments (Step 4) – population trends and harvest impacts • Scientific publications / reports describing harvesting practices, | <p>Existing qualitative information:</p> <ul style="list-style-type: none"> • Harvest method (e.g., written or verbal instructions for harvesters, Good Practice guidelines, Standard Operating Procedures) • Management plans • Vegetation surveys and inventories (e.g. surveys conducted at harvest locations and at sites protected from harvest) | <p>Existing quantitative information:</p> <ul style="list-style-type: none"> • Records of harvest yields (e.g., volume/area/year) and frequencies • Commercial census • Quantitative indices (e.g., roots per pound harvested as an indicator of population size and age-class distribution) • Monitoring data, sampled and modelled population parameters (e.g., changes |

Useful Sources and Examples of Recommended Information Quality

| | | |
|-------------------|---|--|
| population trends | <ul style="list-style-type: none"> Expert, harvester, local community, resource manager reports of actual harvest practices used Qualitative indices (e.g., harvesters' perceptions of change in resource availability and quality) | in abundance, distribution, age or size-class structure, regeneration) |
|-------------------|---|--|

Factors to Consider: Impacts of Wild Harvest

The factors and indicators defined in this table use information about the harvest practices, and population trends in a simple ranking of impact severity: Low, Medium, High, and Unknown. Scientific Authorities can identify and evaluate detrimental impacts of wild harvest on the individuals, target populations, and species concerned by using this table of factors in combination with the **Worksheet for Step 6**.

For most species, information will be available for Factor 1 but may be more difficult to locate for Factors 2-4. Record available information and unknown factors in the **Worksheet for Step 6**.

| Factor | Harvest impact severity | Example Indicators |
|--|-------------------------|--|
| 1. Impact of harvest on individual plants for the exports requested | Low | <ul style="list-style-type: none"> Non-lethal harvest (plant part harvested and practice used*) Small proportion of the yield (e.g. leaves, seeds, fruit) per plant is harvested and is unlikely to reduce reproductive success Harvest frequency is low relative to the rate of regeneration of the part harvested (e.g., once per season) |
| | Medium | <ul style="list-style-type: none"> Harvest (plant part harvested and practice used*) sometimes lethal Small proportion of yield of sap, resin, bark, roots per plant is harvested OR large proportion of yield of leaves, seeds, fruit per plant is harvested, and is likely to reduce reproductive success Harvest frequency is moderate relative to the rate of regeneration of the part harvested (e.g., several times per season) |
| | High | <ul style="list-style-type: none"> Harvest (plant part harvested and practice used*) is lethal Large proportion (whole plants, bulbs, bark, roots, apical meristems of monocarpic species) per plant is harvested Harvest frequency is high relative to the rate of regeneration of the part harvested (e.g., numerous times per season) |
| | Unknown | <ul style="list-style-type: none"> Information about this factor is unavailable |

| Factor | Harvest impact severity | Example Indicators |
|--|--|---|
| | <p>Explanation of this factor:</p> <p>This factor considers the characteristics of wild harvest that affect the survival and reproductive capacity of individual plants.</p> <p>* Note that the part of a plant harvested is not always just the part used: e.g., it is possible that the common harvest practice may be lethal for individual plants whereas the targeted plant parts could be harvested in a non-lethal manner (e.g., cutting down a tree to harvest the fruit or leaves).</p> | |
| 2. Impact of harvest on target populations for the exports requested | Low | <ul style="list-style-type: none"> • Harvest spread over a broad range of age/size-classes • Small proportion of individual plants in the population is affected by harvest (quantity harvested is small in comparison with quantity available for harvest) |
| | Medium | <ul style="list-style-type: none"> • Moderately selective harvest of age/size class • Moderate proportion of individual plants in the population is affected by harvest (quantity harvested is moderate in comparison with quantity available for harvest) |
| | High | <ul style="list-style-type: none"> • Highly selective harvest of one age/size- class (except if age-class selected is no longer reproducing) • Large proportion of individual plants in the population is harvested (quantity harvested is large in comparison with quantity available for harvest) |
| | Unknown | <ul style="list-style-type: none"> • Information about this factor is unavailable |
| | <p>Explanation of this factor:</p> <p>This factor considers the characteristics of wild harvest that affect the long-term viability of reproducing populations, such as recruitment (the addition of individuals to a population through reproduction and/or dispersal from other populations). For example, if the target population is very small, collecting most of the seeds may have a large impact on population viability and species survival. The total actual off-take should be considered, which may include a large proportion of wasted material, harvest for domestic use, and illegal or unreported harvest that is not accounted for in documentation of material in trade.</p> | |
| 3. Impact of harvest on national population for the exports requested | Low | <ul style="list-style-type: none"> • A small proportion of national population affected by wild harvest • Harvest infrequent with respect to the rate of replacement of harvested individuals • Population numbers and distribution stable or increasing |
| | Medium | <ul style="list-style-type: none"> • Harvest frequent but low-to-moderate proportion of the national population affected • Population numbers and distribution stable |
| | High | <ul style="list-style-type: none"> • High proportion of national population affected • Long term, continuous harvest • Population numbers and distribution declining due to harvest |
| | Unknown | <ul style="list-style-type: none"> • Information about this factor is unavailable |

| Factor | Harvest impact severity | Example Indicators |
|---|--|---|
| | <p>Explanation of this factor:</p> <p>This factor considers the characteristics of wild harvest in terms of scope of harvest impact (e.g., the plant, the target population, the national population), and the effect on the national population of the species concerned.</p> <p>Note: Information about population trend (increasing, stable, or decreasing) may be available from existing conservation status assessments (Step 4).</p> | |
| <p>4. Impact of harvest on other species for the exports requested</p> | <p>Low</p> | <ul style="list-style-type: none"> • Target species easy to identify, unlikely to be confused with other species • Harvest practices have a minimal (or even positive) effect on non-target species and the environment (e.g., animals that eat fruit, seeds; removal of an alien/invasive species) |
| | <p>Medium</p> | <ul style="list-style-type: none"> • Target species occasionally confused with other species • Harvest practices occasionally disruptive to non-target species or environment • Harvest has a moderate effect on resources available for other species |
| | <p>High</p> | <ul style="list-style-type: none"> • Target species is easily confused with other species; indiscriminate harvest of the target species in place of another look-alike species, or of another look-alike species in place of the target species • Harvest practices have a substantially negative effect on non-target species or the environment |
| | <p>Unknown</p> | <ul style="list-style-type: none"> • Information about this factor is unavailable |
| | <p>Explanation of this factor:</p> <p>Article IV paragraph 3 of the Convention text states that “the export of specimens of any such species should be limited in order to maintain that species throughout its range and at a level consistent with its role in the ecosystems in which it occurs”.</p> <p>This factor considers the characteristics of wild harvest that may impact other species either accidentally (as in the case of harvest of look-alike species) or as a result of harvest practices or species that depend on the species concerned (e.g., for food or micro-habitat, as in the case of some epiphytes). Harvest damage to the target species’ ecosystem or to other species on which it depends can reduce the viability of the target population.</p> | |

STEP 7

EVALUATE IMPACTS OF TRADE

Rationale: why is this step important?

The impacts of trade can be detrimental to the survival of the species concerned. Trade is the potential threat relevant to CITES. Scientific Authorities can identify and evaluate trade impacts by considering the available information about the scale and trend of legal and illegal trade. Although the impact of all harvest is considered (in Step 6) whether for domestic or international trade, it is useful to consider the impact of international trade in relation to that of any domestic trade (including any illegal trade). The greater the severity of trade impact on the species concerned, the greater are the requirements of information quality, management rigour, and precaution that Scientific Authorities should apply to making an NDF.

In some cases, existing management measures may mitigate (= reduce the severity of) trade impacts. Therefore, this Step considers actual impact rather than potential impact. Management measures are considered in Step 8.

Key Question and Decision Path for Step 7: Evaluate Impacts of Trade



Guidance for Step 7

Key Question 7. Considering the impacts of trade of this export as well as considering the impact of all trade on species survival, is the severity of legal and illegal trade impact “Low”, “Medium”, “High”, or “Unknown”?

Guidance notes:

Factors that affect the impact of trade on species survival are elaborated below in the table
Factors to Consider: Impacts of Trade.

Guidance for Step 7

Recommended information quality: For species identified in Step 4 as “Medium”, “High” or “Unknown” conservation concern, and/or identified in Step 5 as “Medium”, “High”, or “Unknown” risk, and/or identified in Step 6 as “Medium”, “High”, or “Unknown” harvest impact, the effort to locate available higher-quality information is recommended to fill any remaining information gaps for Step 7. For species lacking relevant conservation status assessments in Step 4, Scientific Authorities will need to gather any available information about trade impacts for Step 7. For species with conservation status identified in Step 4 as “Low concern”, “intrinsic biological risk” identified as “Low” in Step 5, and harvest impact identified as “Low” in Step 6, it is likely sufficient for Scientific Authorities to use routine verification sources to gather any additional information needed about actual trade impacts to complete Step 7.

Use the **Worksheet for Step 7** to record available information corresponding to each of these factors and the severity of impact indicated.

To support the evaluation of appropriate rigour of existing management measures (Step 8), summary lists of “Low”, “Medium”, “High”, and “Unknown” trade impact factors will be transferred to the **Worksheet for Step 8**.

→Go to Step 8.

Endpoint of Step 7: Based on the best available information quality, Scientific Authorities determine the severity of impact of legal and illegal trade on the species concerned. Scientific Authorities are guided to expect greater management rigour for higher severity of trade impact (Step 8), and to use greater precaution in making NDFs for those species with higher or unknown severity of trade impact (Step 9).

Useful Sources and Examples of Recommended Information Quality

| All Species / Specimens Requiring a Detailed NDF | Species with Medium, High, and Unknown Severity of Conservation Concern, Risk, or Impact Identified in Steps 4-6 | |
|--|--|---|
| <p>Routine verifications:</p> <ul style="list-style-type: none"> • Export permit application (proposed volume or number of specimens) • Export trade history • records of current and past years’ trade levels from national CITES databases or the CITES trade database (http://www.cites.org/eng/resources/trade.shtml) • Internet searches for both common and scientific names can give an indication of demand. | <p>Existing qualitative information:</p> <ul style="list-style-type: none"> • Additional information from the CITES trade database (http://www.cites.org/eng/resources/trade.shtml) also see guide to using the trade database http://www.unep-wcmc-apps.org/citestrade/docs/CITESTradeDatabaseGuide_v7.pdf) • Market reports • Enforcement reports (including seizure data) | <p>Existing quantitative information:</p> <ul style="list-style-type: none"> • Quantitative information on numbers of specimens exported (CITES trade database) • Trends in volume of national exports • Trends in volume of domestic trade (if available) • USFWS LEMIS and EU-Twix databases (for illegal trade) |

Useful Sources and Examples of Recommended Information Quality

| | | |
|--|--|--|
| | <ul style="list-style-type: none"> • Reports of exports and imports from other Parties • Field and market surveys • Information from traders, harvesters, wildlife managers | |
|--|--|--|

Factors to Consider: Impacts of Trade

The factors and indicators defined in this table use information about the characteristics of trade in the species concerned and trends in legal and illegal trade to rank trade impact severity: Low, Medium, High, and Unknown. Scientific Authorities can identify and evaluate detrimental impacts of trade to the species concerned by using this table of factors in combination with the **Worksheet for Step 7**.

For most species, information will be available for Factor 1 but may be more difficult to locate for Factor 2. Record available information and unknown factors in the **Worksheet for Step 7**.

| Factor | Trade impact severity | Example Indicators |
|--|------------------------------------|--|
| 1. Magnitude and trend of legal trade | Low | <ul style="list-style-type: none"> • Number or volume of specimens in trade is small in relation to abundance of the species (information from Steps 4 and 5) • Trade volume / market demand decreasing over time • No shortage of material in trade observed |
| | Medium | <ul style="list-style-type: none"> • Number or volume of specimens in trade neither small nor large in relation to abundance of the species (Steps 4 and 5) • Trade volume / market demand stable or slowly increasing over time |
| | High | <ul style="list-style-type: none"> • Multiple uses in commercial trade (i.e. the species supplies several products to different types of markets) • Trade volume / market demand high in relation to information about abundance of species and part used (Steps 4 and 5) • Trade volume / market demand increasing quickly, or decreasing in response to limited resource availability • Shortages of material in trade |
| | Unknown | <ul style="list-style-type: none"> • Information about this factor is unavailable |
| | Explanation of this factor: | |

| Factor | Trade impact severity | Example Indicators |
|--------------------------------------|---|---|
| | Low | <ul style="list-style-type: none"> • Good documentation of domestic and international trade • Trade chain transparent • Little concern about substitution for a look-alike species • Estimated harvest and estimated volume in legal domestic and reported export trade are approximately equal |
| 2. Magnitude of illegal trade | Medium | <ul style="list-style-type: none"> • Poor documentation of trade (domestic and international) • Trade chain difficult to follow • Some concern about substitution for a look-alike species • Some concerns about whether estimated harvest and volume in legal domestic and reported export trade are approximately equal |
| | High | <ul style="list-style-type: none"> • Documented illegal trade • Little documentation of legal domestic and international trade • Trade chain not transparent • Great concern about substitution for a look-alike species • Quantities legally exported are significantly smaller than quantities reported by importing countries |
| | Unknown | <ul style="list-style-type: none"> • Information about this factor is unavailable |
| | <p>Explanation of this factor:</p> <p>This factor considers whether the magnitude and trend in legal trade is significant in proportion to the abundance of the species, whether known illegal trade exists, whether illegal trade is significant in proportion to the overall volume of trade, and whether the substitution for a look-alike species in trade has a significant influence on the species of concern's survival.</p> | |

STEP 8

EVALUATE EFFECTIVENESS OF MANAGEMENT MEASURES

Rationale: why is this step important?

For most wild-harvested plant (and indeed animal) species included in CITES Appendix II, non-detrimental trade requires the effective implementation of appropriate and proportional management measures. The level of management rigour needs to be appropriate to mitigate (= reduce the severity of) the specific harvest and trade impacts identified for the species concerned and its populations. In many cases the management required may be simple and informal if the resource is well known to the national experts and there is little risk to the survival of the species.

Steps 4-7 of this Guidance have supported Scientific Authorities to assess conservation concern, intrinsic biological risk, harvest impact, and trade impact, and to identify the particular factors that contribute to the severity of concern, risk, and impact. Step 8 supports use of available information to evaluate whether the management measures in place have the appropriate level of rigour and are effectively implemented to mitigate the identified harvest and trade impacts.

In some cases, existing management measures may mitigate harvest and trade impacts; therefore, it is not possible to consider harvest impact and trade impact as independent factors in a non-detriment finding process (for example, if existing management measures are appropriate, harvest impacts and trade impacts will not be “High”).

**Key Questions and Decision Path for Step 8:
Evaluate Effectiveness of Management Measures**

From Step 7

8.1. What management measures are in place for the target species?

8.2. Do existing management measures adequately mitigate the harvest and trade impacts?

**Go to Step 9
Non-Detriment Findings
and Related Advice**

Guidance for Step 8

Key Question 8.1. Which management measures are in place for the target species?

Guidance Notes:

Referring to **the Factor Table for Step 8** below, and using the **Worksheet for Step 8.1**, record summary information about the existing management measures relevant to harvest and trade impacts identified in Steps 6-7.

Recommended information quality: For species identified in Steps 6-7 as having low harvest impacts or trade impacts, this Guidance considers it sufficient for Scientific Authorities to use routine verification sources to gather any additional information needed about management measures in place to complete Step 8. For species identified in Steps 6-7 as “Medium”, “High”, or “Unknown” harvest impacts or trade impacts, the guidance considers the effort to consult available higher-quality information recommended to complete Step 8.

→Go to Key Question 8.2

Key Question 8.2. Do existing management measures adequately mitigate (= reduce the severity of) the harvest impacts and trade impacts identified?

Guidance notes:

Worksheet for Step 8.2 allows for an evaluation of existing management measures in terms of mitigation of risk and a synopsis of the previous steps before arriving at the final step of the guidance. To this end, transfer the results of conservation concern (Step 4) and intrinsic biological risk (Step 5) from the **Worksheets for Steps 4 and 5** into the upper part of **Worksheet for Step 8.2**.

Then transfer results of harvest impacts (Step 6) and trade impacts (Step 7) from the **Worksheets for Steps 6 and 7** into the lower left part of **Worksheet for Step 8.2**.

In a third step, transfer the existing management procedures for the target species from **Worksheet for Step 8.1** to the lower part of **Worksheet for Step 8.2**. Place the existing management procedures against those trade and harvest impacts identified in Steps 6 and 7 which they can possibly mitigate.

In a last step, use the **Worksheet for Step 8.2** to evaluate whether management measures in place adequately mitigate the severity of harvest and trade impacts, based on the following conditions for appropriate management rigour:

- a) Management measures do not exist or are unknown to exist.
- b) Management measures in place address the harvest and trade impacts.
- c) Management measures have the appropriate level of rigour required to mitigate harvest and trade impacts.
- d) There is evidence that the existing management measures are effectively implemented to mitigate harvest and trade impacts.

According to the precautionary principle this Guidance treats “Unknown” concern, risk or impact as equal to a “High” level of severity, requiring intense management rigour.

Identify and record gaps between management measures required and those in place.

Taking the guidance into consideration, make an overall judgement of whether rigour of management measures in place are appropriate to the severity of harvest impacts, and trade

Guidance for Step 8

impacts identified.

→ **Go to Step 9:** Decision 9.8

Example: A species may be slow growing and produce few viable seeds (therefore identified as “high severity of intrinsic risk” for those factors in Step 5). If wild collection targets fruits of mature plants, this would be non-lethal, but potentially have a high impact on the targeted populations by selectively targeting a limited resource important for population replacement. The management measures in place would need to consider the minimum number or proportion of fruits that can be harvested without reducing the viability of the harvested population(s), and have a system in place to monitor the intensity and longer-term impacts of harvest.

Endpoint of Step 8: Based on available information, Scientific Authorities identify the level of rigour of management measures in place for the target species and populations, and evaluate whether these are appropriate and effective to mitigate (= reduce the severity of) the harvest impacts, and trade impacts identified in Steps 6-7.

Useful Sources and Examples of Recommended Information Quality

| All Species / Specimens Requiring a Detailed NDF | Species with Medium, High, and Unknown Severity of Conservation Concern, Risk, or Impact Identified in Steps 4-7 | |
|--|--|---|
| <p>Routine verifications:</p> <ul style="list-style-type: none"> • Export permit application • Conservation status assessments specifying existing management • Information on existing quotas (and the basis for setting them), monitoring of harvest and trade levels and impacts, enforcement • National legislation (conservation, harvest, trade of species concerned) | <p>Existing qualitative information:</p> <ul style="list-style-type: none"> • Approved local / national / state / provincial management plan(s) • Interviews with harvesters, traders, resource managers, enforcement officers, and other stakeholders along the supply chain • Harvester instructions, including harvest practices, impact mitigation measures, volume and quality controls | <p>Existing quantitative information:</p> <ul style="list-style-type: none"> • Quantitative monitoring in protected and harvest areas • Quantitative monitoring of domestic and export trade • Quantitative off-take thresholds (e.g., estimates of maximum sustainable yield, minimum viable population) |

Factors to Consider: Existing Management Measures

This table ranks management procedures relevant for harvest and trade against the rigour of management. These should be considered as examples of the types of management measures. It is not expected or necessary that management measures in place will have all of the characteristics outlined in this table.

| Examples of Management of wild harvest impacts (Step 6) |
|---|
| <p>Basic</p> <ul style="list-style-type: none"> • Informal (usually verbal) harvest guidelines and controls describing accepted practices • Good practices defined as general guidelines (“rules of thumb”) • Local control over access to and use of harvest area |
| <p>Moderate</p> <ul style="list-style-type: none"> • Local management with clearly defined harvest controls; e.g., <ul style="list-style-type: none"> ○ Maximum / minimum age or size classes restrictions ○ Harvest seasons ○ Maximum harvest quantity (often expressed as a proportion of available plant parts / individuals) ○ Harvest frequency ○ Number of harvesters (per season) ○ Type and methods of use of harvest equipment • Monitoring of harvest controls |
| <p>Comprehensive</p> <ul style="list-style-type: none"> • Harvest guidelines and controls established based on estimated quantities of regulated (managed) versus unregulated (unmanaged including illegal) harvest • Approved and coordinated national and local (site specific) harvest management plans with clear monitoring requirements; e.g., <ul style="list-style-type: none"> ○ Maintaining harvest records ○ Documenting harvest practice ○ Resource inventory and yield data ○ Regeneration data • Management approach is adaptive: e.g., <ul style="list-style-type: none"> ○ Regular review of harvest records ○ Regular harvest impact monitoring ○ Regular adjustment of harvest instructions • Harvest restrictions (including quotas) based on research and monitoring results: e.g., <ul style="list-style-type: none"> ○ Estimated minimum viable population ○ Maximum sustainable harvest quantity ○ Proportion of mature, reproducing individuals to be retained • Periods of allowed harvest determined using reliable and practical indicators (e.g., seasonality, precipitation cycles, flowering and fruiting times) and based on information about the reproductive cycles of target species. • Demographic assessments (e.g. size or age-class distributions) use reliable and practical data (e.g.; plant diameter / DBH, height, fruiting and flowering, local harvesters’ knowledge). • Access to the harvest area defined, monitored and enforced by a recognized authority (e.g.; a local community, private landowner, government agency responsible for managing and regulating the harvest). |

| Examples of Management of trade impacts (Step 7) |
|--|
| <p>Basic</p> <ul style="list-style-type: none"> • Qualitative monitoring of trend of regulated and unregulated trade (increasing, stable, or decreasing) |
| <p>Moderate</p> <ul style="list-style-type: none"> • Points in the trade chain (chain of custody) known and monitored • Qualitative indicators of changes in supply and demand (both domestic and international) • Qualitative indicators of scale and trend of trade (domestic and international) • Qualitative indicators of regulated and unregulated trade • Precautionary (limited data) export quotas |
| <p>Comprehensive</p> <ul style="list-style-type: none"> • Export quota system based on biologically derived local and national data; annually reviewed; may specify product types • Trade chain (chain of custody) well documented • Quantitative indicators of changes in supply and demand (both domestic and international) • Quantitative indicators of scale and trend of trade (domestic and international) • Quantitative indicators / estimates of regulated / unregulated trade |

STEP 9

NON-DETRIMENT FINDING AND RELATED ADVICE

Rationale: why is this step important?

Steps 1-8 of this Guidance have been structured to guide Scientific Authorities through a series of Key Questions and Decision Paths to make “a science-based assessment that verifies whether a proposed export is detrimental to the survival of that species”⁷.

These Steps and the related guidance support various outcomes, depending on:

- (Step 1) whether there are concerns about specimen identification
- (Step 2) whether the specimen(s) clearly meet(s) all requirements for artificial propagation according to *Res. Conf. 11.11 (Rev. CoP15)*
- (Step 3) whether the specimens can be excluded from a detailed NDF by legislation banning export, CITES listing annotations, or compliance with a previously made, science-based NDF
- (Step 8) whether existing management measures adequately mitigate (= reduce the severity of) harvest and trade impacts identified in Steps 6-7.

This Guidance additionally supports Scientific Authorities to gather, evaluate, and document relevant information for which the data quality is “proportionate to the vulnerability of the species concerned”⁸.

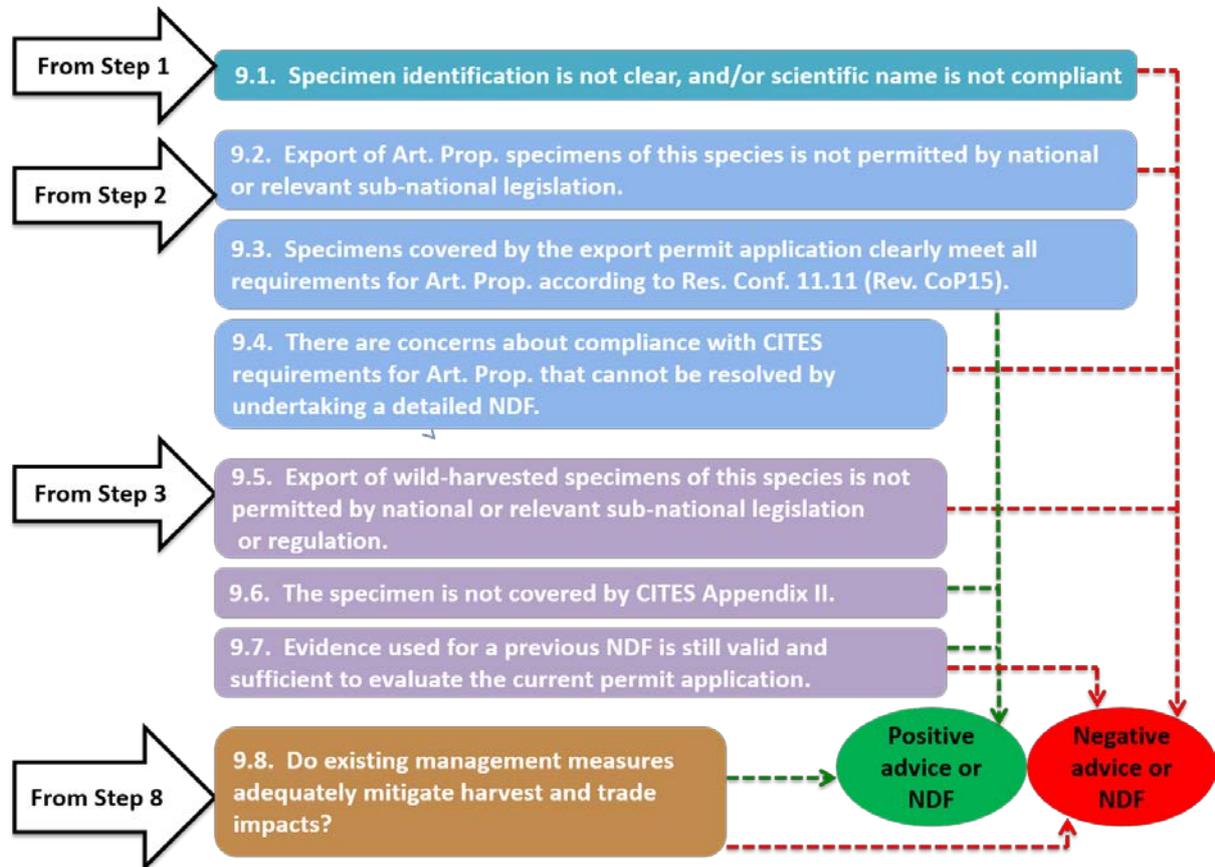
The task remaining for the Scientific Authority is to make a positive or negative NDF or related decision, and to advise the Management Authority whether to allow the proposed export of specimens based on the outcome of the previous steps of this Guidance.

⁷ Resolution Conf. 16.7, Non-detriment findings [<http://www.cites.org/eng/res/16/16-07.php>]

⁸ Ibid.

Decisions for Step 9

Non-Detriment Findings and Related Decisions



Guidance for Step 9

Decision 9.1

The outcome of Step 1, Key Question 1.1 is: The Scientific Authority is not confident that the plant/specimen concerned has been correctly identified, and that the scientific name used is compliant with the appropriate CITES Standard.

Guidance notes:

Without a clear taxonomic identification (i.e. the naming of the species is in accordance with the adopted CITES references) of the specimens involved, the Scientific Authority may be unable to confidently apply species-related information required to determine whether the proposed trade will not be detrimental to the survival of the species.

Concerns over the species' identity were identified by the Scientific Authority and were not easily corrected or resolved by consultation with the Nomenclature specialist of the Plants Committee or the Management Authority. Record the justification for this finding in the **Worksheet for Step 9, Outcome 9.1**.

The Scientific Authority's advice supported by this Guidance is → **Negative advice**

Guidance for Step 9

If the Scientific Authority decides to make a positive NDF, the basis for the finding should be documented.

Decision 9.2

The outcome of Step 2, Key Question 2.2 is: Export of artificially propagated specimens of this species is not permitted by national or relevant sub-national legislation.

Guidance notes:

Advice of the Scientific Authority must comply with national or relevant sub-national legislation.

The Scientific Authority's advice to the Management Authority, supported by this Guidance, is
→ **Advise the MA that export is not permitted.**

Record the basis for the decision in the **Worksheet for Step 9, Outcome 9.2** or refer to the response in the **Worksheet for Step 2, Key Question 2.2**.

If the Scientific Authority advises a positive decision (approval of the export permit), the basis for this advice should be documented.

Decision 9.3

The outcome of Step 2, Key Question 2.3 is: Specimens covered by the export permit application clearly meet all requirements for artificial propagation according to *Res. Conf. 11.11 (Rev. CoP15)*.

Guidance notes:

The Scientific Authority's advice to the Management Authority, supported by this Guidance, is
→ **Approve export**

Record decision in the **Worksheet for Step 9, Outcome 9.3**.

Decision 9.4

The outcome of Step 2, Key Question 2.4 is: There are concerns about compliance of the specimens with CITES requirements for artificial propagation that cannot be resolved by Scientific Authority by undertaking a detailed NDF.

Guidance notes:

The Scientific Authority may be unable to state with confidence that the export of artificially propagated specimens complies with *Res. Conf. 11.11 (Rev. CoP15)* and that it will not have a detrimental impact on the wild population.

The Scientific Authority's decision supported by this Guidance is → **Negative advice**

Record decision in the **Worksheet for Step 9, Outcome 9.4**.

If the Scientific Authority decides to make a positive NDF, the basis for the decision should be documented.

Decision 9.5

The outcome of Step 3, Key Question 3.1 is: Export of wild-harvested specimens of this species is not permitted by national or relevant sub-national legislation or regulation.

Guidance for Step 9

Guidance notes:

Advice of the Scientific Authority must comply with national or relevant sub-regional legislation.

The Scientific Authority's advice to the Management Authority, supported by this Guidance, is
→ **Advise the MA that export should not be permitted**

The Scientific Authority may refer to the Management Authority to investigate or to the responsible authority for enforcement.

Record decision in the **Worksheet for Step 9, Outcome 9.5.**

Decision 9.6

The outcome of Step 3, Key Question 3.2 is: The specimen is not covered by CITES Appendix II.

Guidance notes:

An NDF is not required.

The Scientific Authority's advice to the Management Authority, supported by this Guidance, is
→ **CITES export permit is not required**

Record decision in the **Worksheet for Step 9, Outcome 9.6.**

Decision 9.7

The outcome of Step 3, Key Question 3.3 is: Science used for a previous NDF is still valid and sufficient to evaluate the current export permit application.

Guidance notes:

If there is a standing NDF, a previous NDF evaluation or a national quota that has been established based on an NDF, a new NDF may not be required.

The Scientific Authority's advice to the Management Authority, supported by this Guidance, is
→ **Positive NDF if the proposed export is within the parameters of the previous NDF**

→ **Negative NDF if the proposed export is not within the parameters of the previous NDF**

Record decision in the **Worksheet for Step 9, Outcome 9.7.**

Decision 9.8

Step 8, Key Question 8.2 is: Do existing management measures adequately mitigate (= reduce the severity of) harvest and trade impacts identified?

Guidance notes:

For species requiring a detailed NDF, the Key Questions and Decision Paths in Steps 4-7 have supported evaluation of conservation concerns, intrinsic biological risks, harvest impacts, and trade impacts and their severity, using information with a data quality recommended for the severity of concerns, risks, and impacts. Key Questions and the Decision Path for Step 8 have supported identification of management measures in place that are relevant to the identified concerns, risks, and impacts, and evaluation of whether existing management measures are sufficiently rigorous and effective to mitigate the impacts identified.

The Scientific Authority's decision supported by this Guidance is

Guidance for Step 9

→ **Positive NDF** if the evaluation of available information indicates “Yes”, management measures in place are sufficiently rigorous and effective, or “Yes” with conditions (e.g. upon verification of information or management measures, verification that exports remain within quota)

→ **Negative NDF** if the evaluation of available information indicates “No or Uncertain”, management measures in place are not sufficiently rigorous and effective

Record decision in the **Worksheet for Step 9, Outcome 9.8**.

Endpoint of Step 9: Scientific Authorities make science-based positive or negative NDFs, or other relevant decisions concerning the proposed export of specimens, guided by the outcome of Steps 1-8 of this Guidance. NDFs are justified by evaluating whether the existing management procedures are appropriate and effective to mitigate (= reduce the severity of) the identified wild harvest impacts and trade impacts. If there is insufficient information to enable the Scientific Authority to determine with confidence that the proposed trade will not be detrimental to the survival of the population or species, the precautionary approach supports a negative NDF.

Quality of information gathered and evaluated (and the associated time and effort of the Scientific Authority) to support the NDF and related advice is appropriate to the severity of conservation concerns, intrinsic biological risks, harvest impacts, and trade impacts identified.

In accordance with *Res. Conf. 10.3*, paragraph j, Scientific Authorities may define any permit adjustments, qualification, precautions, or information gaps that should be communicated to the CITES Management Authority.

Annex

Consolidated Worksheets and Draft Report Format

A download of this Annex in MS Excel format is available at
http://www.bfn.de/0302_ndf+M52087573ab0.html.

How to use these worksheets

The Worksheets for Steps 1-9 are intended to assist Scientific Authorities to document the basis for a non-detriment finding and the information sources used. Each Worksheet is designed to provide a record of responses to the Key Questions for each of the nine Steps outlined in the companion document CITES Non-detriment Findings: Guidance for Perennial Plants. In the absence of a preferred NDF report format, Scientific Authorities may find the consolidated worksheets helpful as a draft report format for the NDF and related advice to the CITES Management Authority.

NDF Application Data

| |
|--|
| Species name: (Genus and species, sub-species, as appropriate) <i>species name filled on Info_Page</i> |
| Trade name(s) and/or synonyms found on permit application: |
| Permit application reference number: |
| Completion date of NDF: |
| Contact / Author(s) of NDF: |

User note: When filling out the species name in this sheet, this name will be AUTOMATICALLY repeated in the header of all worksheets.

Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 1: Review specimen identification

| Key questions for step 1 | Responses and outcome (Refer to Guidance for Step 1) | | | Information sources used |
|---|--|------------|----------|-----------------------------------|
| <p>1.1 Is the Scientific Authority confident that the plant/specimen concerned has been correctly identified, and, is the scientific name used compliant with the appropriate CITES Standard?</p> | <p>Conditions a and b are met OR the Scientific Authority has corrected a simple error or out-dated name and taxonomic concerns have been resolved</p> <p>• Conditions a and b are not met</p> <p>• Concerns cannot be resolved by the Scientific Authority or referral to the MA or the Nomenclature Specialist of the CITES Plants Committee</p> | <p>yes</p> | <p>X</p> | <p>Go to step 2</p> |
| | | <p>no</p> | <p>X</p> | <p>Go to Step 9: Decision 9.1</p> |
| <p>Concerns about clear identification : [text]</p> | | | | |

Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 2: Review compliance with requirements of artificial propagation

| Key questions for step 2 | Responses and outcome (Refer to Guidance for Step 2) | | Information sources used |
|--|--|---|----------------------------|
| 2.1 Is the permit application for artificially propagated specimens? | yes | X | Go to Key Question 2.2 |
| | no | X | Go to Step 3 |
| 2.2 Is the export of artificially propagated specimens of this species permitted by national or relevant sub-national legislation? | yes | X | Go to Key Question 2.3 |
| | no | X | Go to Step 9: Decision 9.2 |
| Describe relevant legislation: [text] | | | |
| 2.3 Do the specimens covered by the export permit application clearly meet all requirements for artificial propagation according to Res. Conf. 11.11 (Rev. CoP15)? | yes | X | Go to Step 9: Decision 9.3 |
| | no | X | Go to Key Question 2.4 |
| Requirements a and b are met | | | |
| Requirements a and b are not met | | | |
| Describe relevant legislation: [text] | | | |
| 2.4 Are there concerns about compliance of the specimens with CITES requirements for artificial propagation that cannot be resolved by the Scientific Authority by undertaking a detailed NDF? | yes | X | Go to Step 9: Decision 9.4 |
| | no | X | Go to Step 3 |
| Describe concerns below | | | |
| Concerns about compliance of specimens with CITES requirements for artificial propagation (if not already included above for Key Question 2.3): [text] | | | |

Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 3: Review relevant exclusions and previously-made NDFs

| Key questions for Step 3 | Responses and outcome (Refer to Guidance for Step 3) | | | Information sources used |
|---|--|---|---|----------------------------|
| 3.1. Is the harvest or the export of wild-harvested specimens of this species permitted by national or relevant sub-national legislation or regulation? | yes | X | Describe legislation or regulation and its relevance below | Go to Key Question 3.2 |
| | no | X | Describe relevant legislation or regulation below | Go to Step 9: Decision 9.5 |
| Relevant national or relevant sub-national legislation or regulation (including concerns to be referred to the Management Authority or to the responsible authority for enforcement): [text] | | | | |
| 3.2. Is the specimen covered by CITES Appendix II? | yes | X | | Go to Key Question 3.3 |
| | no | X | Describe reason for exclusion of the specimen from CITES Appendix II (e.g. the relevant Annotation) | Go to Step 9: Decision 9.6 |
| Reason for exclusion of the specimen from CITES Appendix II (and information for the Management Authority that an NDF and CITES export permit are not required): [text] | | | | |
| 3.3. Has the Scientific Authority previously made a science-based NDF for this species that is still valid and is sufficient to evaluate the current export permit application? | yes | X | Describe previously-made NDFs below | Go to Step 9: Decision 9.7 |
| | no | X | Record reasons that evidence used for a previous NDF is not valid and sufficient to evaluate the current permit application | Go to Step 4 |
| Previously made NDF: [text] | | | | |

Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 4: Conservation Concern

4.1 Conservation status assessments

| Conservation status | International | Regional | National | Information sources used | Threats noted in assessment | Confidence level |
|---------------------|---------------|----------|----------|--------------------------|-----------------------------|------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |

4.2 Severity of conservation concern relevant to harvest area

| High | Med | Low | Unk | Information sources used |
|------|-----|-----|-----|--------------------------|
| | | | | |

Refer to the factor table for step 4 in the Guidance document

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Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 6: Harvest Impacts

Refer to the factor table for step 6 in the Guidance document

| Factor | Impacts | High | Med | Low | Unk | Information sources used | Confidence level |
|-------------------------------|----------------------------------|------|-----|-----|-----|--------------------------|------------------|
| <i>on individual plant</i> | | | | | | | |
| <i>on target population</i> | [(insert extra lines if needed)] | | | | | | |
| <i>on national population</i> | | | | | | | |
| <i>on other species</i> | | | | | | | |
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Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 7: Trade Impacts

Refer to the factor table for step 7 in the Guidance document

| Factor | Impacts | High | Med | Low | Unk | Information sources used | Confidence level |
|---------------|--------------------------------|------|-----|-----|-----|--------------------------|------------------|
| legal trade | | | | | | | |
| illegal trade | [insert extra lines if needed] | | | | | | |
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Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 8.1: Management measures in place

Refer to the factor table for step 8 in the Guidance document

| HARVEST Management measures | Information sources used | Confidence level |
|-----------------------------|--------------------------|------------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

| TRADE Management measures | Information sources used | Confidence level |
|---------------------------|--------------------------|------------------|
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Non-Detriment Finding (NDF)

species name filled on Info_Page

Step 9: Non-Detriment Finding and Related Advice

Possible Outcomes of the NDF process based on this Guidance are listed in in this worksheet. Each export permit application should have just one of the following outcomes. The Worksheet, together with more detailed information in the relevant Worksheets for previous steps, may be useful as a summary report of the NDF results and related advice to the CITES Management Authority.

| Outcome of NDF Process | NDF Results and Related Advice |
|---|--|
| 9.1. The outcome of Step 1, Key Question 1.1 is: <i>Identification of the specimen(s) is not clear, and concerns about taxonomic identification are not easily resolved by the Scientific Authority or referral to the Management Authority or to the Nomenclature Specialist of the CITES Plants Committee</i> | <input checked="" type="checkbox"/> Negative NDF (supported by this Guidance) <input checked="" type="checkbox"/> Positive NDF <input checked="" type="checkbox"/> Other: e.g., Negative NDF pending referral to the Management Authority Justification for the advice of Scientific Authority: <i>[Summary, or refer to Worksheet 1, Key Question 1.1]</i> |
| 9.2. The outcome of Step 2, Key Question 2.2 is: <i>Export of artificially propagated specimens of this species is not permitted by national or relevant sub-national legislation</i> | <input checked="" type="checkbox"/> Negative decision (deny export permit) (supported by this Guidance) Justification for advice of Scientific Authority: <i>[Summary, or refer to Worksheet 2, Key Question 2.2]</i> |
| 9.3. The outcome of Step 2, Key Question 2.3 is: <i>Specimens covered by the export permit application clearly meet all requirements for artificial propagation according to Res. Conf. 11.11 (Rev. CoP15)</i> | <input checked="" type="checkbox"/> Positive decision (approve export permit) (supported by this Guidance) <input checked="" type="checkbox"/> Other: Justification for advice of Scientific Authority: <i>[Summary, or refer to Worksheet 2, Key Question 2.3]</i> |
| 9.4. The outcome of Step 2, Key Question 2.4 is: <i>There are concerns about compliance of the specimens with CITES requirements for artificial propagation that cannot be resolved by Scientific Authority by undertaking a detailed NDF</i> | <input checked="" type="checkbox"/> Negative decision (supported by this Guidance) <input checked="" type="checkbox"/> Other: e.g., Negative NDF pending referral to the Management Authority to investigate Justification for advice of Scientific Authority: <i>[Summary, or refer to Worksheet 2, Key Question 2.4]</i> |

| Outcome of NDF Process | NDF Results and Related Advice |
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| 9.5. The outcome of Step 3, Key Question 3.1 is: <i>Export of wild-harvested specimens of this species is not permitted by national or relevant sub-national legislation or regulation</i> | <input checked="" type="checkbox"/> Negative decision (deny export permit) (supported by this Guidance) <input checked="" type="checkbox"/> Positive decision (approve export permit) <input checked="" type="checkbox"/> Other: e.g., Negative NDF pending referral to the Management Authority to investigate Justification for advice of Scientific Authority: [Summary, or refer to Worksheet 3, Key Question 3.1] |
| 9.6. The outcome of Step 3, Key Question 3.2 is: <i>The specimen is not covered by CITES Appendix II</i> | <input checked="" type="checkbox"/> CITES Export permit not required (supported by this Guidance) <input checked="" type="checkbox"/> Other: Justification for advice of Scientific Authority: [Summary, or refer to Worksheet 3, Key Question 3.2] |
| 9.7. The outcome of Step 3, Key Question 3.3 is: <i>Evidence used for a previous NDF is still valid and sufficient to evaluate the current export permit application</i> | <input checked="" type="checkbox"/> Positive NDF, proposed export is within the parameters of the previous NDF <input checked="" type="checkbox"/> Negative NDF, proposed export is not within the parameters of the previous NDF <input checked="" type="checkbox"/> Other: Justification for advice of Scientific Authority: [Summary, or refer to Worksheet 3, Key Question 3.3] |
| 9.8. Step 8, Key Question 8.2 is: <i>Do existing management measures adequately mitigate (reduce the severity of) harvest and trade impacts identified?</i> | <input checked="" type="checkbox"/> Positive NDF if the evidence indicates "Yes" or "Yes, with specific conditions" <input checked="" type="checkbox"/> Negative NDF if the evidence indicates "No or Uncertain" <input checked="" type="checkbox"/> Other: e.g., Negative NDF pending additional information required to evaluate harvest impacts or trade impacts or management Justification for advice of Scientific Authority: [Summary, or refer to Worksheet 8, Key Question 8.2] Specific management procedures, precautions, other actions that need to be undertaken to ensure the survival of the species: (Please list any such recommended actions below) |