

Threatened Species Programme & Scientific Authority

Recommendations for identifying sensitive species



- **What is a sensitive species?**
 - species where there is a risk that dissemination of detailed geographical information on wild populations (co-ordinates and locality descriptions) would expose them to harmful exploitation
- This risk is applicable to only a small subset of species, and we need to be able to identify these species to the best possible accuracy
 - to avoid over-listing and unnecessary withholding of occurrence data which may otherwise benefit conservation
 - but we must also not under-list and thus potentially put wild populations at risk
- We agree with the principle that sensitive designation should be evidence-based

Challenges with regards to compiling evidence that wild-sourced individuals of a species are utilized or traded

1. Utilization/trade of wild plants and animals is poorly regulated, and much of it is illegal, and therefore official statistics on trade is very often incomplete and/or an underestimate

From a recent paper attempting to quantify the trade in ornamental plants in southeast Asia:

“Conservation and environmental management often rely heavily on official statistics, but there are often concerns over accuracy and reliability, particularly true when dealing with sensitive issues such as illegal harvest and trade. A growing number of cases highlight commercial trades in wild flora and fauna that have been undocumented in official data.”

- Phelps, J. and Webb, E.L. 2015. "Invisible" wildlife trades: Southeast Asia's undocumented illegal trade in wild ornamental plants. *Biological Conservation* 186:296-305.

Challenges with regards to compiling evidence that wild-sourced individuals of a species are utilized or traded

2. Trade in wild plants and animals is volatile and unpredictable

From a report on international trade in wild orchids:

“Trends in orchid trade shift quickly, often before they can be identified; trade data lag about two years behind actual trade. Rapid trade shifts occur for exporting countries as well as for the kinds of species traded. Volatility of trade makes the conservationists’ job difficult because of their inability to predict trends that may affect conservation of species in the wild.”

– McMahan LR & Walter KS, *The International Orchid Trade* in Chandler WJ (ed.) *Audubon Wildlife Report* 1988/1989.

Challenges with regards to compiling evidence that wild-sourced individuals of a species are utilized or traded

3. It is extremely difficult to prove that plants or animals in trade are of wild origin:
 - wild-sourced plants and animals are marketed/advertised as cultivated or captive bred to escape law enforcement
 - cycads in private collections
 - rhino horn sold as “historical artefacts” - [CITES report on wildlife trade on the internet](#)
 - only sources of reliable data that plants and animals in trade are sourced from the wild are:
 - intensive monitoring of wild populations – done for a few high-profile species
 - when people are caught in the act of illegally collecting plants and animals from the wild
 - dwindling resources for monitoring and law enforcement means that these data are also significant underestimates of the scale of exploitation of wild species

What do we know for sure?

- Rarity drives desirability – the “*Anthropogenic Allee Effect*” – see Courchamp et al. 2006. *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12):e415.
- Rare species are the most vulnerable to exploitation
- Rarity and Red List status are related, but not directly correlated

In the context of much uncertainty and a lack of quantitative data on exploitation there is a need for a pragmatic approach to collecting evidence for species sensitivity

- we need to find relevant, reliable indicators of species sensitivity that can be assessed in a way that is practical and based on information that is available for most species

CITES's approach to evidence: Non-detriment Findings (NDFs)

1. Biological characteristics indicating vulnerability to exploitation

| Biological characteristics | | |
|--|--|---|
| 1. Life form: What is the life form of the species? | Annual | |
| | Biennial | |
| | Perennials (herbs) | |
| | Shrub and small trees (max. 12m.) | X |
| | Trees | |
| 2. Regeneration potential: What is the regenerative potential of the species concerned? | Fast vegetatively | |
| | Slow vegetatively | |
| | Fast from seeds | |
| | Slow or irregular from seeds or spores | X |
| | Uncertain | |
| The cycad life history is characterized by long-lived adults that regenerate predominantly from seed. Plants do produce suckers, but they are relatively unimportant for the regeneration of cycad populations, with 95% of species regenerating from seed only. Suckers remaining behind after the main plant has been harvested do sometimes survive. | | |
| 3. Dispersal efficiency: How efficient is the species' dispersal mechanism? | Very good | |
| | Good | |
| | Medium | |
| | Poor | X |
| | Uncertain | |
| The dispersal abilities of cycads are not well understood but are generally regarded as poor. Even if seed were dispersed to new sites, the concomitant dispersal of species-specific pollinators would be highly unlikely thus rendering population recovery after local extirpation impossible. Colonization of new sites is improbable due to a number of reproductive limitations, such as limited seed production or non-viable seeds, irregular coning and male biases in populations. There has been no observed change / expansion in the distribution of any cycad species. | | |
| 4. Habitat: What is the habitat preference of the species? | Disturbed open | |
| | Undisturbed open | X |
| | Pioneer | |
| | Disturbed forest | |

CITES's approach to evidence: Non-detriment Findings (NDFs)

2. The status of wild populations

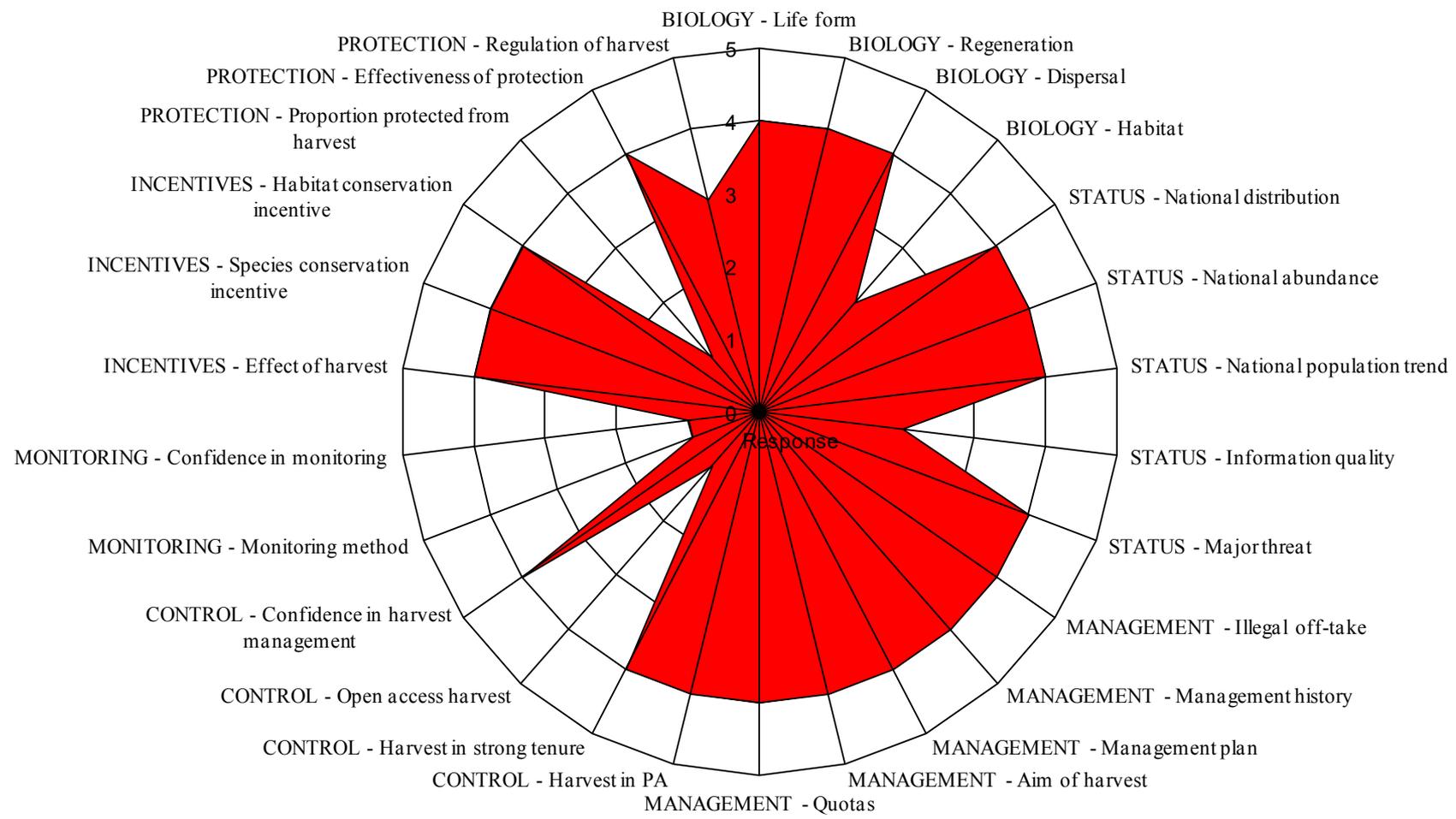
| | | |
|---|-----------------------------------|---|
| National status | | |
| 5. National distribution: How is the species distributed nationally? | Widespread, contiguous in country | |
| | Widespread, fragmented in country | |
| | Restricted and fragmented | |
| | Localized | X |
| | Uncertain | |
| Encephalartos msinganus occurs in a small area in the Msinga district of KwaZulu-Natal. | | |
| 6. National abundance: What is the abundance nationally? | Very abundant | |
| | Common | |
| | Uncommon | |
| | Rare | X |
| | Uncertain | |
| Very few individuals of <i>E. msinganus</i> survive in the wild. Only six adult plants were successfully located during a ground survey in 2011. <i>Encephalartos msinganus</i> is currently listed in the IUCN Red List category of Critically Endangered (B1ab(iii,v)+2ab(iii,v);C1+2a(ii) (IUCN version 3.1)). | | |
| 7. National population trend: What is the recent national population trend? | Increasing | |
| | Stable | |
| | Reduced, but stable | |
| | Reduced and still decreasing | X |
| | Uncertain | |
| It is estimated that between 100 and 200 <i>E. msinganus</i> plants used to occur in the wild, but by 2008 poaching had reduced the population to a small number of scattered individuals. Field visits in 2011 confirmed that the few remaining plants are still targeted by poachers. (A recently removed adult and a few juveniles all with badly damaged roots were found at a house nearby the wild population.) | | |
| 8. Quality of information: What type of information is available to describe abundance and trend in the national population? | Quantitative data, recent | |
| | Good local knowledge | X |
| | Quantitative data, outdated | |

CITES's approach to evidence: Non-detriment Findings (NDFs)

3. Is utilization sustainably managed or not?

| | | |
|--|---|---|
| Harvest management | | |
| 10. Illegal off-take or trade: How significant is the national problem of illegal or unmanaged off-take or trade? | None | |
| | Small | |
| | Medium | |
| | Large | X |
| | Uncertain | |
| Poaching of wild plants to supply the horticultural trade and private collections has resulted in the near extinction of <i>E. msinganus</i> . Only six adults were successfully located during a ground survey at one site in 2011, while a number of adults were found at houses and at a school nearby. The chief of the communal area near a second site confirmed that all the cycads had been removed from the area. | | |
| 11. Management history: What is the history of harvest? | Managed harvest: ongoing with adaptive framework | |
| | Managed harvest: ongoing but informal | |
| | Managed harvest: new | |
| | Unmanaged harvest: ongoing or new | X |
| | Uncertain | |
| Illegal harvesting of wild cycads has been occurring in South Africa for the past 40 years, becoming more prevalent from the 1990s onwards in spite of various legislative interventions. Since the 1970s all cycad species have been protected in provincial nature conservation ordinances, with the harvest of any plants or seed requiring a permit (in addition to other activities such as possessing, conveying, selling, etc.). Apart from a permit issued to collect seed for research purposes in 2005, reportedly no permits have been issued for the wild harvest of <i>E. msinganus</i> plants or seed. Some ex situ plants may have been sourced from the wild as the Msinga form of <i>E. natalensis</i> prior to the enactment of provincial legislation. In February 2007 the harvest of cycads from the wild was prohibited nationally in terms of Regulation 25 of the Threatened or Protected Species Regulations, the prohibition subsequently reinforced by Government Notice 371 in May 2012. Poaching is nevertheless ongoing. | | |
| 12. Management plan or equivalent: Is there a management plan related to the harvest of the species? | Approved and co-ordinated local and national management plans | |
| | Approved national/state/provincial management plan(s) | |
| | Approved local management plan | |
| | No approved plan: informal unplanned management | X |
| | Uncertain | |
| 13. Aim of harvest regime in management planning: What is harvest aiming to achieve? | Generate conservation benefit | |
| | Population management/control | |
| | Maximize economic yield | |
| | Generate income for local community | X |

CITES's approach to evidence: Non-detriment Findings (NDFs)



TSP & Scientific Authority recommendations

- Destructive vs non-destructive utilization
- Regeneration potential of wild populations
- Assess impact of utilization relative to wild populations: Rare vs widespread species
- Status of wild populations – extreme caution with species with small wild populations or known from a few subpopulations or extremely small ranges
- Use what is available for trade/utilization data
- Fewer questions
- An assessment system with a clear outcome

Q1:
Are individuals of this species exploited, collected, traded or utilized?

Yes

Q2a:
Does exploitation or collection result in death or permanent removal of individuals of this species from the wild?

No

Species is not sensitive

Yes

Q3a:
Which types of individuals are killed or removed?

Select one or more: ≤
Immature individuals (seeds, eggs, larvae etc.)
≤
Mature (breeding) individuals

Q4a^b:
Regeneration potential: What is the potential for populations of this species to recover from collection or exploitation? Please provide evidence for your answer.

≤ Good – wild populations are large and this species has a fast population growth rate
≤ Good – utilisation of this species is sustainably managed

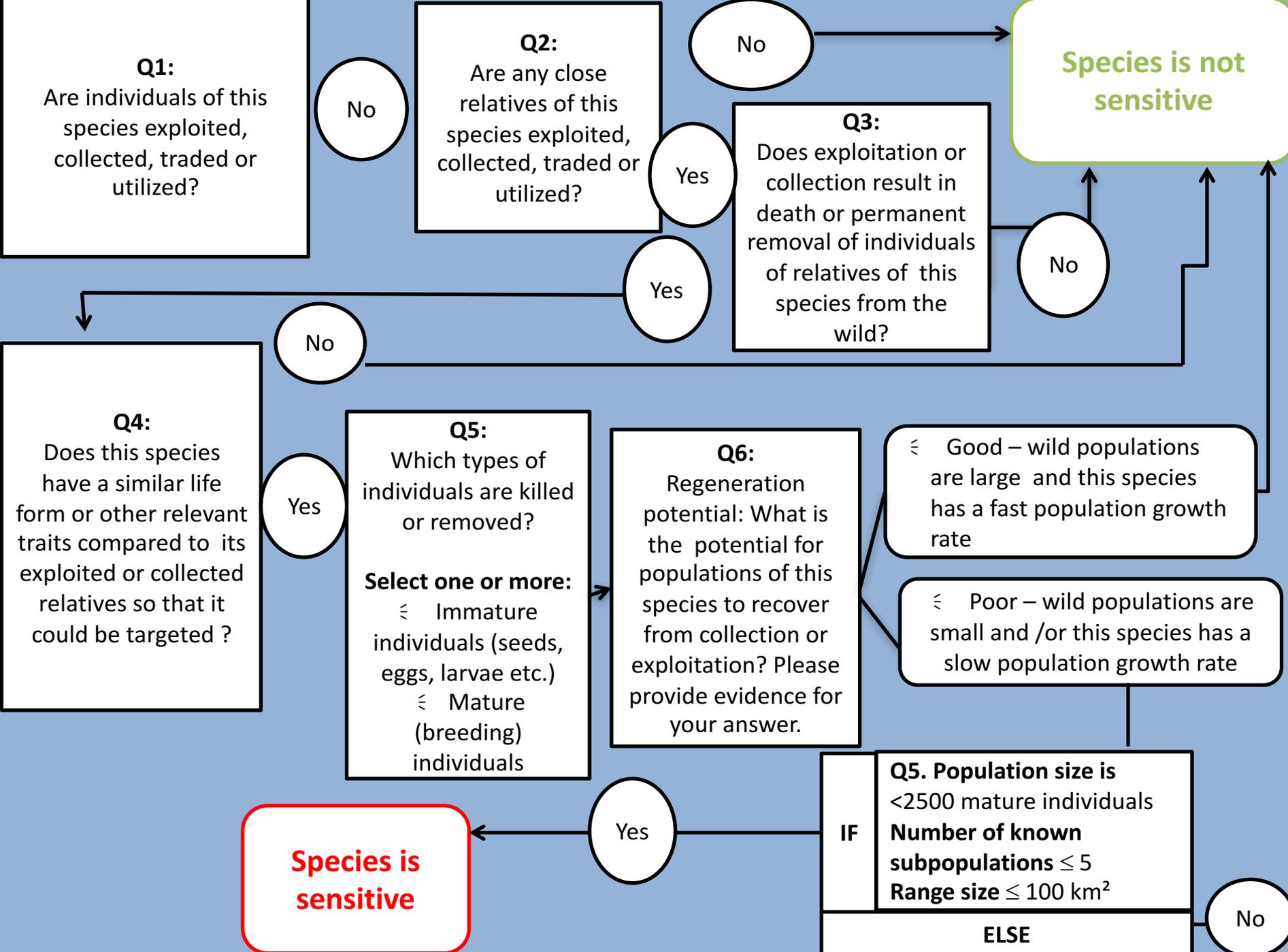
≤ Poor – wild populations are small and /or this species has a slow population growth rate

Species is sensitive

IF
Q5. Population size is <2500 mature individuals
Number of known subpopulations ≤ 5
Range size ≤ 100 km²
ELSE

Q6a. utilization is localized and/or affects only a small proportion of the wild population

Q6a. Utilization is widespread, affects the majority of wild populations and/or is causing rapid decline of the wild population



Q1:
Are individuals of this species exploited, collected, traded or utilized?

No

Q2:
Are any close relatives of this species exploited, collected, traded or utilized?

Yes

No

Q3:
Does exploitation or collection result in death or permanent removal of individuals of relatives of this species from the wild?

Species is not sensitive

No

Yes

No

Q4:
Does this species have a similar life form or other relevant traits compared to its exploited or collected relatives so that it could be targeted ?

Yes

Q5:
Which types of individuals are killed or removed?
Select one or more:
⊆ Immature individuals (seeds, eggs, larvae etc.)
⊆ Mature (breeding) individuals

Q6:
Regeneration potential: What is the potential for populations of this species to recover from collection or exploitation? Please provide evidence for your answer.

⊆ Good – wild populations are large and this species has a fast population growth rate

⊆ Poor – wild populations are small and /or this species has a slow population growth rate

Species is sensitive

Yes

Q5. Population size is <2500 mature individuals
IF Number of known subpopulations ≤ 5
Range size ≤ 100 km²
ELSE

No