MODULE 11: NDFs FOR PERENNIAL PLANTS

Contents

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"). It is complimentary to **module 1** and **module 2**. The 9-step NDF guidance for perennial plants (**1**) has been shown to be fully compatible with the requirements of **module 2** should Parties wish to follow this approach. The 9-step guidance (**1**) provides a framework for determining whether a detailed NDF is needed, evaluating conservation concern and biological risk in the context of harvest and trade, and evaluating the impacts of trade and the efficacy of the management measures in place to mitigate concerns. It is considered to be comprehensive, straightforward to follow and is already in wide use. Worksheets in an MS Excel spreadsheet are available to assist with the determination of an NDF based on low/medium or high risk factors. New features include an online training course that can be found on a dedicated 9-Step website. The worksheets that accompany the guidance have been further developed into an online decision tree, which provides an online 9-step NDF format.

The present module provides complementary guidance on selected aspects of **modules 1** and **2** of particular relevance for perennial plants.

1. Broad challenges for making NDFs using existing guidance

1.1. Complexity of frameworks and data required for making science-based NDFs

The broad challenges in undertaking NDFs are addressed in **modules 1** and **2**. **Module 1** highlights solutions for addressing common knowledge and data gaps in making NDFs, and **module 2** provides a generic framework that incorporates the main elements of making an NDF that are common to science-based NDF guidance frameworks. It also proposes a simplified assessment step, for which a template is provided in **module 13**.

With regard to applying the Simplified NDF Assessment template (**module 2 Table 2C**) to perennial plants, overall distribution, instead of the area of occupancy, appears more relevant to the making of simplified NDFs for plants. It is encouraged that Parties use and review the Simplified NDF Assessment for perennial plants presented in the following table. See **Table 11A**.

Table 11A. Specific guidance for completing a Simplified NDF Assessment for Perennial Plants

	Number of points			Score
Criteria	**1**	**2**	**3**	
Annual harvest level	• Number or volume of harvest is small in relation to abundance of the species • Harvest volume decreasing over time • Harvest infrequent with respect to the rate of replacement of harvested individuals • Population numbers and distribution stable or increasing	• Number or volume of harvest neither small nor large in relation to abundance of the species • Harvest volume stable or slowly increasing over time • Population numbers and distribution stable	• Harvest volume high in relation to information about abundance of species and part used • Harvest volume increasing quickly, or decreasing in response to limited resource availability • Long term, continuous harvest • Population numbers and distribution declining due to offtake OR • Unknown / Data insufficient	
Distribution	• Distribution is widespread, commonly occurring through the country (likely in several countries)	• Distribution is restricted to a relatively small part of the country (and likely to few countries)	• Distribution is locally restricted, i.e. endemic, found in only one or few localities OR • Unknown / Data insufficient	
Life-history	• Species is fast growing, reproduces early and/or easily re-sprouting after harvest • Species reproduces asexually or is wind pollinated; many viable seeds with abiotic dispersal; long-lived seed bank	• Growth rate medium and partly re-sprouting after harvest • Species reproduces asexually or is wind pollinated; many viable seeds with abiotic dispersal; long-lived seed bank	• Species is slow growing, late to reproduce and/or not re-sprouting • 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 OR • Unknown / Data insufficient	

Criteria	Number of points			Score
	1	2	3	
Illegal trade	If levels of illegal trade are implied by reference to seizure data, they should be included under "Annual harvest level". If levels are unknown, but known to be occurring, give a **maximum score of 1 point.** Indicators for low concern (i.e. score = 0): • 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 Indicators for concern (i.e. score = 1): • Poor documentation of legal domestic and international trade • Trade chain difficult to track or intransparent • Concern about substitution for a look-alike species • Concern whether estimated harvest volume is approximately equal to legal domestic and reported export trade • Documented illegal trade • Quantities legally exported are significantly smaller than quantities reported by importing countries			
Threat status (IUCN Red List, national or other status assessment)	**If the status of the species is** listed as VU, EN, or CR in the IUCN Red List Of Threatened Species, or in national lists and other status assessments, or where species status has not been assessed or are data deficient (DD) give a **maximum score of 1 point**			
Final score and justification	A Simplified Assessment score of lower than five (5) = **trade is non-detrimental** (record the score and justification in the worksheet provided). If the Simplified Assessment score is equal to or greater than five (5) then the non-detriment requirement cannot be satisfied, warranting additional information based on other indices to evaluate detriment. **A more comprehensive NDF should be undertaken.**			

1.2. Low data availability and quality / low-capacity situations

General concerns in conducting NDFs in low data, low data quality, and low-capacity situations have been reported by users of pre-existing NDF guidance frameworks. This includes the need for guidance in cases when there are many "unknowns", so that not all steps in available guidance can be completed. This broader challenge is discussed in **module 1** in relation to Adaptive Management. Specifically, **module 1** identifies several areas that are important in carrying out NDFs for perennial plants, such as the variety of approaches for acquiring additional data for NDFs, and examples of the solutions that Scientific Authorities might use to address limitations in capacity. In addition, **module 2** proposes new guidance for making NDFs conditional on the 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.

NDFs should be based on best available data, and include data from field work (which does not necessarily need to be conducted by Scientific Authorities), information available from the proponent, Management Authorities, scientific expertise, local rangers and other data sources if available.

1.3. Regarding requirements for artificial propagation

How to identify the CITES source code appropriate to individual export applications, and which source codes require an NDF, is broadly related to NDFs. **Module 2** presents a generic framework for making NDFs, with **section 4.7** stating that plants from artificial propagation (source code A) require that an NDF is made for the acquisition of the founder stock harvested from the wild for production. **Section 4.7** also provides guidance on the NDF requirements for "plants obtained through assisted production" (Source code Y) e.g., for plant specimens that, *inter alia*, "do not fulfil the definition of "artificially propagated".

Guidance on artificial propagation include Res. Conf. 11.11 (Rev CoP18) on *Regulation of trade in plants*, which notably adopts and defines source code Y. Parties are encouraged to consult the Preliminary Guidance on *Terms related to the artificial propagation of CITES regulated plants*. In accordance with Decisions 19.182 & 19.183, the Preliminary guidance is under revision and will be submitted for approval by the Plants Committee as a working tool on matters related to NDF requirements for artificially propagated plants. Parties are invited to use and review the Preliminary guidance and other sources related to the artificial propagation of plants under CITES regulation, and provide feedback to the Plants Committee.

Parties are also encouraged to consult **Table 11B** on source code W, Y and A, and to publish any NDF case studies related to source code Y in the CITES NDF section of the CITES NDF database.

Table 11B. Considerations for undertaking plant NDFs under source code W and Y. The steps listed relate to the 9-Steps Guidance on Perennial Plants.

Criteria	Wild (Source W)	Assisted Production (Source Y)	Module 2 (section)	9-Step for perennial plants (step)	Comments
Identification & taxonomy	Same	Same	**4.1.**	**1**	
Art. Prop. regulations	W needs NDF	Y needs NDF	**4.7.**	**2**	
Exclusions/ previous NDF	National laws for W	Possible difference in national legislation for Y?	**4.11.**	**3**	Will vary from country to country.
Conservation concern	Same	Same	**6.2.3.**	**4**	
Intrinsic biological risk	Same	Same	**6.1.1.**	**5**	
Harvest impact on individual plant	Same	Same	**6.4**	**6.1**	
Harvest impact on target population	Target population is wild in natural habitat	Target population is cultivated in cultivated or natural habitat	**6.4**	**6.2**	
Harvest impact on national population	National population is wild in natural habitat	National population is wild in cultivated or natural habitat	**6.4**	**6.3**	
Trade impact - Legal	Same	Likely to be the same	**6.4.5.**	**7.1**	In many cases the "Y" populations are within the natural distribution of the species.

Criteria	Wild (Source W)	Assisted Production (Source Y)	Module 2 (section)	9-Step for perennial plants (step)	Comments
Trade impact - Illegal	Impact of illegal wild trade	Impact of illegal wild trade	**6.4.5.**	**7.2**	
Management in place for target species	Management for W	Management for Y	**6.4.7.**	**8.1**	See footnote [1] for observations from Mexico.
Management measures mitigate risk	W mitigation	Y mitigation	**6.4.7.**	**8. 2**	
NDF & Decision	Sustainable utilisation rate tailored to W	Sustainable utilisation rate tailored to Y	**6.4.9.**	**9.0**	

1.4. Evaluating biological risks of wild harvest

Figure 11A provides decision trees and a look up table to improve guidance on identifying risks to individual harvested plants and risks to harvested plant populations.

[1] In Mexico, it was observed that for key timber species in natural forests, reforestation activities were carried out in harvesting areas with the intention of promoting the conservation and permanence of the species in their natural environment. However, this activity was only carried out with collected seeds from the same place, planted in their natural distribution area, in areas where the species was not successful in natural regeneration. The timber species are not planted in an orderly manner as in plantations, maintaining a distribution similar to that of natural forests and protection measures are applied. Management that favors the growth of said planted seeds such as thinning, irrigation and pest control are applied, but only in the first stages. Once the plants pass the stage of greatest mortality, intervention measures cease and the plants are allowed to develop in the wild without further human intervention, and specimen deriving from the two different management schemes can no longer be distinguished. For these reasons, Mexico concluded that making NDFs specific to source code Y was not substantially differing from NDFs for source code W in such cases.

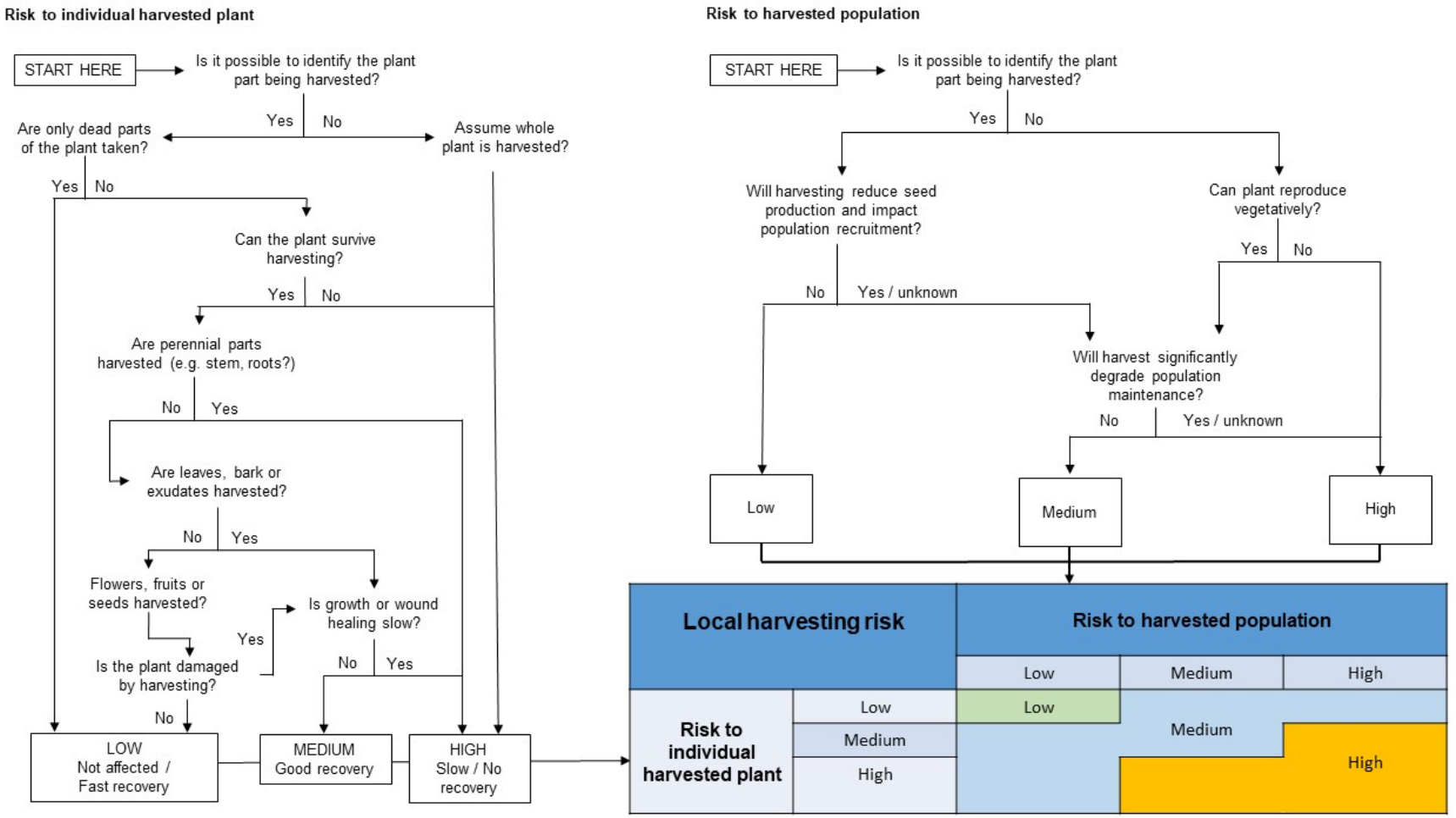

Figure 11A. Decision trees and look up table to improve guidance in identifying risk to individual harvested plant and risk to harvested plant populations (2).

1.5. Evaluating harvest impacts

On evaluating harvest impacts in making NDFs for perennial plants, **module 2** provides general guidance for evaluating risk and impact of harvest. The NDF guidance for CITES-listed timber species (also see **module 10** on NDFs for tree species) also defines parameters most relevant to evaluating tree harvest impacts and includes these in factors to consider in Step 6 of that guidance.

1.6. Harvest management effectiveness

The IUCN NDF guidance provides a helpful visual summary (spider / radar plot) of the Scientific Authority's evaluation of available information, which can guide the evaluation of harvest management effectiveness.

Figure 11B illustrates how a spider / radar plot might compare risk and impact of wild collection with existing management of a hypothetical species (see an MS Excel document here).

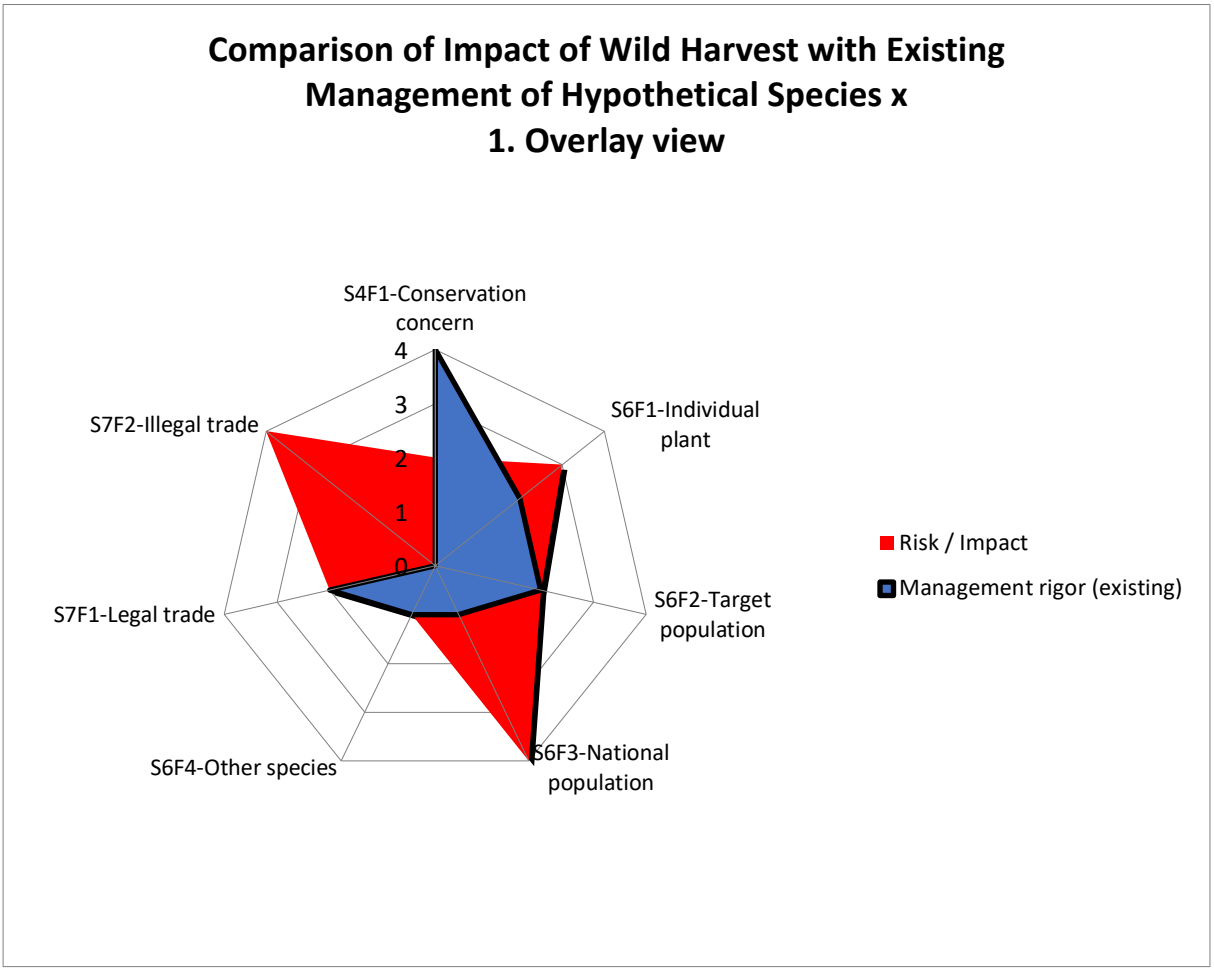

Figure 11B. Comparison of evaluation of risks of detrimental harvest (Steps 4-7) to evaluation of management rigour (Step 8 of the 9-Step NDF guidance for Perennial Plants) for a hypothetical species. In this hypothetical example, key risks are illegal trade and risks to the national population that are not addressed by the management in place.

2. Module 11 references

1. Wolf, D., Oldfield, T.E., Schippmann, U., McGough, N. and Leaman, D.J., 2016. 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. Bundesamt für Naturschutz. Bonn, Germany. 71 pp. Available at: https://static1.squarespace.com/static/5f31306336006c736780d6b3/t/60abe5fa59865a022877f0eb/1621878280184/perennial-plants-9steps.pdf

2. Jenny Wong, Christoph Kleinn, Lutz Fehrmann, Nils Nölke (in preparation): Resource inventories of CITES-listed plant species - A guidance for the design and the review of inventories to support sustainable harvesting and management.

Annex 1: Supporting information sources for formulating NDFs for Perennial Plant species

This list provides additional sources of information for formulating NDFs for Perennial Plant species

- Consider the studies on Agarwood by Malaysia and Indonesia and the on-going study on Agarwood by India;
- Consider the guidance on making an NDF for *Nardostachys grandiflora* in Bhutan;
- Consider the studies by Mexico about guidance on NDFs for plants.