



Global Strategy for Plant Conservation

TARGET 7. “60 per cent of the world’s threatened species conserved *in situ*.”

Achieving Target 7 and monitoring progress towards it raise a number of issues, some of which are also important to other targets within the GSPC. Preliminary consultation with a limited number of stakeholders has been used to help define these issues and identify some candidate solutions to them. These are presented in the following paragraphs. Wider discussion is now needed to refine the thinking on both the issues and the solutions and to identify clear next steps. Comments are therefore welcome.

1) Identifying and prioritising threatened plant species

Progress on this aspect of Target 7 is intimately connected with the achievement of Target 2 (assessment of the conservation status of all plants), and the considerations under discussion with respect to Target 2 apply here.

Firstly, evaluating the threat status of all plants is an enormous task, which also depends upon the achievement of Target 1 (a listing of all known plant species). Because of the size of the task, evaluation of species conservation status will need to be targeted first at groups of priority species. Proposals for high priority groups, adapted from *International Agenda for Botanic Gardens in Conservation* (2000) include:

- a) Species or taxa that are known to be in immediate danger of extinction, either locally, nationally or globally.
- b) Species or taxa that are of local economic importance, such as minor food crops, medicinal plants and wild or cultivated plants providing the basis of local industries, agriculture, horticulture and crafts.
- c) Local 'flagship' species or subspecies that will stimulate conservation awareness and can be incorporated into education and fund raising programmes.
- d) Local ecotypes that may be important for ensuring conservation of full genetic variation within species
- e) Species or taxa that are of special scientific interest, such as narrow endemics or geographical relics.

From within these priorities, some subsets may be more appropriate for assessment and implementation of *in situ* conservation by countries in order to ensure rapid progress. Countries should begin assessment and action on species known to be at high and immediate risk of extinction at the global scale. Current resources for identifying these include Gillett and Walters (1998) and Hilton-Taylor (2000). A second priority would be national endemics

and other taxa with restricted ranges. Within either of these categories, or more generally, those species strongly associated with specific habitat types are likely to prove more amenable both to assessment and to action. Assessment and action are also likely to be most feasible for taxa that are in demand as resources, either locally or for trade.

2) *Defining in situ conservation*

Some stakeholders have identified protected areas as the primary avenue for *in situ* conservation. However, there is evidence that many threatening processes do not stop in protected areas (Leigh et al cited in Worboys et al 2001). Other stakeholders have suggested that only species-specific management is grounds for considering plants conserved *in situ*, and that such management is very rare.

The definition provided by the Convention on Biological Diversity (Article 8) encompasses both these extremes. It includes protected areas and the design of protected areas systems, regulation and management of use and of threatening processes, species recovery strategies and legislation. Countries will need to decide what parts of this range of definition is most tractable and effective for both assessment and implementation of *in situ* conservation.

The use of protected areas as one measure raises the question of what types of protection are most important for *in situ* conservation. While many assessments to date have focused on more strictly protected areas, some stakeholders have suggested that multiple use reserves (*i.e.* IUCN management category VI) are very effective means for *in situ* conservation of species. Another consideration is whether inclusion within a protected area is adequate evidence of conservation *in situ*, or whether this depends on explicit recognition of the species' presence or other evidence of appropriate management.

Countries may also wish to consider evidence for *in situ* conservation outside protected areas. This might include:

- a) the occurrence of species within private reserves;
- b) the occurrence of species within areas subject to particular (e.g. certified) management regimes;
- c) the existence of legislation or regulatory controls or incentives applying to the species and its management, and
- d) the notification of landowners and managers about such controls.

3) *Assessing the in situ status of species and monitoring progress towards the target*

This will require that nations determine which species are already conserved *in situ*, bearing in mind the considerations of prioritisation and definition outlined above. For example, do protected area managers know which key species are in their protected areas, and conversely, do botanists know which protected areas key species are found in? Similarly, which threatened species are covered by national legislation in what portion of their range?

In addition, countries will need to decide 'how much' of a species should be affected by these kinds of conservation measures. Is one population in one protected area adequate *in situ* conservation? They may wish to express this in terms of the species distribution or of its global or national population. Considerations of genetic variability are also important here but are technically very challenging. It may be possible to use geographic distribution as a surrogate. In this case, countries will need to consider whether *in situ* conservation efforts are

distributed throughout the ranges of threatened national endemics. International evaluation will be necessary to address this issue for non-endemic species.

This kind of assessment will require an understanding of the distribution of individual threatened species and/or their population sizes, and of the processes that threaten them. In theory it should be possible to obtain this information directly from the threat assessment process. For example, international “Red Listing” currently requires the provision of distribution maps. However, the provision of these data for plants has proved problematic, and additional sources should be explored. These will include the growing number of geographical co-ordinates from herbarium labels provided on line. Other promising approaches include the assembly of distribution maps from taxonomic and floristic accounts in combination with habitat or land cover maps.

The threat assessment process should similarly provide information on population sizes and trends for threatened species. One measure of effective *in situ* conservation might be when populations are judged to be stable over an appropriate period of time.

The time frame of the conservation action is another important consideration in assessing *in situ* conservation of threatened species. Some evaluation of the durability of *in situ* conservation measures will be needed. Consideration also needs to be given to the probable impacts of global environmental change and their implications for the long-term *in situ* status of the species.

It will also be important for stakeholders to consider the appropriate scales for evaluation of progress towards this target. While action and a portion of the assessment will take place at national level, some overview and assessment of progress at international level may also be required. There are many potential contributors for such an international assessment

4) *Links to other targets*

In addition to the dependence of achieving this target on progress in achieving Target 2, several other targets are relevant to achievement of Target 7. In particular, to the extent that the presence of threatened and/or endemic species is part of the basis for defining important plant areas, then progress towards Target 5, is likely to yield some measure of progress towards target 7, and *vice versa*. Subtargets and monitoring for Target 5 may therefore provide a fruitful source of relevant information. Similarly, to the extent that the occurrence of particular threatened species can be linked with particular habitat types or regions, progress towards Target 4 will also be closely linked to Target 7. The same will be true for Target 6 in cases where important populations of threatened species occur within the production landscape. There is therefore some merit in considering these targets together when identifying milestones, subtargets and means of assessing progress.

5) *Milestones or subtargets*

These might include:

- (i) Determine which of the species that are currently considered threatened are conserved *in situ* and which are not
 - Determine which species that are currently considered threatened occur in protected areas of different management categories
 - Determine what fraction of protected areas have been inventoried floristically
 - Determine what fraction of protected areas have management plans that specifically mention threatened plant species occurring within them

- Determine which threatened species are the subjects of national legislation concerning land management
- (ii) Identify areas and habitats associated with threatened plant species and assess their degree of protection
- (iii) Establish new protected areas targeting protection of threatened plant species, where required
- (iv) Train protected areas managers to recognise threatened plant species and develop management actions to conserve them
- (v) Enact legislation governing land use and management in areas where threatened species occur – these can be directed either at the species or at associated habitat types.
- (vi) Train land owners and managers to recognise threatened plant species
- (vii) Provide incentives for land owners to take action to conserve threatened species

6) Next steps

This paper provides the basis for further discussion of the issues relevant to, and potential mechanisms for monitoring and achieving progress towards Target 7 of the Global Strategy for Plant Conservation. Comments and suggestions are welcome, as are suggestions of organisations that could help with the international assessment, action and monitoring needed.

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