
CONSERVATION ASSESSMENT AND MANAGEMENT PLAN -- C.A.M.P. -- WORKSHOPS ON MEDICINAL PLANTS IN JANUARY 1997

By the time this issue reaches readers, two CAMP Workshops for Medicinal Plants will have been held in the month of January 1997. Since 1995, CBSG, India has coordinated and facilitated four of these workshops, three of them held in a series with the Foundation for Revitalisation of Local Health Traditions, a conservation NGO working out of Bangalore with a mandate (at the present time) to coordinate the conservation and educational activities related to Southern India medicinal plants as organiser, host and sponsor.

FRLHT CAMP Workshops

In the three workshops, held in 1995, 1996 and 1997, a total of 36 + 44 + 53 medicinal plants of Southern India have been categorised according to the new IUCN Red List criteria by a group of expert field botanists. F.R.L.H.T. has produced a number of educational items about these plants and catalysed conservation projects to protect, preserve and conserve them. In the next issue of ZOOS' PRINT we will publish a Report on CAMP III for Selected Medicinal Plants of Southern India. In the next few years, FRLHT will continue categorising medicinal plants with a CAMP Workshop every six to nine months, taking up new plants every workshop but also perhaps reassessing those which were done previously if new information and field studies has become available.

The CAMP Workshops held with FRLHT have been regional and intensive with 53 the highest number of plants to be assessed in a single workshop. In the FRLHT CAMPs, about four working groups pore over the Taxon Data Sheets filled by colleagues with a fine toothed comb, with each working group checking information given by a previous one. These workshops generally last three days, with the last day being devoted in large part to reporting and also special issue working groups, such as field study methodology, industrial use, education, etc.

A new component was added to the last FRLHT CAMP in the form of personal commitments by participants, wherein attendees commit themselves to carrying out some activity to assist in the conservation of a species deemed needful of further field study, promotion, or some other activity in order to save it.

A list of the plants to be assessed in the January 1997 CAMP is given in a chart on the following page. Fifty-two are new plants which have not been assessed while one *Cleome burmanni* was ranked as Data deficient in CAMP II. A summary of previous workshop conclusions will accompany it.

In previous years Dr. U. S. Seal of the Conservation Breeding Specialist Group, SSC, IUCN facilitated the workshop, and in 1996 Dr. Michael Maunder, Head of the Conservation Unit of Royal Botanic Gardens, Kew led the workshop. In keeping with the CBSG policy of empowerment of all

regions to be able to use the conservation "tools" developed by it, the 1997 workshop will be conducted "in house" with trained and experienced facilitators from CBSG, India as well as participants of previous workshops from FRLHT and other botanists will run the workshops.

If all the species which need assessment and categorisation are to get it, then empowerment of the continental regions, nations, regions within nations and even smaller units must become able to organise and conduct their own workshops. CBSG, India has been working towards this goal for some years. In 1995, the Gharial PHVA was conducted entirely "in country". This year, experts from outside India were overcommitted and circumstance decided the time had come to launch the first "in country" CAMPs.

The 1997 Workshop will be held under the auspices of the Foundation for Revitalisation for Local Health Traditions, Conservation Breeding Specialist Group, India and the Medicinal Plants Specialist Group, SSC, IUCN.

BCPP CAMP workshops

The fourth CAMP workshop to be held in India will be under the auspices of the Biodiversity Conservation Prioritisation Project, WWF, India, CBSG, India and the Forest Department of Uttar Pradesh with assistance from several collaborators including the National Botanical Research Institute, Lucknow and Central Institute for Medicinal and Aromatic Plants, Lucknow as many other agencies, departments and institutes which are sending representatives for the CAMP.

This CAMP Workshop will be different from FRLHT's CAMPs in a variety of ways and for a variety of reasons.

The Endangered Species Prioritisation Component of the Biodiversity Conservation Prioritisation Project for India decided to use the new IUCN Red List Criteria applied with the help of the CAMP process to prioritise representative animal and plant groups of India. This decision could be taken on the basis of the written Reports of previous CAMP workshop conducted by FRLHT and CBSG, India. An overview of the BCPP ESPC is given elsewhere in this issue.

While we can think of attempting a first cut assessment of Indian mammals, reptiles, amphibians, and fresh water fish, some of the groups, plants being one (invertebrates another), are so speciose that a single CAMP could not possibly make a dent in their numbers. Since we had experience with medicinal plants from previous workshops and since FRLHT had taken up a programme to assess Southern India medicinal plants, and considering the importance and potential exploitation of medicinal plants we decided to use this group of plants as a model.

Red Data Book entry for Endangered Indian Plants

It rapidly emerged that the number of medicinal plants also is entirely too large to think of assessing in a single workshop. Covering perhaps seven of the important references for medicinal plants, we listed more than 4500. Some specialists say there are 7000 but there is some dispute whether these are "medicinal" as such or simply "ethnobotanical."

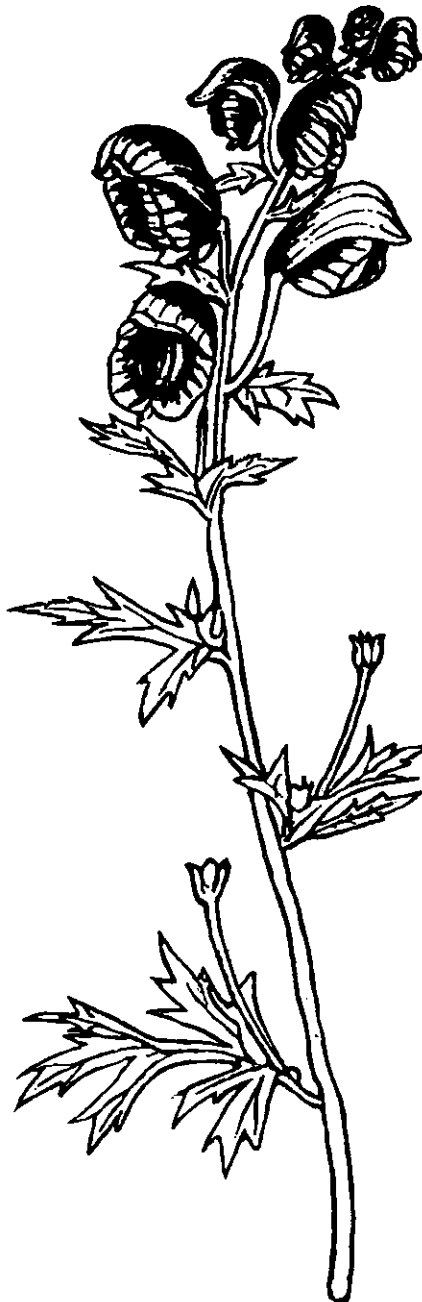
We have to further prioritise even before attempting an assessment and categorisation. Because we can't be absolutely sure who will surely attend the workshop until they are physically present, we have listed some options and strategies and will make the final decision on which groups of plants or which regions to cover by consensus at the workshop itself.

One possible option is to narrow the subject matter to Medicinal Plants of North and/or Northeast India (possibly endemic and in use). We have prepared a list of endemic species from several references. A listing of the most used species of medicinal plants by industry was prepared in 1979 by Dr. Kapoor and Mathur. This is currently being updated although it will not be available to us for use in the workshop.

In the workshop we will attempt to perfect a list of medicinal plants of all India. In the list we have compiled from several references there are a number of mistakes, e.g. plants that are not truly "medicinal", plants that do not occur in India, and misnomers. A special working group will be formed to work on this list in addition to the working groups to assess selected species.

We have taken great pains to inform all botanical and forest institutes which might have worked on medicinal plants and invite their field researchers to the workshop in order to have a Report which reflects a consensus of the botanical and wildlife community of India.

While many of our readers are familiar with the CAMP process, some material follows to update and inform others about this methodology for assessment and categorisation of species. In our international, national, regional and local efforts to save the species and habitats which make up the



Aconitum ferox Wall.ex Ser.

Status : Vulnerable due to excessive collection for medicinal use

Distribution : Himachal Pradesh to Sikkim.
Endemic

Habitat and Ecology: Temperate to alpine regions of Himalaya in alt. of 3300-5000 m.

Conservation Measures taken: None specifically for this species although some its habitats fall within some National parks in the region

Conservation Measures Proposed : Collection of this species from wild in bulk quantities should be banned. The species may be tried for cultivation in order to obtain plant material in sufficient quantities for commercial exploitation.

Biology and Potential Value: Fls. and Fts.: July - November. It is a rare, poisonous species, used for furing many disases and also used as arrow poison. The so called 'A. ferox' of Indian commerce or 'Indian Aconite', now available is a mixture of *A. deinorrhizum* and *A. balfourii*.

Cultivation : Not known in cultivation.

References:

1. Hooker, J. D. & Thomson, T. (1872). Fl.Brit.India 1:28.
2. Staf. O., (1904). Aconites of India -- A monograph, p. 169, t. 1109, figs. 1-16.

Material for this sheet supplied by H. J. Chowdhery, B.S.I., Dehra Dun.

Red Data Book of Indian Plants
Edited by M. P. Nayar and A.R.K. Sastry

Earth's biodiversity, perhaps the first and most basic step is simply to know *what kind, how many and where they are*. CAMP workshops represent a systematic attempt to answer those questions drawing upon the knowledge and attempting consensus of specialists.





CAMP III -- 53 Species of Medicinal Plants for F.R.L.H.T.'s 1997 Conservation Assessment and Management Plan Workshop



List of Plants for CAMP III

1. *Alpinia galanga*
2. *Amorphophallus commutatus*
3. *Aphanamixis polystachya*
4. *Artocarpus hirsutus*
5. *Baliospermum montanum*
6. *Calophyllum apetalum*
7. *Canarium strictum*
8. *Celastrus paniculata*
9. *Chonemorpha fragrans*
10. *Cinnamomum wightii*
11. *Cinnamomum sulphuratum*
12. *Cinnamomum macrocarpum*
13. *Curcuma pseudomontana*
14. *Curcuma zeodaria*
15. *Decalipis hamiltonii*
16. *Dendrobium ovatum*
17. *Diospyrus candollaena*
18. *Dipterocarpus indicus*
19. *Eleocarpus serratus*
20. *Embellia tsjeriam-cottam*
21. *Eulophia ramentacea*
22. *Garcinia gummigutta*
23. *Garcinia travancorica*
24. *Gymnema montanum*
25. *Gymnema khandalense*
26. *Helminthostachys zeylanicus*
27. *Heracleum candolleianum*
28. *Humboltia vahliana*
29. *Hydnocarpus laurifolia*
30. *Luffa umbellata*
31. *Madhuca longifolia*
32. *Madhuca malabarica*
33. *Michelia nilagirica*
34. *Myristica dactyloides*
35. *Persea macarantha*
36. *Pterospermum heyneanum*
37. *Pterospermum canescens*
38. *Raphidophora pertusa*
39. *Salacia oblonga*
40. *Salacia reticulata*
41. *Santalum album*
42. *Sapindus trifoliatus*
(= *S. emarginatus*)
43. *Semecarpus travancoricus*
44. *Shorea tumbuggaia*
45. *Smilax wightii*
46. *Smilax zeylanica*
47. *Spondias pinnata*
48. *Swertia lawii*
49. *Swertia corymbosa*
50. *Terminalia arjuna*
51. *Trichosanthes anamalaiensis*
52. *Trichosanthes cucumerina*
53. *Cleome burmanni*
(Data deficient - CAMP II)

Taxon Data Sheet entry for Medicinal Plant assessed in CAMP I

Species (& synonyms): *Ochreinauclea missionis* (Wallich. ex G. Don) Ridsdale

Taxonomic status: Species

Habit: Tree

Habitat: Evergreen and along stream side

Distribution: Kerala - Pathanamthitta; Karnataka - Dakshin Kannada, T.N. - Topslip

- Range- km² > 5,000

- Area occupied - km²

- Fragmentation (# subpopulations): Yes

Wild population

- % Decline: > 50%

- Time /Rate (Yrs or gens) In 10 years ; for scattered populations in Dakshin Kannada, Wyanad, Silent Valley, Anamalais. In 1989, 75 mature individuals recorded near Athirapally Medicinal Plants Conservation Areas of FRLHT *in situ* conservation programme

- # mature individuals

Data Quality (Key, Source, Dates): General field study (2)

Field Studies (Who & Dates, Ref.)

Threats (Key): Loss of habitat (L) and human interference (I)

Trade: Locally used

Other comments: ENDEMIC. Known in pockets. Population studies required. Bark for medicinal purposes. Leaves for feeding livestock; nutritive values being analysed. Propagation techniques being developed.

Status:

- IUCN (Revised): Vulnerable

- Criteria based on: Extent of occurrence

- CITES: Not listed

Recommendations:

- PHVA: Yes

- Research management: Population monitoring

- Cultivation Programme: Required

- Genetic management: Yes

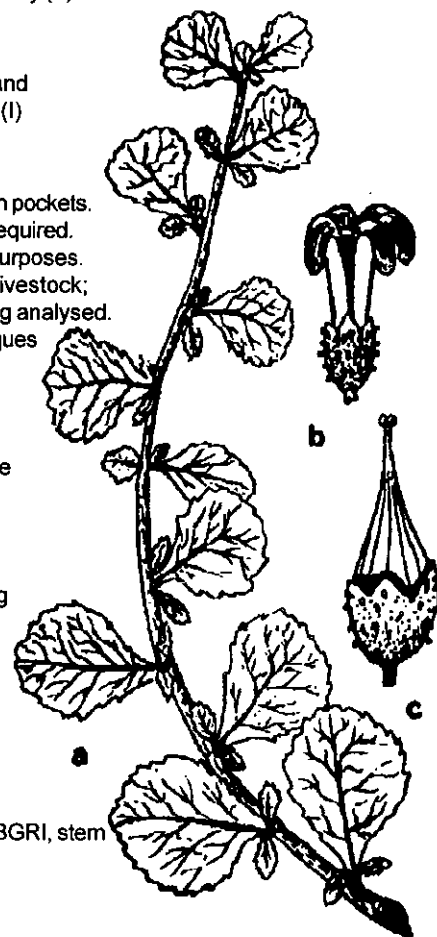
Cultivated Population (Current Status, Location and Difficulty)

- Botanic gardens

- Commercial / Domestic

- Herbaria (or seed banks)

- Research Institutes: Few individuals at TBGRI, stem cuttings established



The Biodiversity Conservation Prioritisation Project (BCPP) is an ambitious project which aims to help fulfill India's commitment to the Rio Convention to assess sites and species and develop strategies for conservation of biodiversity. This is a USAID sponsored Project initiated by WWF, World Resources Institute and The Nature Conservancy. (See Chart following page.)

An Endangered Species Prioritisation Working Group of the BCPP workshop held in May 1996 recognised the need to assess the status of all taxa in seven major groups : mammals, reptiles, amphibians, fresh water organisms, marine organisms, plants and invertebrates. For most of the animal groups, this is a first step at a national assessment for each of these groups (or a reasonable segment of a group) which can later be followed up with assessments according to regional and other rational groupings.

It was decided the assessment could best be done using the New IUCN Red List criteria to categorise the species in a "group process" which first was used in India in 1995 and 1996 for medicinal plants. This process is called a Conservation Assessment and Management Plan (CAMP) which was developed by the Conservation Breeding Specialist Group, SSC, IUCN. The CAMP process was used successfully for assessing 80 species of medicinal plants in southern India and will cover remaining species at regularly organised workshops. CAMPs have been conducted all over the world in 40 countries for more than 100 animal and plant groups, and even for species of whole island habitats.

The new IUCN Red List Criteria provide the best means available at the present time of categorising the level of threat to endangered species. The Red Data Books are internationally recognised and widely consulted. The former categories of Endangered, Threatened and Rare, used for about 30 years with only minor changes, were felt to be insufficiently precise to meet the needs of present day conservation action planning. A revision process was undertaken involving many of the global conservation community's most astute biologists and statisticians which culminated after ten years in the new IUCN Red List Criteria which were approved by the IUCN General Assembly in 1994.

Categorising species according to an endangerment status listing focuses attention on those under greater threat so that timely conservation action can be taken. Assessing species for the correct categorisation was done by "one man in an office" checking often outdated references and writing letters to individual field researchers. Networking was not what it is today and there were many lacunae. This system also fostered geographical and taxonomic bias, ambiguity and lack of precision. Therefore, *the aim of the new criteria is to provide an explicit, objective framework for the classification of species according to their extinction risk.*

The new categories have the following characteristics :

- * they can be applied consistently by different people
- * they provide clear guidance on how to evaluate different factors which affect risk of extinction including comparisons across widely different taxa.
- * they include Guidelines in a definitive document, including definitions of terms and quantitative criteria used for classification, (making it possible for users of the lists to comprehend how and why individual species were classified which is invaluable for action planning.)

However, the new IUCN Red List criteria, although much improved, remain merely a tool to be used by human beings. It is crucial to their effectiveness, therefore, that the process of applying them provides for maximum information, objectivity, and interaction by the specialists working on particular taxa. There are bound to be differences of opinion, so a means has to be found of coming to a consensus over each species categorisation, one that the conservation community can live with and use until a better answer is found. Finally, the number of species to be assessed is so vast and the time so short for some species that a systematic method of doing a first assessment has to be found.

For all these reasons, the BCPP-Project Design Workshop Endangered Species Sub-group identified the new IUCN criteria as the basic format for prioritisation and the Conservation Assessment and Management Plan (CAMP) Workshop Process as the methodology for carrying out the work. Dr. Ajith Kumar as the coordinator of this sub-project has requested us at ZOO/CBSG, India to organise, facilitate and report on 6 - 8 taxon group CAMP workshops (as time and finance permits) which will be held at different venues all over India with a variety of collaborating institutions and organisations.

As CAMP Workshops are carried out all over the world, dozens and even hundreds of comments are recorded about difficulties and conundrums in applying the criteria. The new categories are not perfect and may encounter obstacles in different groups but by testing them and recording the lacunae, they can be improved.

The definitive document on the new criteria clearly states that the criteria are most useful when applied globally. As endemism is in itself one of the means of prioritising taxa, and will also make the lists of species "manageable" for CAMP, the BCPP CAMP workshops will focus primarily on endemics.

Our first job has been to document the list of species in the seven taxon groups. This we have done by intensive library work and consultation with a few specialists. Our next job is to supplement our list with species which might have been overlooked and also to select species which are endemic to India for assessment in the workshops.

For this, and also for collecting additional information required for the workshop and for making final selection of specialists for the workshop, we have sent around a question form for people on our mailing list of individuals and institutions to suggest persons in the wildlife community who have done studies of species in particular areas who could provide hard data or, at least, "informed estimates." We also requested recommendations from you of persons who have a very wide knowledge of many species over one or several important geographic ranges.

Assessing the status of so many animal and plant groups throughout India is a mammoth task. This project will attempt a "first cut" with the idea that specific knowledge of what is *not* known is almost as valuable as what *is* known. If we can pinpoint the gaps, then required status surveys and census activities can be planned more rationally in future. Also, the CAMP Workshop is an ongoing process. The definitive document for the new IUCN Red List criteria specifies clearly in Point 12 that "Re-evaluation of taxa against the criteria should be carried out at appropriate intervals." Therefore, this is not the "last word" in assessment of endangered species in India. On the contrary, for the new IUCN Red List Criteria at least, it is just the first cut!

The Indian Edition of the CAMP Workshop Process Reference Manual is available at the CBSG, India office at a cost of Rs. 100/- per copy.

In addition to a detailed explanation of the CAMP Process, the Manual contains the definitive document of the New IUCN Red Criteria with instructions or guidelines for assessing species using the new criteria. Sample Taxon Data Sheets include examples from Indian plant CAMPs and as the BCPP CAMPs progress, a sample Taxon Data Sheet from each animal groups will also be included.

This Manual was revised for India by the CBSG, India office by removing material not applicable to India and adding innovations and conventions that are done in India for CAMP and PHVA workshops.

**Conservation Assessment
and Management Plan
(CAMP) Workshop Process**

Reference Manual

**Indian Edition
Revised for Indian B.C.P.P.
Endangered Species Prioritisation Project**

1997



CBSG, INDIA

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Biodiversity Conservation Prioritisation Project, India

Evolution and Implementation -- Species Prioritisation

1. Rio Conference

Signatory nations agreed to prioritise sites and species, and develop strategies for biodiversity conservation.

2. International agencies support efforts to carry out above -- seeking models

USAID funding and World Wide fund for Nature, The Nature Conservancy, World Resources Institute organise Global Biodiversity Conservation Prioritisation Projects - Brazil, India

3. Biodiversity Conservation Prioritisation Project, India

World Wide Fund for Nature, WWF, India -- coordinator
Three focus areas: 1) Sites, 2) Species, 3) Strategies

4. BCPP Workshop (May 1996) selected strategies and implementation for three focus areas

1) Sites; 2) Species; 3) Strategies;

Species Groups: Plants, Mammals, Invertebrates, Amphibians, Reptiles, Fish (both fresh water and marine),

5. Implementation for Species

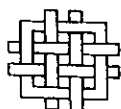
Coordinator : Ajith Kumar, SACON, Member, Steering Committee, BCPP
Facilitators/Organisers: Sally Walker, Sanjay Molur, Zoo Outreach Organisation / CBSG, India
Collaborators and hosts : Forest Depts., Indian Specialist Institutes, Organisations and Agencies

6. Methodology

Conservation Assessment and Management Plan (C.A.M.P.) Workshops
A process developed by CBSG, SSC, IUCN for categorising species according to new IUCN Red List Criteria involving extensive preparation, careful selection of species and specialists, Facilitation, Group dynamics

BCPP -- Calendar and Schedule

Subject	Theme	Venue (proposed)	Date (Appx)	Collaborators/Hosts
1. Plants	Medicinal plants (probably North and N.E. Indian endemic; possibly in use)	Kukrail Park Lucknow	Jan. 1997	Forest Dept. of U. P., NBRI, CIMAP, BSI
2. Invertebrates	Terrestrial Soil Invertebrates of southern India	Madras Z.S.I.	Feb. 1997	ZSI, Forest Dept. of T.N., MSSRF, Loyola College
3. Amphibians	All-India amphibians	Bhubaneswar Utkal Univ.	April 1997	Utkal Univ., ZSI, Forest Dept. of Orissa, DAPTF, I
4. Reptiles	All-India reptiles	undecided	May 1997	Forest Dept., ZSI, WII, Snake Parks and Banks
5. Marine	Mangrove ecosystem organisms	Goa N.I.O.	July 1997	NIO; CMFI; Forest Depts. of Goa, ZSI, etc.
6. Mammals	All-India mammals	Bangalore I.I.S.	August 1997	CES-IIS, ZSI, WII, Forest Dept., Nehru Centre, etc.
7. Fish	All-India Freshwater fishes	Lucknow NBFGR	September 1997	NBFGR, Fisheries agencies & institutes, ZSI,



THE C.A.M.P. PROCESS --

ONE OF THE CONSERVATION TOOLS OF THE CONSERVATION BREEDING SPECIALIST GROUP



The Conservation Breeding Specialist Group, SSC, IUCN has developed a set of "tools" to assess, categorise and manage small populations of endangered taxa. The tools include a variety of Workshop Processes" such as P.H.V.A.'s, C.A.M.P.'s and G.C.A.R.'s (Global Captive Action Recommendations) and plans, such as the G.A.S.P. (Global Animal Survival Plan), all done interactively with the persons who are responsible for managing species, as nearly as possible.

Each of these Workshops Processes has its own guidelines and a Manual. The following material about the CAMP Process is extracted from the CBSG, India CAMP Manual, which is an Indian version of the CBSG CAMP Manual.

Reduction and fragmentation of wildlife populations and habitats are occurring at a rapid and accelerating rate. The results for an increasing number of taxa are small and isolated populations that are at risk of extinction. For such populations, more intensive management becomes necessary for their survival and recovery. To an ever increasing extent, this intensive management will include, but not be limited to, habitat management and restoration, intensified information gathering, and possibly captive breeding. The problems for wildlife are so enormous that it is vital to apply the limited resources available for intensive management as efficiently and effectively as possible. Conservation Assessment and Management Plans (or CAMPs) are being developed to respond to this need.

Conservation Assessment and Management Plan (CAMP) Workshops

CAMP Workshops are intended to provide strategic guidance for application of intensive management and information collection techniques to threatened taxa. CAMPs provide a rational and comprehensive means of assessing priorities for intensive management within the context of the broader conservation needs of threatened taxa.

Within the Species Survival Commission (SSC) of IUCN, the primary goal of the Conservation Breeding Specialist Group (CBSG) is to contribute to the development of holistic (i.e., integrating *in situ* and *ex situ*) and viable conservation strategies and action plans. The CAMP process assembles a broad spectrum of expertise on wild and captive management of the taxa under review. In the world CAMPs are conducted as collaborative ventures of CBSG with the taxon-based Specialist Groups of the IUCN/SSC and BirdLife International, or with regional wildlife agencies or non-governmental organizations. In India CAMPs are conducted as collaborative ventures of CBSG, India with Indian governmental and non-governmental agencies, institutions, organisations and individuals, with technical support from CBSG, CBSG, India members, IUCN/SSC specialist group members from India and others.

A CAMP process brings together 10 - 40 experts (e.g., wildlife managers, Specialist Group members, ecologists, taxonomists, field biologists, scientists from the academic community and/or the private sector, to evaluate the threat status of all taxa in a broad group (e.g., an order or family), country, or geographic region to set conservation action and information-gathering priorities. The CAMP process also provides an opportunity to test the applicability of the New IUCN Red List Categories.

The New IUCN Red List Categories

The threatened species categories now used in Red Data Books and Red Lists have been in place, with some modification, for almost 30 years (Mace *et al.*, 1994). The Mace-Lande criteria (Mace & Lande, 1991) were one developmental step in an attempt to make those categories more explicit, and were tested extensively in early CAMPs. These criteria subsequently have been revised and formulated into the New IUCN Red List Categories, which also are being tested in the CAMP process.

The New IUCN Red List Categories provide a system that facilitates comparisons across widely different taxa, and is based both on population and distribution criteria. These criteria can be applied to any taxonomic unit at or below the species level, with sufficient range among the different criteria to enable the appropriate listing of taxa from the complete spectrum of taxa, with the exception of micro-organisms (Mace et al., 1994).

The New IUCN Red List Categories are: Extinct (EX); Extinct in the Wild (EW); Critically Endangered (CR); Endangered (EN); Vulnerable (VU); Lower Risk (LR); Near Threatened (nt); Conservation Dependent (cd); Least Concern (lc); Data Deficient (DD); Not Evaluated (NE).

The CAMP Process

The CAMP process itself is intensive and interactive and is unique in its ability to facilitate objective and systematic prioritisation of research and management actions needed for species conservation, both *in situ* and *ex situ*.

Participants develop the assessments of risks and formulate recommendations for action using a Taxon Data Sheet that allows recording of detailed information about each taxon under review, including data on the status of populations and habitat in the wild as well as recommendations for intensive conservation action. The Taxon Data Sheet is augmented by a spreadsheet that summarizes data written on the Taxon Data Sheet and provides for rapid review or comparison of taxa.

During a CAMP process, the wild and captive status for each taxon under consideration are reviewed, on a taxon-by-taxon basis (usually at the subspecies level). For each taxon, there is an attempt to estimate the total population. It is often very difficult, even agonizing, to be numerate because so little quantitative data on population sizes and distribution exists. However, it is frequently possible to provide order-of-magnitude estimates, especially whether the total population is greater or less than the numerical thresholds for the population data used in determining categories of threat. CAMP spreadsheets include a "data quality" column so that "guesstimates" can be distinguished from population estimates based on solid documentation. The CAMP process attempts to be as quantitative or numerate as possible for two major reasons:

- Action plans ultimately must establish numerical objectives for population sizes and distribution if they are to be viable.
- Numbers provide for more objectivity, less ambiguity, more comparability, better communication and hence cooperation.

Information about population fragmentation and trends, distribution, as well as habitat changes and environmental stochasticity also are considered.

The CAMP process also might utilize information from SSC Action Plans that may already have been formulated by the taxon-based Specialist Groups as well as additional data, published and unpublished, from experts on the taxa. CAMPs have been endorsed by the SSC and by BirdLife International as the logical first step toward the development of taxonomic Action Plans where they do not yet exist. For each taxon reviewed, three kinds of assessment

recommendations are made:

- 1) assigning taxa to New IUCN Red List Category of Threat;
- 2) making recommendations for research and management activities to contribute to the taxon's conservation. These recommendations aim to more fully integrate recommended research and management actions and known threats. Research management can be defined as an interactive management program including a strong feedback loop between management activities, evaluation of their effectiveness, and the response of the species;
- 3) making recommendations for captive programs if they can contribute to the conservation of the taxon. These can form the foundation for development of captive action recommendations and collection plans for the zoo and aquarium community.

The CAMP process generally uses a conservative taxonomic approach. In most cases, initial risk assessment and management recommendations are made in terms of the maximal distinction among possible "subspecies" until taxonomic relationships are better elucidated. Splitting rather than lumping maximizes preservation of options. Taxa can always be merged ("lumped") later if further information invalidates the distinctions or if biological or logistic realities of sustaining viable populations precludes maintaining taxa as separate units for conservation.

The Review Process for CAMPs

The results of the Initial CAMP process are reviewed: 1) by distribution of a preliminary draft to a small group of workshop participants agreeing to serve as voluntary editors (usually in the two days immediately following the CAMP); 2) by distribution to all CAMP participants; 3) In Report form to wildlife managers, conservationists, specialist group members, and policy makers nationally and internationally. Thus CAMPs are not single events, instead, they are part of a continuing and evolving process of developing conservation and recovery plans for the taxa involved. The CAMP review process allows extraction of information from experts nationwide and prioritization of actions based on levels of threat. Follow-up meetings may be required to consider particular issues in greater depth. Moreover, some form of follow-up will always be necessary to monitor the implementation and effectiveness of the recommendations resulting from the process. In many cases a range of Population and Habitat Viability Assessment (PHVA) process recommendations result from the CAMPs.

In the world, over the past five years, CAMPs have been carried out for a wide spectrum of living forms which are listed in the chart following this article. CAMP Reports are "living" documents that will be continually reassessed and revised as new information becomes available and as global and regional situations and priorities shift. The current CAMP process will continue both by its application to new groups of taxa and regions and the refinement of the ones already under way. As global workshops have been done for many of the vertebrates, CAMP Workshops are shifting to a more regional approach, focusing on particular countries or regions and undertaking plants, invertebrates and even island ecosystems and -- in the case of India -- an experiment with an national ecosystem, e.g. the Mangrove

ecosystem CAMP to be held in July at National Institute of Oceanography.

The CAMP process is unique in its ability to prioritize intensive management action for species conservation, providing a framework for intensive management in the wild and in captivity. CAMP documents can be used as guidelines by national and regional wildlife agencies as well as regional captive breeding programs as they develop their own action plans. The long-term impact of the CAMP process on global priority setting has the potential to be profound. Within the near future, wildlife and zoo animal managers will have a set of comprehensive documents at their disposal, collaboratively and scientifically developed by the experts on the taxon or region, establishing priorities for global and regional species management and conservation. It is the intent that the CAMP process will ultimately contribute to the wise worldwide use of limited resources for species conservation.

CAMP as a creative process

The CAMP process can be modified to reflect local conditions and regional requirements. In India CAMP workshops for medicinal plants developed new conventions for better utilisation and follow up of recommendations. At these workshops, participants made individual as well as institutional commitments to a particular species which requires additional field study, surveys and monitoring, promotion, cultivation, etc. Also in the Indian medicinal plant CAMPs, which are being held every 9 months to one year on a large number of species, participants from one workshop select the species which should be assessed the following year. Also in India, inexpensive CAMP Report summaries of essential information have been made and distributed widely and frequently to managers and policy makers who might have been recently transferred to a key position for assisting the species. Posters, stickers and other educational material, including the preparation of a regional Red List of medicinal plants of southern India have been made.

Table of Taxon Groups Assessment of Threat according to IUCN Red List Criteria by a CAMP Process Workshop

Group	Total # taxa assessed	Scope
Indian Medicinal Plants	36	Regional/Global
Indian Medicinal Plants	44	Regional/Global
St. Helena Endemics	290	Global
Costa Rica Endemics	107	Global
Partula	121	Global
Boidae / Pythonidae*	159	Global
Varanidae*	65	Global
Iguanidae*	66	Global
Penguins* (preliminary)	24	Global
Waterfowl*	234	Global
Storks, Ibis, Spoonbills	90	Global
Falconiformes	308	Global
Galliformes* (exc. Cracids)	245	Global
Cracids	129	Global
Pigeons and Doves*	352	Global
Cranes*	31	Global
Parrots*	428	Global
Hornbills*	84	Global
Hawaiian Forest Birds*	54	Global
Panama Birds	104	Regional/Global
Primates*	512	Global
Mexican primates	4	Regional/Global
Canids, Hyaenas*	225	Global
Procyonidae*	23	Global
Mustelidae*	64	Global
Lutrinae*	19	Global
Viverridae*	48	Global
Herpestinae*	43	Global
Felids*	292	Global
South American Felids*	47	Global/Regional
Mexican Felids*	6	Regional/Global
Equids*	18	Global
Tapirs*	7	Global
Rhinos*	13	Global
Cervids*	164	Global
Giraffe*	4	Global
Antelope*	395	Global
Wild cattle*	25	Global
Caprines*	87	Global
Panama Mammals*	38	Regional/Global

* indicates using Mace-Lande criteria -- pre 1994 IUCN Mace Stuart criteria

As can be seen by a review of the taxon groups in the chart above, any group can be assessed -- local, national, global. Most of the CAMPs done to date have been on a world-wide basis for species with a wide distribution -- these are "first cut" assessments of all the species of a large taxon group (such as felidae or primates) in the world. "Global" can apply both to species which are found in many places on the globe, such as leopard cats, and endemics which are found in just one area of the globe. One problem which may prove difficult is using the criteria for assessing regionally when the species assessed occur globally. The species may be endangered regionally and common globally, or vice versa. That is why, whenever possible we are giving more stress to endemics, both because they are important as the "only ones" in a particular area and also because they are, by virtue of being endemic, global. Being the only ones in a particular area means they are also the only one in the world, therefore global.

C.A.M.P. PHILOSOPHY AND PROCEDURE

By signing the Rio Convention, India agreed to prioritise its species and sites and develop strategies for conservation of biodiversity. In order to prioritise species, one needs a good idea of their status, distribution, rate of growth or decline, threats, etc. For many, many species, however, the conservation community doesn't know much, certainly not the kind of information required to make a definite status statement. Many species have not been studied for years, decades, maybe even a century. What to do for this ?

Ideally, all species should be surveyed systematically. Systematic surveys require manpower, money, time, etc. If we wait for systematic surveys, surely some of the species will become extinct while we wait. We need to make a start, at least. Comprehensive taxon status reports in the past, such as Red Data Books, have been criticised for errors. However, errors are bound to occur, particularly when one specialist or one institution attempts to collect status information about species by post, from museum specimens, from scattered and out-of-date literature ... there are gaps in information, individual or institutional bias, etc. We need a method in which all individuals and institutions which are doing work on the taxa can be represented, and thereby share in the responsibility -- both the responsibility for contributing to the Report as well as the responsibility for rectifying information gaps. ***Taxon status reports, whether they are Red Data books or some other method should reflect a consensus by specialists and other stakeholders in the country.***

The CAMP Process was developed as a dynamic organising force for conservation to respond to this very need for basic information and consensus.

The CAMP Process provides two unique items : 1. an objective workshop environment, 2. a neutral facilitation process. The objective workshop environment is achieved by insuring that all individuals and institutions participating in the workshop have an equal chance to contribute, and attempting to settle disagreements by conflict resolution and consensus. This is accomplished by facilitation. Trained and experienced facilitators guide participants through the workshop so as to garner the most information in the time allotted. Facilitators are by definition persons who have no stake in the information supplied or generated in the workshop. Their role is to help resolve conflicts and keep the flow of information at a steady pace. The energy of specialists is kept free to contribute information and expertise to the working groups.

This approach makes possible 1) the sharing of available information, 2) reaching agreement on the issues and available information, and 3) making useful and practical management recommendations for the taxon or region under consideration.

Criticism of the CAMP Process :

The main criticism of the CAMP Process is that it forces figures when there is no systematic study. Again, we must

ask : when there is no information, what to do ? Order of magnitude "guesstimates" by specialists are better than saying and doing nothing. In the IUCN Red List categories also, there is a Data Deficient category, when there is really and truly NO IDEA. The philosophy behind the Conservation Assessment and Management Plan workshop is that a start must be made irregardless of anything else.

Good faith

When attempting to satisfy a commitment such as prioritising all species in an area so large as diverse as India in a short span of time, it is necessary to accept a principle of "best possible" in "good faith". The underlying principle is that we gather as many specialists from as many agencies and institutions as possible participate to avail every bit of information and expertise to arrive at the "best possible" conclusion at this time in "good faith." A gathering of specialists who agree to set aside their personal agendas in the best interests of species has its own authority and power.

Process vis a vis Resolution

The CAMP Workshop is called a "process" because it is never complete. The CAMP workshop on selected soil invertebrates which we are about to undertake is -- we hope -- the first of many. Information will not be complete for many species. However, even if information was complete, in a very few years, the habitat, the habits of man, the general environment will have changed and also the status of many species and habitats. The CAMP workshop is a first cut or first attempt to define the problem and make strategic decisions for management of the most highly endangered species.

In the conservation arena, where time and resources are scarce, such decisions can make a big difference for species survival. This integrated and analytical review of data never before assembled, coming from many different sources, using knowledge of many individuals and groups on a common ground, has unique power to guide difficult management decisions. Much of the information which typically is mobilized has never before been available to managers in useful form. The process is a useful means to improve management to minimize extinction risk and minimize regrets while awaiting improved information.

The process generates priorities for information we most need to know, and may suggest that particular or sharper focus should be drawn to planned data collection and research, whereas other data collecting activities may be found less important and can be de-emphasized.

So far, from the example of more than 45 CAMP Workshops over the world, there always has been enough information resulting from the entire process to provide better guidance to managers than existed before. If this is not the case, the process produces clear priorities for data collection so that they can be carried out systematically.

Because changes and disturbances to the habitat, human and otherwise, do not stop while we may delay analysis or action in pursuit of more information, a decision not to proceed must be recognized as a decision with considerable consequences of its own. Again, the issue of "good faith" provides a foundation which should result in a feeling of trust in the process to improve our knowledge of the species and their status and, consequently, the ability to justify forging ahead.

Safety features

There are several "safety features" built into CAMP Workshops and their output.

- 1) In the Taxon Data Sheets where participants record information about individual species, there is a space for listing the names of the contributors of information so that everyone is credited for his input;
- 2) If an individual disagrees with the group opinion on an item or issue, he is permitted to write his dissenting opinion which, if it is signed, will be included in the Report;
- 3) CAMP Reports are circulated a few days after the workshop as Draft and participants are given an opportunity to correct mistakes, or even add bits of information as long as the information does not go against the group opinion;
- 4) CAMP Reports are not published in hardback editions as the "last word" on the status of a taxon. They are normally xeroxed with spiral in sufficient numbers for participants, policy makers and the implementing agency for wildlife conservation to be used for drafting management plans and action plans. This provides reinforcement to the participants and puts management options into the hands of those who should implement them as soon as possible.
- 5) It is taken for granted that CAMP workshops will find numerous information gaps which themselves can be used to generate management recommendations.
- 6) After some time, it may be felt that the conservation scenario has changed and requires revisiting so another CAMP Workshop may be held for the same group, or a smaller group on a more regional or local basis.

Special issues

In every CAMP workshop, participants can suggest issues important to a particular species or a group to be discussed and short reports of the discussions are included in the documents produced from the workshop.

Changes in the Process

The CAMP Workshop Process is dynamic ... it changes according to the needs of the conservation requirements of the users. Over the years that CAMPS have been held, a great many modifications have been done to it. These modifications evolved at workshops just like the one we will have in January and adopted as a better way by CBSG and the many agencies in the world which have adopted this process for prioritising their species.

Future CAMP Workshops

CAMP Workshops don't have to be for a large number of species on a country-wide basis such as the BCPP

workshops. The medicinal plants CAMP will be for species selected on a regional and endemic basis out of more than 5000 species. In the invertebrate CAMP our list even of selected soil invertebrates will cross 1000). The first CAMPS to be held in India were for selected medicinal plants of southern India. Instead of assess many species at one workshop, only 36 - 50 species were assessed every year over a period of three years. CAMP Workshops can also be held for other groupings, such as the one for all species on St. Helena's Island in 1993, the upcoming CAMP on Mangrove species to be held in India later this year, etc. In your institute or agency you may have a grouping that you want to assess. You can use the CAMP Process for this. Write to CBSG, India for more information.

Follow-up

The great booger-bear of any workshop or symposium or conference is FOLLOW-UP. It is threatening by its almost total absence. Astute policy makers and leaders and even potential participants are now cynical about workshops and other gatherings because time and money is invested and resolutions remain on paper. While we don't claim to be able to solve this problem entirely, some of the methods we use in CAMPS mitigate the problem of follow-up gap. Instead of relying on resolutions, we request individuals to make personal commitments to do something for a species or special issue as a result of the workshop. We also make lots of Summaries of the Reports so that periodically we can send them again to key agency officers in transferrable positions. In the case of wildlife of any kind, the implementing agency is the forest department, so we try our best to insure that the forest department is made an important part of the workshop.

These methodologies we use are just practical good sense. Nothing fancy. All of these have been developed to do two things 1. Promote the "Three C's of Conservation" -- communication, cooperation and coordination and 2. Discourage the "Three E's of Extinction" -- ego, envy and elitism. We hope to see you at the workshop.

