# **MODULE 11: NDFs FOR PLANTS**

1. **What is in this module?**

This Module provides additional guidance to parties on some of the key considerations for undertaking NDFs for medicinal, aromatic, and ornamental plants (referred to hereafter as “perennial plants”). This Module consists of two overarching focus areas, specifically:

* **broad challenges** (complexity of current NDF guidance frameworks, limitations in data availability and quality, compliance with requirements for artificial propagation, ecosystem impacts of wild harvest); and
* **use and improvement of the current 9-Step Perennial Plants guidance (version 3.0)** for making NDFs (in particular, Step 2 – artificial propagation, Step 5 – evaluating biological risks of wild harvest, Step 6 – evaluating harvest impacts, Step 8 – evaluating management effectiveness, and Step 9 – reporting and documenting the NDF.

***Note of the Secretariat****: The Authors of the 9-Step NDF Guidance for Perennial Plants agreed that if supported by the NDF workshop, recommendations made in relation to the 9-Step NDF guidance on perennial plants will be considered for inclusion in future revisions of the 9-Step NDF guidance.*

1. **Broad challenges for making NDFs using existing guidance**
	1. **Complexity of frameworks and data required for making science-based NDFs**

Guidance and case studies resulting from the first International Expert Workshop on CITES Non-detriment Findings (Cancun, Mexico, 17-22 November 2008[[1]](#footnote-1)) inspired the development of NDF guidance designed for various taxonomic assemblages, including perennial plants, timber species, sharks, and snakes as well as additional, more generic, guidance developed by CITES Parties and Secretariat. These NDF guidance frameworks aim to break down the NDF information gathering and decision-making process into manageable steps. However, users of NDF guidance express concern about the amount and diversity of information relevant to making NDFs that are science-based, and the time, expertise, and financial constraints associated with undertaking complex NDFs. While there is general interest in the development of a simpler framework, or a framework that appears less complex, making science-based NDFs requires that Scientific Authorities (SAs) gather and evaluate available information and make NDFs based on this information. This broader challenge is being addressed in Modules 1 and 2 by proposing a generic framework that incorporates that main elements of making an NDF that are common to science-based NDF guidance frameworks while also highlighting solutions for the common gaps in guidance to support CITES Parties in making NDFs.

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to Modules 1 and 2:**

1. Encourage Parties to contribute to a library of relevant case studies by submitting reports of NDFs for perennial plant species to the CITES Secretariat / CITES Virtual College (e.g., the guidance on making an NDF for *Nardostachys jatamansi* in Bhutan[[2]](#footnote-2);
2. In some cases, additional sources and frameworks may be helpful to Parties to evaluate whether harvest will be sustainable/non-detrimental if the relevant information is available. For perennial plants, these include:
* Certifications of sustainable wild harvest of CITES Appendix II listed species (e.g., the FairWild Standard[[3]](#footnote-3)); a case study is available for *Nordostochys jatamansi* in Nepal[[4]](#footnote-4);
* Frameworks that rely on more detailed and harvested-population-relevant information (e.g., the United Plant Savers (UPS) “Species at risk” decision tool[[5]](#footnote-5) and a framework for evaluating sustainable wild collection of orchid species[[6]](#footnote-6)).

**Recommendations in relation to the 9-Step NDF guidance for perennial plants:**

1. Encourage Parties to use the current (version 3.0) NDF Guidance for Perennial Plants to assist in gathering, documenting, and evaluating appropriate and available data to support NDFs for perennial plants. Increased familiarity with applying the 9 steps will likely reduce the perceived complexity;
2. Encourage improvement of the 9-Step NDF Guidance for Perennial Plants (e.g., draft version 4.0) based on generic guidance recommendations, following discussion during the upcoming International Expert Workshop on CITES Non-detriment Findings (Nairobi, December 2023);
	1. **Low data availability and quality / low-capacity situations**

WG 10 members expressed a need for guidance on conducting NDFs in low data, low data quality, and low-capacity situations. General concerns that are expressed by users of current NDF guidance include advice on making NDFs when there are many “unknowns”, so that not all steps in available guidance can be followed when data are few or missing. This broader challenge is discussed in Module 1 in relation to Adaptive Management. Specifically, Module 1 identifies several areas that are important in NDF for perennial plants, such as the variety of approaches for acquiring additional data for NDFs, and examples of means Scientific Authorities might use to address limitations in capacity. In addition, Module 1 proposes new guidance for making NDFs conditional on provision of additional or better information (e.g., by the proponent or the Management Authority), and/or the implementation of remedial actions by the proponent.

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to Modules 1 and 2:**

1. Clarify that SAs are not expected (under the terms of the Convention) to commission or undertake fieldwork, but to base decision on best information available from the applicant, Management Authorities, and other available sources;
2. Guidance on making conditional NDFs may be helpful to SAs, particularly in low data quality situations.

**Recommendations in relation to the 9-Step NDF guidance for perennial plants:**

1. Guidance for SAs on evaluating level of confidence in information provided / available for making NDFs should be improved (e.g., in the worksheets and decision tree accompanying 9-Step NDF Guidance for Perennial Plants[[7]](#footnote-7);
	1. **Compliance with requirements of artificial propagation**

How to identify the CITES source code appropriate to individual export applications, and which source codes require an NDF, is among the issues identified as broadly related to NDFs. WG 1 (Generic NDF) discussed draft guidance associated with the proposed generic framework for making NDFs. The issues of particular concern to WG 10 concern a) clarification of the need for NDFs for “founder stock” supporting nursery production of CITES-listed species; and b) updated guidance on the application of the new source code Y for “plants obtained through assisted production” for plant specimens that, *inter alia*, “do not fulfil the definition of “artificially propagated” [[8]](#footnote-8).

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to Modules 1 and 2:**

* 1. Guidance on artificial propagation produced since the publication of current 9-Step guidance on NDFs for perennial plants (version 3.0) include Resolution Conf. 11.11 (Rev CoP 18) on regulation of trade in trade in plants related to artificial propagations, which notably adopts and defines the new source code Y. Parties are encouraged to consult preliminary guidance commissioned by the CITES Secretariat aims to clarify this and other source codes related to the artificial propagation of plants under CITES regulation[[9]](#footnote-9).

**Recommendations in relation to the 9-Step NDF guidance for perennial plants:**

* 1. Draft updated 9-Step guidance on NDFs for perennial plants (draft version 4.0) updates all references to Res. Conf. 11.11 (Rev. CoP18) and proposes new text related to source code Y. Parties are encouraged to review the proposed new draft guidance for Step 2 (Review Compliance with Requirements for Artificial Propagation) in the following text:

*CoP18 approved the use of source code Y for plants obtained through assisted production. These are plants which do not fulfill the definition of artificially propagated but are not considered to be wild as they have been planted or propagated with some level of human intervention. These plants still require an NDF. In applying the 9 Steps to plants or specimens assigned with source code Y these should not be treated as artificially propagated but considered to be wild at this step to ensure that a full NDF is undertaken and no shortcut to Step 9 should be taken here.*

* 1. **Evaluating biological risks of wild harvest**

In an annex to its final report to the first International Expert Workshop on Non-Detriment Findings (Cancun, 2008), the Perennial Plants Working Group proposed a set of nine biological characteristics “indicative of resilience or vulnerability of [a] particular species to collection” derived from numerous sources[[10]](#footnote-10). Subsequent evaluation and discussion refined this list to the seven “biological factors related to risk” included in Step 5 (Evaluate potential biological risks of wild harvest) of the 9-Step NDF Guidance for Perennial Plants (Version 3.0).

A gap in this guidance identified by WG 10 is elaboration of Factor 1: “Plant part harvested versus life form of species” beyond the brief example indicators provided for low-, medium-, and high-risk combinations of plant part and life form.

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to the 9-Step NDF guidance for perennial plants:**

1. A draft matrix (Figure 1) elaborating how to evaluate Factor 1: “Plant part harvested versus life form of species” may be helpful if inserted into Step 5 of draft version 4.0 of 9-Steps guidance for perennial plants.



Figure 1: draft matrix how to evaluate plant part harvested versus life form of species.

* 1. **Evaluating harvest impacts**

WG 10 identified a need for more detailed guidance on evaluating harvest impacts in making NDFs for perennial plants. New draft NDF guidance for CITES-listed timber species[[11]](#footnote-11) defines parameters most relevant to evaluating timber harvest impacts and includes these in factors to consider in Step 6 of that guidance.

Results of a project supported by the German Federal Agency for Nature Conservation (BfN) to produce guidance for inventories for CITES-listed species may be available by December 2023 and could support development of more detailed guidance on evaluating harvest impacts for perennial plants.

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to Modules 1 and 2 and in relation to the 9-Steps NDF guidance on perennial plants:**

1. Additional, more detailed guidance on evaluating methods used to determine harvest impacts for perennial plants in draft, updated guidance (version 4.0) may be usefully informed by the example provided new draft guidance for timber / tree species and new resource inventory guidance forthcoming from BfN.
	1. **Harvest management effectiveness**

Some members of WG 10 find the earlier IUCN NDF guidance[[12]](#footnote-12) helpful in providing a visual summary (spider / radar plot) of the SA’s evaluation of available information as a basis for making NDFs and identified this option as a gap in the documentation worksheets provided for the current 9-Step NDF guidance for perennial plants.

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to the 9-Step NDF guidance for perennial plants:**

1. A new worksheet could be provided for the updated version (4.0) of 9-Step NDF Guidance for Perennial Plants, adapting the IUCN guidance spider/radar plot to visually compare the outcomes of Steps 4-7 (conservation concerns, potential biological risk, harvest impacts, trade impacts) with the outcome of Step 8 (effectiveness of management measures).

Figure 2 (and an MS Excel document accompanying this Module[[13]](#footnote-13)) show how a spider / radar plot might compare risk and impact of wild collection with existing management of a hypothetical species.

Figure 2. Comparison of evaluation of risks of detrimental harvest (Steps 4-7) to evaluation of management rigour (Step 8) for a hypothetical species. In this hypothetical example, key risks are illegal trade and risks to the national population that are not addressed by the management in place.

* 1. **Conclusion: making and reporting an NDF**

WG 10 identified the limited accessibility and user-friendliness of the documentation worksheets provided for the current version of 9-Step NDF Guidance for Perennial Plants as a barrier to their greater use by Parties in reporting NDFs.

*The Workstream on Perennial Plants made the following recommendations to be discussed at the NDF workshop:*

**Recommendations in relation to the 9-Step NDF guidance for perennial plants:**

1. The accessibility and utility of 9-step worksheets in documenting the basis for and outcome of NDFs for perennial plants may be improved, particularly to accompany an updated version (draft 4.0) of this guidance by:
* Providing clear links in the guidance document to the location of worksheets on an easily-accessed website (e.g., the CITES Virtual College);
* Improving guidance in the worksheets associated with, for example, guidance concerning evaluating data quality (Recommendation 2.2b) and visual representation of evaluation outcomes (Recommendation 2.4a);
* Encouraging Parties to both consult and submit case studies demonstrating the use of 9-Step NDF Guidance for Perennial Plants (e.g., via the CITES Virtual College).
1. CITES NDF workshop Cancun 2010: <https://cites.org/eng/virtual-college/outcomes-international-ndf-workshop-mexico-2008> [↑](#footnote-ref-1)
2. Gyeltshen N., Bidha N., Dorji T., Peldon S., 2022. Non-Detrimental findings report for *Nardostachys grandiflora* in Bhutan Himalaya, Nature Conservation Division and Social Forestry & Extension Division, Department of Forests and Park Services, Ministry of Agriculture & Forests, Thimphu, Bhutan. Available online from: <https://cites.org/sites/default/files/ndf_material/NDF%20Report%20ready%20for%20submission.pdf> [↑](#footnote-ref-2)
3. See CoP 18 Inf. 36, Voluntary Certification Standards and the Implementation of CITES for Trade in Medicinal and Aromatic Plant Species: <https://cites.org/sites/default/files/eng/cop/18/inf/E-CoP18-Inf-036.pdf>. [↑](#footnote-ref-3)
4. Government of Nepal (2018). Environmental impact assessment (EIA) of sustainable harvesting plan of Jatamasi (sic) in Humla District. District Forest Office, Humla, July 2018. Available online from: <https://cites.org/sites/default/files/eng/com/sc/74/E-SC74-30-01-A5d.pdf>. [↑](#footnote-ref-4)
5. UPS Species at Risk Decision Tool: <https://unitedplantsavers.org/species-at-risk-assessment-tool/> [↑](#footnote-ref-5)
6. Ticktin, T, Charitonidou, M., Douglas, J., Halley, J.M., Hernández-Apolinar, M., Liu, H., Mondragón, D., Pérez-García, E.A., Tremblay, R.L. and Phelps, J. (2023). Wild orchids: a framework for identifying and improving sustainable harvest. Review. Biological Conservation 277 (2023): 109816. Available online. [↑](#footnote-ref-6)
7. 9-step worksheets: <https://cites.org/eng/node/129711>; decision trees: <https://decisiontree.9steps-cites-ndf.org/cites-non-detriment-findings-for-perennial-plants/new/> [↑](#footnote-ref-7)
8. CITES (2019). Regulation of trade in plants. Conf. 11.11 (Rev. CoP18). Accessed from: <https://cites.org/sites/default/files/document/E-Res-11-11-R18_0.pdf> [↑](#footnote-ref-8)
9. CITES (2021). Preliminary guidance on terms related to the artificial propagation of CITES regulated plants. UNEP-WCMC, Cambridge. Accessible from: https://cites.org/sites/default/files/eng/prog/captive\_breeding/Art\_Prop\_Guidance\_Feb2022.pdf [↑](#footnote-ref-9)
10. Including Rosser, A.R. and Haywood, M.J. (Compilers). (2002). *Guidance For CITES Scientific Authorities: Checklist to assist in making non-detriment findings for Appendix II exports*. IUCN, Gland, Switzerland and Cambridge, UK. xi + 146pp. [↑](#footnote-ref-10)
11. Wolf, D., Oldfield, T.E.E. & McGough, N. (2023). CITES Non-detriment Findings for Timber: a nine-step process to support CITES Scientific Authorities making science-based non-detriment findings (NDFs) for timber / tree species listed in CITES Appendix II. Draft version 4.0. Bundesamt für Naturschutz (BfN). [↑](#footnote-ref-11)
12. Rosser and Haywood 2002 – see footnote 11. [↑](#footnote-ref-12)
13. The accompanying MS Excel file “Step 8 Radar plot\_hypothetical sp\_26062023” shows 2 views (single layer and overlay) of a spider / radar plot for NDF Guidance for Perennial Plants outcomes of steps 4-8. This file can be adapted to show results for specific NDF evaluations of available information. [↑](#footnote-ref-13)