

CONSERVATION ASSESSMENT AND MANAGEMENT PLAN

for

PRIMATES

First Edition

August 1992



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EXECUTIVE SUMMARY

- A Conservation Assessment and Management Plan (CAMP) is conducted for primates. The purpose of a CAMP is to:
 - a) review the wild and captive status of each taxon in a defined broad group of taxa (e.g. an order, family, subfamily);
 - b) assess the degree of threat for each taxon according to the Mace/Lande categories; and
 - c) recommend intensive management and information collection action to mitigate threat.

- A total of 61 genera, 238 species, and 512 distinct "taxa" (subspecies or species if no subspecies are contained therein) of primates are recognized for purposes of this CAMP.

Africa	67 species	156 taxa
Madagascar	31 species	49 taxa
Asia	63 species	136 taxa
Americas	77 species	171 taxa

- 138 of the 238 species (58%) and 222 of the 512 taxa (43%) are assigned to 1 of 4 categories of threat as defined in the recent Mace/Lande proposal (1991):

Critical	59 taxa
Endangered	71 taxa
Vulnerable	92 taxa
Not Threatened (= Safe)	290 taxa

- Assessment of threat is based as much as possible on population and habitat viability parameters. In particular there is an attempt to estimate the total population size of each taxon, the number and sizes of subpopulations and the population trends.

These estimates/"guesstimates" of population size are not to be interpreted as authoritative figures, but as a point of departure for the assessment process and especially as a challenge to elicit better data.

- Based on these assessments of threat, the following intensive conservation actions are recommended:

- 1) 37 taxa (7%) are recommended for intensive *in situ* management.
- 2) 137 taxa (27%) are recommended for population and habitat viability assessments.
- 3) 193 taxa (38%) are recommended for conservation research: taxonomy, husbandry, surveys.
- 4) 229 taxa (45%) are recommended for 1 of 4 levels of captive breeding program, which are explained in the text:

90%/100 Years I	77 taxa
90%/100 Years II	40 taxa
Nucleus I	41 taxa
Nucleus II	70 taxa

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SECTION 1

PREAMBLE, OVERVIEW & BACKGROUND

PREAMBLE

Problems of Small Populations

Reduction and fragmentation of wildlife populations and habitats is occurring at a rapid and accelerating rate. The results for an increasing number of taxa are small (i.e. a few tens to a few hundreds, or at best a few thousands) and isolated populations that are in danger of extinction.

In addition to the deterministic threats of habitat degradation and unsustainable exploitation, stochastic problems also can imperil the survival of small populations. Stochastic events are random and therefore difficult to predict. However, careful genetic and demographic management of small populations can moderate many of these stochastic problems. The problems of small populations apply to species in both the wild and in captivity. Much of the methodology for managing small populations being developed by the captive community may be useful for management of small populations in the wild.

Stochastic problems can be environmental, demographic, or genetic in nature. Environmentally, small populations can be devastated by catastrophes or decimated by less drastic fluctuations in environmental conditions that can impair survival and fertility of individuals. Catastrophes (e.g., droughts, floods, epidemics) are increasingly recognized as severe threats to small populations. Demographically, even in the absence of deleterious fluctuations in the environment, small populations may develop intrinsic demographic problems (e.g., biased sex ratios, unstable age distributions, or random failures in survival and fertility) that can fatally disrupt propagation and persistence. Genetically, small populations can rapidly lose heritable diversity that is necessary both for fitness under existing environmental conditions and for adaptation to changed environments in the future. The smaller the population and the more limited it is in distribution, the greater these stochastic risks will be. To be successful, conservation strategies and action plans for threatened taxa must be based on viable populations, i.e. sufficiently large and well distributed to survive stochastic risks as well as deterministic threats.

Management and Metapopulations

The first and foremost priority of any primate conservation strategy should be ecosystem preservation. Ideally, sufficient wild habitat should be protected and preserved. However, adequate habitat protection may not be feasible or sufficient. Management of wild populations and habitat may be necessary. Viable population strategies may often require that the taxa be managed as metapopulations, i.e. systems of disjunct subpopulations that are interactively managed with regulated interchanges among the subpopulations and with interventions within the subpopulations to enhance survival of the taxon. Moreover, in some instances captive programs also may be needed to augment wild populations.

Population and Habitat Viability Analysis

Development of viable metapopulation strategies can be greatly facilitated by population and habitat viability assessments (PHVAs) (Seal et al. 1990). The PHVA process is in an early and experimental stage. Experience so far has indicated that workshops are very effective in applying the PHVA process to development of conservation management plans for taxa whose populations have declined to levels where they are considered under threat of extinction (Clark et al. 1990).

PHVA Workshops use computer models to simulate the deterministic and stochastic processes that imperil small populations and to explore what effects various management options produce. The models incorporate information on the distributional, demographic, and genetic characteristics of the population and on conditions in the environment to simulate probable fates (especially probability of extinction and loss of genetic variation) under a series of different scenarios, including various management (or non-management) options. PHVA Workshops assemble field biologists, captive professionals, and wildlife managers who have experience with, as well as the management responsibility and authority for, the taxon. PHVA Workshops almost always are conducted in the country, and optimally the locality, of origin of the taxon under consideration. Population and conservation biologists with expertise in use of the computer models also participate to assist the taxon managers in performing the analyses. It is ultimately these managers who actually formulate and then implement the conservation management and action plans.

Captive Components of Conservation Strategies

Viable metapopulations may need to include captive components (Figure 1) (Foose et al. 1987). However, captive breeding should be only one component of a comprehensive conservation strategy. The paramount purpose of captive programs must be to assist survival and recovery of populations in the wild. Captive populations support, but do not substitute for, wild populations.

In general, captive populations and programs can serve three roles in holistic conservation strategies:

- (1) Living ambassadors that can educate the public at all levels and can generate funds for *in situ* conservation.
- (2) Scientific resources that can provide information and technologies beneficial to protection and management of populations in the wild.
- (3) Genetic and demographic reservoirs that can be used to assist survival or recovery of taxa in the wild either by revitalizing populations that are languishing in natural habitats or by re-establishing populations that have become extinct.

The third of these roles may often be a benefit for the longer term as return to the wild may not be a prospect for the immediate future. However, it is proposed that captive and wild populations should and can be intensively and interactively managed with interchanges of animals occurring as needed and as feasible. There may be many problems with such interchanges including epidemiologic risks, logistic difficulties, financial limitations, etc. However, based on limited but growing experience, these problems can be resolved if enough serious effort is exerted. The bottom line is that strategies and priorities should try to maximize options and minimize regrets. Captive propagation can contribute significantly to this goal.

The IUCN Policy Statement on Captive Breeding (IUCN 1987) recommends in general that captive propagation programs be a component of conservation strategies for taxa whose wild population is below 1000 individuals. However, if such a taxon is not already in captivity, a PHVA should be completed prior to the initiation of a captive breeding program. The recommendation for initiation of a captive breeding program should emanate from biologists and wildlife managers in the country of origin of the taxon and be conveyed to the captive community through the Primate Specialist Group of the IUCN Species Survival Commission (SSC). Whenever possible it is recommended that captive programs be initiated in the country of origin. Country-of-origin programs: provide educational programs in the places where they are likely to have the greatest immediate impact; involve fewer stressful changes for the animals involved; and provide an opportunity to demonstrate to local officials the value of those species that are their natural heritage. Subsequently, the captive breeding program should probably be expanded to facilities outside the country of origin to achieve a population size and distribution that will maximize security of the taxon. Such expansion will also enhance the first two functions of captive programs described earlier.

As natural habitats decline, a large and growing number of taxa will need assistance from intensive management action, including captive breeding programs. However, resources (space, funds, staff) are limited. Strategic priorities must be developed for resource allocation and program development. Developing these priorities is the purpose of Conservation Assessment and Management Plans (CAMPs), Global Captive Action Plans (GCAPs) and Regional Strategic Collection Plans (RSCPs).

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SECTION 2

**STRATEGIC CONSERVATION ACTION PLANS
CAMPS & GCAPS**

STRATEGIC CONSERVATION ACTION PLANS

IUCN Specialist Group Action Plans

At the global level, the Specialist Groups of the IUCN Species Survival Commission (SSC) and the International Council for Bird Preservation (ICBP) are developing action plans with both regional and taxonomic views. These action plans:

- review the status of conservation areas and activities within regions, and/or the conservation status of taxa within broad taxonomic groups; and
- recommend conservation actions.

Conservation Assessment and Management Plans (CAMPs)

Also at the global level, the IUCN SSC Captive Breeding Specialist Group (CBSG) is leading the development of Conservation Assessment and Management Plans (CAMPs). A Conservation Assessment and Management Plan

- reviews the wild and captive status of each taxon in a defined broad group of taxa (e.g. an order, family, subfamily, community);
- assesses the degree of threat for each taxon according to the Mace/Lande categories (Appendix 8);
- recommends intensive management and information collection action to mitigate threat: PHVAs, *in situ* management, conservation oriented research (surveys, taxonomy, etc.) captive breeding, genome banking.

The CAMP process is providing an opportunity to test the applicability of the Mace/Lande Categories for assessment of threat. The Categories provide an estimate of the risk of extinction of taxa based on information about size, distribution, trend of their population, as well as conditions of their habitat. The proposed system defines three categories for threatened taxa:

Critical 50% probability of extinction within 5 years or 2 generations, whichever is longer.

Endangered 20% probability of extinction within 20 years or 10 generations, whichever is longer.

Vulnerable 10% probability of extinction within 100 years.

Camps are developed as collaborative efforts of the CBSG and the other Specialist Groups of the SSC and ICBP, wildlife agencies, and the Regional Captive Conservation Programs. A CAMP provides:

- a resource for the development of IUCN SSC and ICBP Action Plans;
- a strategic guide for intensive conservation action;
- the first step in the Global Captive Action (GCAP) process.

Global Captive Action Plan (GCAP)

A Global Captive Action Plan (GCAP) provides a strategic overview and framework for effective and efficient application and allocation of captive resources to conservation of a broad taxonomic group. A GCAP:

- recommends:
 - a) which taxa in captivity should remain there;
 - b) which taxa in captivity need not be maintained there for conservation reasons;
 - c) which taxa not yet in captivity should be there to assist conservation efforts;
- proposes a level of captive breeding program in terms of genetic and demographic objectives which translate into recommendations about global captive target populations;
- suggests how responsibilities for captive programs might be distributed among the Regional Programs, i.e. this function translates into recommendations for regional captive target populations;
- identified priorities for technology transfer to and for financial and other support for *in situ* conservation.

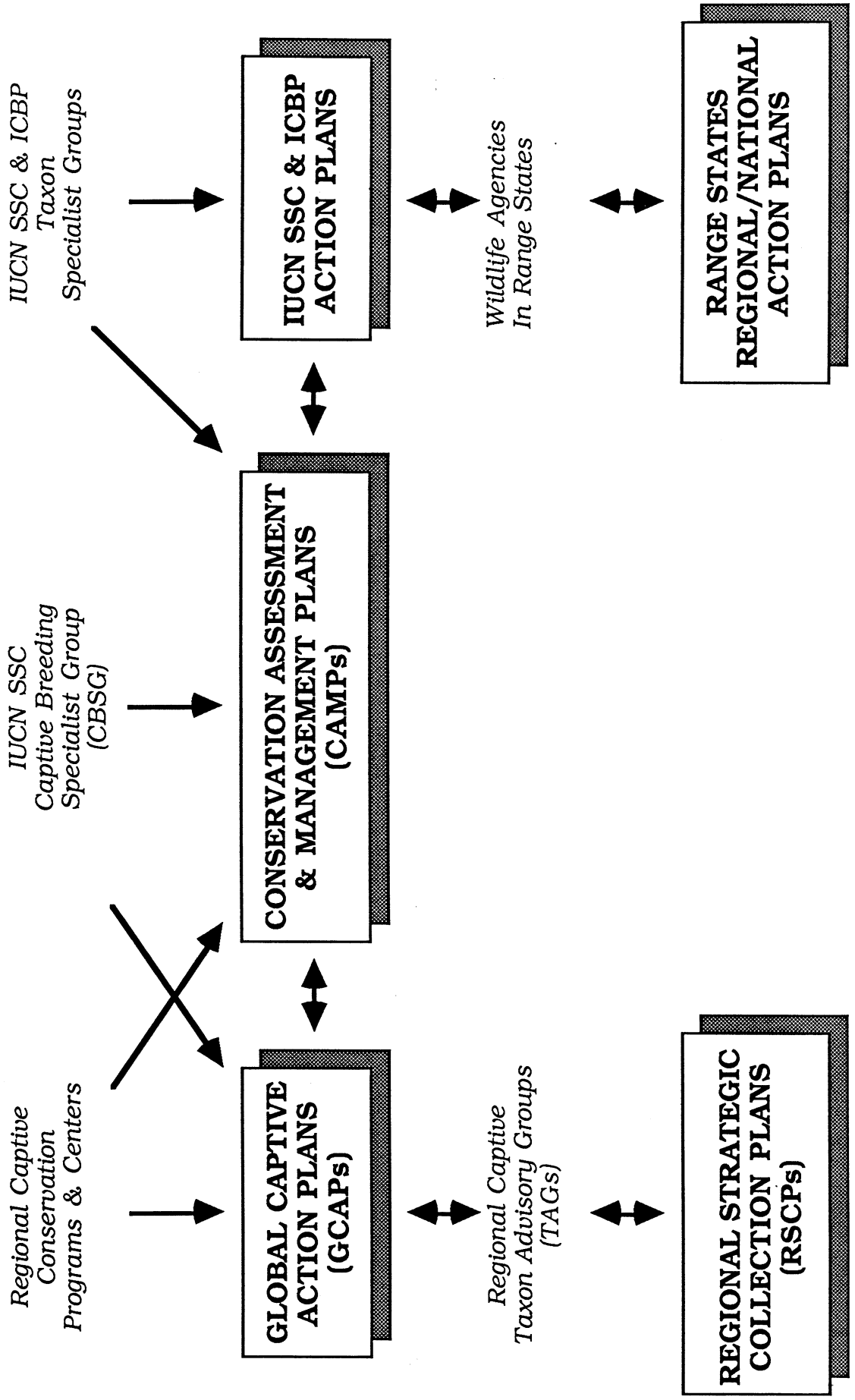
GCAPs are developed by a Working Group which consists of representatives of the Regional Programs, especially the Chairs and selected members of the Taxon Advisory Groups (TAGs), with advice and facilitation from the IUCN SSC Captive Breeding Specialist Group (CBSG). The GCAP Working Group will also normally include representatives of the range-country wildlife community and scientists who can resolve problems of systematics. A CAMP can provide the first step of the GCAP process. The GCAP is developed further in an interactive and iterative process involving the Regional Programs and their own Regional Strategic Collection Plans (RSCPs). The GCAP is a dynamic process and facilitative framework that assists the Regional Captive Conservation Programs in coordinating development of their Regional Strategic Collection Plans (RSCPs). RSCPs are developed in response to the conservation needs of taxa (as identified initially by the CAMP), but also in recognition of the circumstances and interests of the Regions. The Regional TAGs will most accurately assess captive holding/exhibit space in their regions using surveys and censuses to supplement studbook databases, ISIS records, national or regional inventories, etc. It is through the Regional Strategic Collection Plans and the programs developed thereunder that the recommendations of the Global Captive Action Plans will be realized. Hence the GCAP is a facilitation and forum for the regional programs to integrate themselves into the best global conservation effort possible.

Appendix 7 provides a glossary that defines and differentiates the various strategic conservation action plans that are being developed. A preliminary chart of evolving relationships among various levels and kinds of strategic conservation action plans is provided in Figure 1.

This document represents the first edition of the Primate Conservation Assessment and Management Plan. The initial edition of the Primate Global Captive Action Plan is presently in production.

FIGURE 1

GLOBAL AND REGIONAL STRATEGIC CONSERVATION ACTION PLANS



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SECTION 3

THE PRIMATE CAMP & GCAP PROCESS

PRIMATE CAMP & GCAP PROCESS

Background and Workshop

Primates are one of the first groups for which strategic plans are being developed. The CAMP is a first effort of a process that will be dynamic and evolving. This effort can and will be sophisticated as the process and product are reviewed and revised both in the application to the primates and in extension to other vertebrate groups. Indeed, the Plan will be continually reassessed based on new information and shifting priorities.

The basic CAMP process commences with compilation into a briefing book of as much background information as possible on the status of taxa in the wild and in captivity. For this purpose, CBSG is utilizing information from Action Plans that may already have been formulated by taxonomic Specialist Groups of the IUCN SSC and ICBP, e.g. the SSC Primate Specialist Group's (PSG) Action Plans for Africa, Madagascar and Asia. Where such taxonomic Action Plans do not yet exist, CBSG is attempting to collaborate with the Specialist Groups to produce the necessary assessment of status and prospects to permit formulation of Conservation and Management Plans (CAMPs) and Global Captive Action Plans (GCAPs) and to assist development of the SSC and ICBP Action Plans, e.g. the PSG's Action Plan for the Americas (i.e. Central and South America).

In either case, the CAMP process normally entails consideration of this data in a very intensive and interactive workshop involving representatives of both the captive and field communities. The workshop develops the assessments of risks and formulates recommendations for action. These recommendations are then reviewed by a larger group of captive and wild experts. This results in a Conservation Assessment and Management Plan which leads, among other things, to the development of a Global Captive Action Plan. It is, however, re-emphasized that both of these documents are "living" documents that will be continually reassessed and revised based upon new information and shifting needs.

Earlier attempts at preparation of a Primate Global Captive Action Plan (Stevenson et al. 1990) had involved representatives of the captive community, utilizing published material for information on status and prospects of taxa in the wild, e.g. IUCN SSC Action Plans from the Primate Specialist Group (Eudey 1987 for Asia, Oates 1985 for Africa) and the World Conservation Monitoring Center (Lee et al. 1988 for Africa; Harcourt & Thornback 1990 for Madagascar; IUCN 1990 for the world). These Action Plans as well as other overviews of primate conservation needs by members of the Primate Specialist Group (Mittermeier et al. 1986) are extremely useful and reflect the high level of activity of the PSG. Nevertheless, it was concluded that there needed to be more direct interaction and input from field biologists in the Global Captive Action Plan process.

Indeed, when this strategic planning process was initiated by CBSG, the purpose was to produce a Global Captive Action Plan. However, it rapidly became clear that there was a need for a broader approach that assessed the status of taxa in terms of population and habitat viability and recommended intensive conservation action, which might include a captive breeding program.

As a result the CAMP process has evolved and is now distinguishable from the GCAP process. The CAMP is the first step in the Global Captive Action Plan process.

For the Primate CAMP/GCAP, selected members of the IUCN SSC Primate Specialist Group (PSG) and the Captive Breeding Specialist Group conducted a workshop at the CBSG Office in Minnesota 13-15 March 1991 (Appendix 6 provides a list of the participants). The Workshop commenced with a session providing overview and orientation. During this session, the basic process to be applied was established. Participants then divided into 4 geographic working groups: African, Madagascar, Asia, and the Americas (i.e., Central and South America). These groups proceeded through an iterative series of (1) separate sessions to formulate their regional priorities and (2) plenary sessions to compare and review critically each other's work and to refine both their results and the overall process.

During the session, all recognized primate taxa were evaluated on a taxon-by-taxon basis in terms of their status and prospects in the wild. Participants in the Workshop were encouraged to be as quantitative or numerate as possible for several reasons:

- Action plans (captive and wild) ultimately will be more viable if they establish numerical objectives for population sizes and distribution.
- Numbers provide for more objectivity, less ambiguity, more comparability, better communication and hence cooperation than do innumerate measures.

During the Workshop, there was an especial attempt to estimate if the total population of each taxon was greater or less than the numerical thresholds Mace and Lande suggest for their 3 categories of threat (Table 1 and Appendix 8). However, there was general agreement among participants at the Workshop that to date research has not been very effective in compiling this kind of information. Thus, it was often very difficult, even agonizing, to be numerate because so little quantitative data on population sizes and distribution was available. Nevertheless, the working groups persisted, with encouragement from Workshop organizers, and eventually provided some crude estimates of wild population size.

In many if not most cases, these estimates for wild population numbers, fragmentation, and trends represent first-attempt, order-of-magnitude guesstimates that are hypotheses for falsification and stimuli to elicited better information, as has occurred during the review process to date. The working groups emphasize that these guesstimates should not be used as an authoritative estimate for any other purpose than intended by this process.

Review Process

The results of this Workshop process were compiled in a "Discussion Edition" of and a "Supplement" to a Global Primate Captive Action Plan. These two documents were circulated to the full membership of the Primate Specialist Group as well as to all Workshop participants with one objective being an attempt to improve the numbers for:

- total population size,
- for number and sizes of subpopulations,
- for population trends.

Reviewers were asked to be as quantitative as possible and to provide references or sources for their estimates. Only members of the Primate Specialist Group and Workshop participants received the Supplement in an attempt to prevent misinterpretation or misapplication of these guesstimates.

Although the majority of PSG members who responded support the plan with revisions, some oppose PSG support for the Plan. Several PSG members express philosophical disagreement with the concept of captive management. Several others consider that the documents are premature, and that there should be no attempt to "guesstimate" population sizes in the absence of good empirical information. Conversely, several PSG members support the "guesstimates" in the belief that these figures would elicit better information where and when it is available. The "guesstimates" published in this document have been modified as a result of feedback from PSG members on the earlier version. The numbers remain as points of challenge to stimulate further improvement. Almost all of the PSG members who responded have provided valuable information that is incorporated into the present document.

Mace/Lande Categories of Threat

As a major consideration in assessing threat in the wild, the working groups have attempted to apply the recent proposals by Mace and Lande (1991) for redefinition of the IUCN Red Data Categories (Table 1 and Appendix 8).

The Mace/Lande scheme attempts to assess threat in terms of the probability of extinction within a specified period of time. Their purpose is to provide a system that is more objective and scientific than previous schemes have been. The proposed system defines 3 categories for threatened taxa:

- | | |
|-------------------|--|
| Critical | 50% probability of extinction within 5 years or 2 generations, whichever is longer. |
| Endangered | 20% probability of extinction within 20 years or 10 generations, whichever is longer |
| Vulnerable | 10% probability of extinction within 100 years. |

Taxa not placed in a category of threat are designated in the Tables as **Safe**.

TABLE 1

MACE/LANDE CATEGORIES AND CRITERIA OF THREAT			
POPULATION TRAIT	CRITICAL	ENDANGERED	VULNERABLE
Probability of Extinction	50% within 5 years or 2 generations, whichever is longer	20% within 20 years or 10 generations, whichever is longer	10% within 100 years
	Or	Or	Or
	Any 2 of following criteria	Any 2 of following criteria or any 1 CRITICAL criterion	Any 2 of following criteria or any 1 ENDANGERED criterion
Effective Population N_e	$N_e < 50$	$N_e < 500$	$N_e < 2,000$
Total Population N	$N < 250$	$N < 2,500$	$N < 10,000$
Subpopulations	≤ 2 with $N_e > 25$, $N > 125$ with immigration $< 1/gen.$	≤ 5 with $N_e > 100$, $N > 500$ or ≤ 2 with $N_e > 250$, $N > 1,250$ with immigration $< 1/gen.$	≤ 5 with $N_e > 500$, $N > 2,500$ or ≤ 2 with $N_e > 1,000$, $N > 5,000$ with immigration $< 1/gen.$
Population Decline	$> 20%/yr.$ for last 2 yrs or $> 50%$ in last generation	$> 5%/yr.$ for last 5 years or $> 10%/gen.$ for last 2 gens.	$> 1%/yr.$ for last 10 years
Catastrophe: Rate & Effect	$> 50%$ decline per 5-10/yr or 2-4 gens. subpopulations highly correlated	$> 20%$ decline/5-10 yr, 2-4 gen $> 50%$ decline/10-20 yrs, 5-10 gen. with subpops. correlated.	$> 10%$ decline/5-10 yrs, $> 20%$ decline/10-20 yrs, or $> 50%$ decline/50yrs. with subpops. correlated.
Or			
Habitat Change	resulting in the above population effects	resulting in above population effects	resulting in above population effects
Or			
Commercial Exploitation or Interaction/Introduced Taxa	resulting in the above population effects	resulting in above population effects	resulting in above population effects

Definition of these categories and assessment of threat is based on population viability theory. Mace/Lande acknowledge that in most cases there will be insufficient data and imperfect models on which to base formal probabilistic analysis. For broader and cruder assessments, they propose "more qualitative", but in large part still quantitative criteria for assessing threat in terms of population sizes (total and effective), fragmentation, trends, and stochasticity (Table 1).

In assessing threat according to the Mace/Lande system, Workshop participants used information on the status and interaction of other population and habitat characteristics in addition to the guesstimates of total number. Information about population fragmentation and trends as well as habitat changes and environmental stochasticity were also considered. For example, total numbers alone might indicate that a taxon be assigned to the Vulnerable category. However, the taxon may be assigned to the Endangered category based on knowledge that the population is severely fragmented, is declining rapidly, or that its habitat is under serious threat so that the probability of and time to extinction place it at higher risk.

As a result of the Workshop process, each primate taxon is assigned to 1 of 4 categories: Critical, Endangered, Vulnerable, Safe (Not Threatened). In the Tables, these categories are designated by: C for Critical; E for Endangered; V for Vulnerable; Z for Safe. In some cases, the working groups also assigned a level of priority or urgency within the categories of threat. These levels are designated by numbers which appear in the tables after the

Intensive Conservation Action Recommendations

For taxa placed in a category of threat, recommendations are formulated for the kinds of intensive action that would be beneficial:

- Population and Habitat Viability Assessment (PHVA),
- More intensive *in situ* management which may include
 - (1) habitat protection and improvement
 - (2) genetic management intervention
 - (3) demographic and genetic reinforcement
- Problem-oriented conservation research including
 - (1) surveys
 - (2) taxonomic research
 - (3) husbandry research
- Captive breeding programs

Where captive programs are indicated, there is an attempt to propose the level of captive programs required, reflecting status and prospects in the wild as well as taxonomic distinctiveness. The level of captive program is defined by its genetic and demographic objectives which translate into a target population size that will be required to achieve these goals. There will be multiple genetic and demographic objectives depending on the status and prospects of the taxon in the wild and hence different captive population targets: some taxa need large populations for a long time; others need small incipient nuclei or reduced gene pools that can be expanded later if needed. Computer models and software exist (Ballou 1991) to establish rough targets now.

The general scheme used in the primate action plan is:

Mace/Lande Category	Captive Recommendation	Level of Captive Program
Critical	90%/100 Years I	Population sufficient to preserve 90% of the average heterozygosity of the wild gene pool for 100 years, developed as soon as possible (1-5 years).
Endangered	90%/100 Years II	Population sufficient to preserve 90% of the average heterozygosity of the wild gene pool for 100 years but developed more gradually (5-10 years).
Vulnerable	Nucleus I	A captive nucleus (probably between 50-100 individuals) to always represent 98% of the wild gene pool. This type of program will require periodic, but in many cases modest immigration/importation of individuals from the wild population to maintain this high level of genetic diversity in such a limited captive population. Models are currently being developed to indicate the level of immigration and size of nuclei that will be necessary to achieve specified objectives. Reproductive technologies will facilitate this strategy.
Safe	Nucleus II	A well-managed captive nucleus (25-100) for taxa not of conservation concern but present in captivity or otherwise of interest to captive collections.
	Elimination	Taxa are not of conservation concern and are not otherwise of interest for captive breeding. The population should be managed to extinction.

This scheme, especially the nucleus populations, are predicated on the concept that captive populations can be treated as an integral part of the metapopulations being managed by conservation strategies and action plans. Further, the scheme proposes that animals or their genetic material be interchanged as needed between captive and wild populations. Basically, the nuclei would be small populations in captivity that would need to be subsidized genetically, and perhaps demographically, from the wild while natural populations are still large enough to fulfill this function without significant detriment (Not Threatened = Safe, Vulnerable). This system would normally require the addition of several wild-caught individuals per generation to the captive nucleus. If and when the wild populations declined into a greater state of threat (i.e. Endangered), this subsidization would cease and the nucleus could be expanded into a full program that ultimately would reinforce (subsidize) the wild population.

While the general process described has been applied by all the working groups, there is variation among them. Some of these differences are discussed in the "Group Commentary and Recommendations" in each of the geographic sections below. Moreover, there is not consensus on all of the results of this process. The editors have attempted to represent the majority opinions that emerged from the working groups and the review process. However, there is dissent, particularly on the issue of attempting to estimate population numbers and use them to assign risks. In this regard, no Workshop participant or PSG member should be assumed to endorse any particular element of this Plan. Ultimate responsibility resides with the editors.

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**SECTION 4
TAXONOMY**

TAXONOMY

Primate taxonomy is still poorly resolved. It has not been possible to use any one classification system for the entire order. In general, there has been an attempt to be as compatible as possible with the classifications used in the Action Plans and other publications of the IUCN SSC Primate Specialist Group.

Much research, in both the field and the laboratory, is needed to resolve the many taxonomic problems. Two major kinds of taxonomic problems may be distinguished. One comprises cases where the relationships among populations in the wild is not clear. The other concerns captive populations which are of unknown or mixed origin. Taxonomic research is needed to resolve both kinds of problems.

Amid these uncertainties, the most conservative approach in terms of risk assessment and management recommendations is initially to recognize the maximal distinction among possible "subspecies", or in better terminology geographically defined populations, 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.

For the purpose of this global assessment, it has seemed useful to analyze primate taxa in terms of both geographic distribution and taxonomic group. Geographically, the Order is divided into 4 regions: Africa, Madagascar, Asia, and the Americas (i.e., Central and South America). This division will in many respects reflect the realities of implementing action plans in both the wild and captivity and conforms with the system being used by the Primate Specialist group for its Action Plans. For a different perspective, the primates are divided into 10 broad ecological-taxonomic groups: Madagascar prosimians, Non-Madagascar prosimians, African cercopithecines, Asian cercopithecines, African colobines, Asian colobines, cebids, callithricids, hylobatids, and pongids. This division is based on a combination of ecological factors that relate to the realities of the kinds of captive space (habitat) that is available for primates. These factors include size (small, medium, large), diet (e.g. folivores, frugivores, omnivores), schedule (nocturnal, diurnal), and zoogeography.

The classification used in this Plan for African primates has been based largely on Oates (1985). There are major problems for the classification of red colobus and guenons. The logic presented by Oates for red colobus has been adopted here. The guenon classification conforms to the system suggested by Lernould (1988). Hence, the generic name used is what is termed "subgenus" by Lernould and the specific name is what he terms "species".

The classification of the Galaginae is currently under review. Since species and even genera are under question, it was impossible to enumerate most subspecific forms. The classification, including generic nomenclature, of Nash et al. (1989) has been adopted for the present.

The classification used by Harcourt and Thornback (1990) has been adopted, with modification, for Malagasy primates. *Lemur catta* is recognized as the sole species in the genus *Lemur*. The species *fulvus*, *macaco*, *cornatus*, *mongoz* and *rubriventer* are placed in the genus *Eulemur* (Simon and Rumpler 1988; Macedonia and Shedd, in press).

The classification for Asian primates used in this Plan has been based largely on is presented in Eudey (1987). The Asiatic colobines are another taxonomic mire. The nomenclature used here adheres to Eudey (1987) but with reference to Napier (1985) and with Whitten et al. (1984) consulted for additional information on Sumatran taxa.

Mittermeier et al. (1988) provides the basis for the classification used for American primates. Hershkovitz (1977) provides most of the detail for the classification of the Callitrichidae. For the purposes of this assessment, *Callimico* has been included in the Callitrichidae. As justified by Mittermeier et al. (1988), the taxa in the genus *Leontopithecus* are considered species and a new species *caissara* has been added.

In all cases, the references cited above can be consulted for further discussion and justification of the classification and nomenclature used.

Using the classifications as described, 238 species and 512 "taxa" (i.e., subspecies or species if no subspecies contained therein) are currently recognized by this Conservation Assessment and Management Plan. While there may be considerable agreement on the number of species, probably no one will agree precisely with the "taxa" number. Many will consider the number too high. However, as emphasized throughout this document, the CAMP will be an continuing and evolving process. The classification will adapt in response to new information.

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SECTION 5

**OVERVIEW OF PRIMATE
CONSERVATION ASSESSMENTS & RECOMMENDATIONS**

OVERVIEW OF PRIMATE CONSERVATION ASSESSMENTS AND RECOMMENDATIONS

- Figure 2 provides an overview of the geographical distribution in the wild of the 238 species and 512 taxa (subspecies or species) being recognized by this edition of the Plan.
- Figure 3 provides an overview of the threat assessments and management recommendations for primate taxa by geographic region.
- Mace/Lande categories of threat assigned to taxa are presented:
 - by continent in Table 2A and
 - by broad ecological-taxonomic group of primate in Table 2B.

The distribution of threatened taxa are depicted:

- for Africa in Figure 4A;
- for Madagascar in Figure 4B;
- for Asia in Figure 4C;
- for the Americas in Figure 4D.

A total of 222 primate taxa have been placed in a category of threat using the Mace-Lande criteria: 59 Critical, 71 Endangered, 92 Vulnerable. Thus, 43% of the 512 recognized primate taxa are threatened.

- For comparison, the 1990 IUCN Red List (World Conservation Monitoring Center 1990) identifies 141 primate taxa (species or subspecies) as threatened (Endangered, Vulnerable, Rare, Indeterminate, Insufficiently Known) (Table 3). The IUCN Red List number of taxa may be as high as 208 depending on how subspecies are considered where only the species is cited.
- Overviews of intensive action recommendations for primates are provided:
 - by category of threat in Table 4A;
 - by geographic region of origin in Table 4B;
 - by broad taxonomic group in Table 4C.

The recommendations for intensive conservation action by region are depicted:

- for Africa in Figure 5A;
- for Madagascar in Figure 5B;
- for Asia in Figure 5C;
- for the Americas in Figure 5D;
- A total of 136 PHVAs are recommended as presented. A number of regional PHVAs are also recommended as discussed in the Regional Working Group Reports.
- More intensive *in situ*, i.e. in the wild, management is suggested for 37 taxa.

- Research is recommended for 193 taxa as presented:
 - by category of threat in Table 5A;
 - by geographic region of origin in Table 5B;
 - by broad ecological-taxonomic group in Table 5C.

The need for more taxonomic research is identified for 136 taxa.

Field surveys are recommended for 156 taxa.

The need for husbandry research is identified for 47 taxa.

- A total of 229 primate taxa are recommended for captive programs as presented:
 - by category of threat in Table 6A;
 - by geographic region in Table 6B;
 - by broad ecological-taxonomic group in Table 6C.

All 61 recognized genera of primates are represented in the recommendations for captive programs. However, only 162 of the 238 species are represented; 75 species are not currently represented among the taxa recommended for captive programs (i.e., no subspecies within these species is being recommended for a captive program).

- Tables 7-10 present the assessments of threat and recommendations for action for primate taxa by geographic region and within region by degree of threat:

Table 7A	African Critical Primate Taxa
Table 7B	African Endangered Primate Taxa
Table 7C	African Vulnerable Primate Taxa
Table 7D	African Safe Primate Taxa
Table 8A	Madagascar Critical Primate Taxa
Table 8B	Madagascar Endangered Primate Taxa
Table 8C	Madagascar Vulnerable Primate Taxa
Table 8D	Madagascar Safe Primate Taxa
Table 9A	Asian Critical Primate Taxa
Table 9B	Asian Endangered Primate Taxa
Table 9C	Asian Vulnerable Primate Taxa
Table 9D	Asian Safe Primate Taxa
Table 10A	American Critical Primate Taxa
Table 10B	American Endangered Primate Taxa
Table 10C	American Vulnerable Primate Taxa
Table 10D	American Safe Primate Taxa

- Individual taxon sheets providing more detail on assessments and recommendations are provided in Appendices 1-4: Appendix 1 for Africa; Appendix 2 for Madagascar; Appendix 3 for Asia; Appendix 4 for the Americas. These sheets are incomplete but are provided in part as a guide to elicit and organize acquisition of further data.
- Appendix 5 presents the assessments of threat and the recommendations for action for all primate taxa in a traditional taxonomic order.

CONSERVATION ASSESSMENT & ACTION PLAN (CAMP) FOR PRIMATES

FIGURE 2

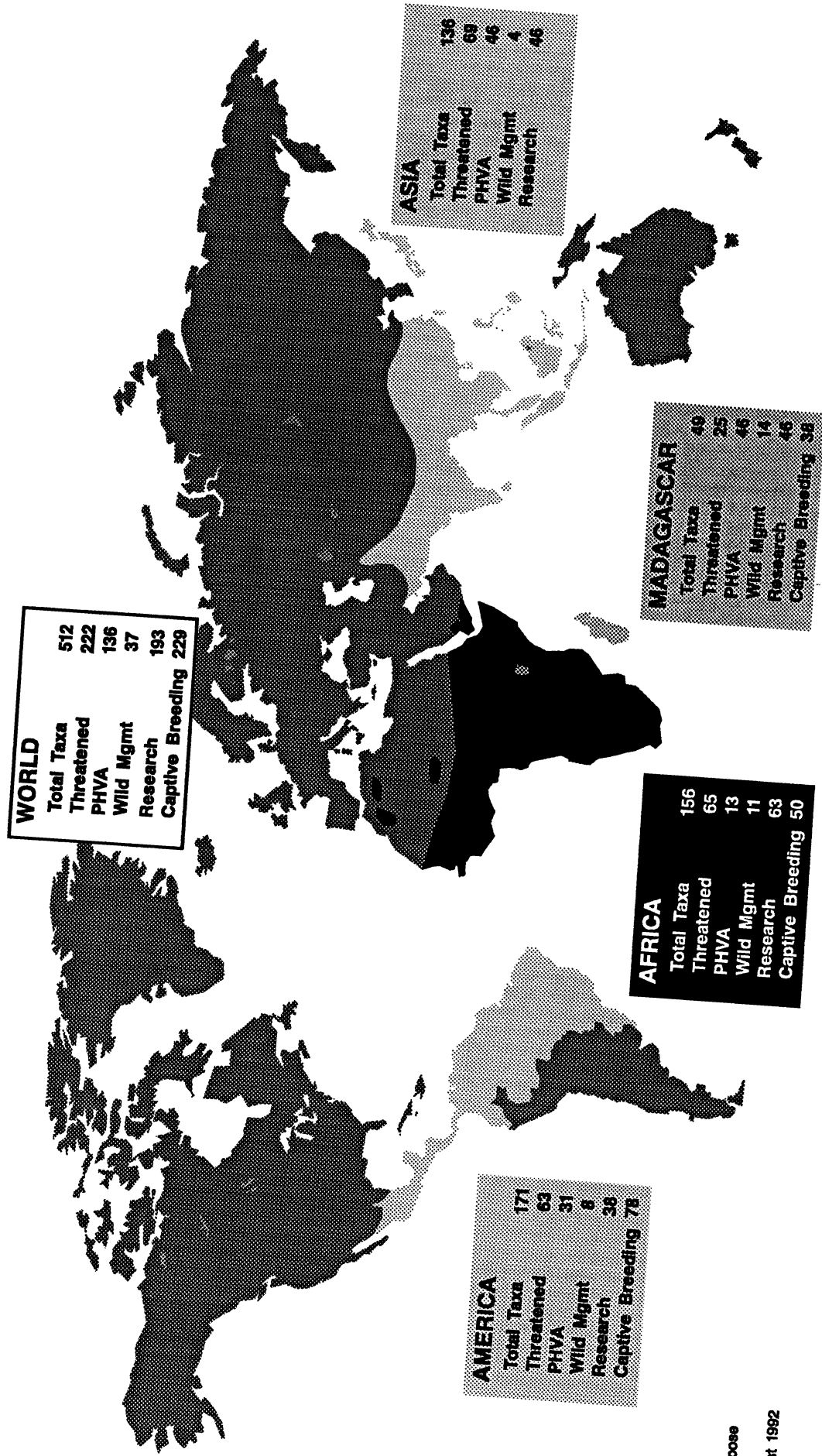
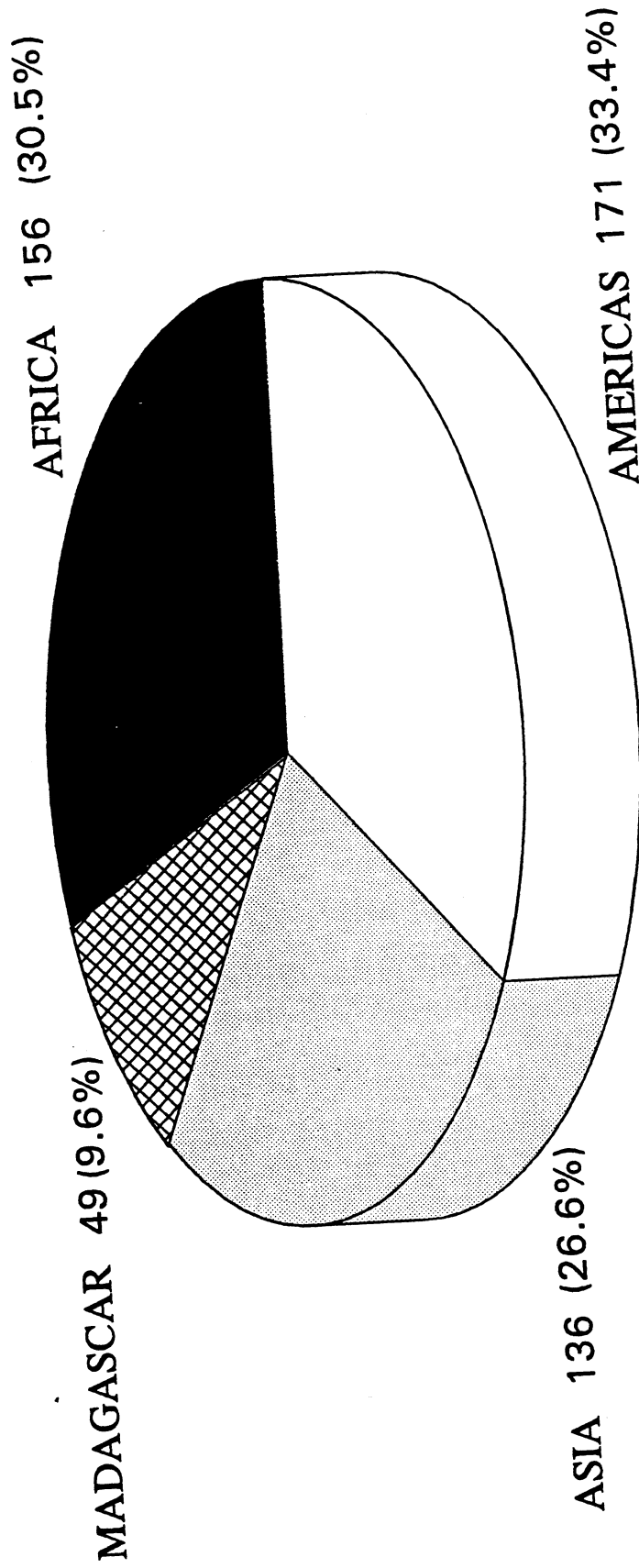


FIGURE 3

PRIMATE TAXA BY REGION



TOTAL 512 PRIMATE TAXA

TABLE 2A

REGION	TAXA			CRIT	END	VUL	SAFE	TOTAL THREATENED		
	Genera	Species	Subspecies = Total Taxa					Genera	Species	Subspecies = Total Taxa
AFRICA	18	67	156	7	12	46	91	16	45	65
MADAGASCAR	14	31	49	7	10	8	24	7	16	25
ASIA	13	64	136	30	22	17	67	12	37	69
AMERICAS	16	77	171	15	27	21	108	15	40	63
WORLD	61	239	512	59	71	92	290	50	138	222

TABLE 2B

NUMBER OF TAXA AND DEGREE OF THREAT FOR PRIMATES
BY BROAD TAXONOMIC GROUP

REGION	TAXA			CRIT	END	VUL	SAFE		TOTAL THREATENED		
	Genera	Species	Subspecies = Total Taxa				Subspecies = Total Taxa	Genera	Species	Subspecies = Total Taxa	
Malagasy Prosimians	14	31	49	7	10	8	24	7	16	25	
Other Prosimians	8	22	30	0	3	9	18	6	8	12	
African Cercopitheciines	9	40	106	4	7	21	74	9	27	32	
Asian Cercopitheciines	1	19	24	1	6	1	16	1	8	8	
African Colobines	2	11	29	2	5	15	7	2	11	22	
Asian Colobines	7	26	67	21	9	9	28	6	19	39	
Cebids	11	50	119	11	19	20	69	11	28	50	
Callitrichids	5	27	52	4	8	1	39	4	12	13	
Hylobatids	1	9	27	8	2	2	15	1	5	12	
Pongids	3	4	9	1	2	6	0	3	4	9	
ALL PRIMATES	61	239	512	59	71	92	290	50	138	272	

TABLE 3

THREATENED PRIMATES OF THE WORLD
Comparison of IUCN Red List and Mace/Lande Classification Results

IUCN RED LIST		ENDG	VULN	RARE	INDET	K	NOT IUCN	TOTAL
M	L	34	11	1	2	0	11	59
A	A	29	19	1	3	2	17	71
C	N	9	38	2	1	6	36	92
E	D	3	25	10	7	3	242	290
E	E	75	93	14	13	11	306	512

TABLE 4A

INTENSIVE ACTION RECOMMENDATIONS BY CATEGORY OF THREAT						
MACE/LANDE	TOTAL TAXA	PHVA	WILD MGMT	RESEARCH	CAPTIVE PROGRAM	
CRITICAL	59	51	17	49	55	
ENDANGERED	71	42	16	48	47	
VULNERABLE	92	21	4	49	53	
SAFE	290	22	0	47	74	
TOTALS	512	136	37	193	229	

TABLE 4B

INTENSIVE ACTION RECOMMENDATIONS BY REGION						
REGION	TOTAL TAXA	THREATENED TAXA	PHVA	WILD MGMT	RESEARCH	CAPTIVE PROGRAM
AFRICA	156	65	13	11	63	50
MADAGASCAR	49	25	46	14	46	38
ASIA	136	69	46	4	46	63
AMERICAS	171	63	31	8	38	78
WORLD	512	222	136	37	193	229

TABLE 4C

INTENSIVE ACTION RECOMMENDATIONS BY BROAD TAXONOMIC GROUP						
PRIMATE GROUP	TOTAL TAXA	THREATENED TAXA	PHVA	WILD MGMT	RESEARCH	CAPTIVE PROGRAM
Malagasy Prosimians	49	25	46	14	46	38
Other Prosimians	30	12	1	1	10	14
African Cercopithecines	106	32	10	4	30	34
Asian Cercopithecines	24	8	6	1	9	9
African Colobines	29	22	3	7	26	6
Asian Colobines	67	39	27	1	21	30
Cebids	119	50	25	3	30	50
Callitrichids	52	13	6	5	8	28
Hylobatids	27	12	12	1	8	13
Pongids	9	9	0	0	5	7
ALL PRIMATES	512	222	136	37	193	229

TABLE 5A

RECOMMENDED RESEARCH BY CATEGORY OF THREAT							
MACE/LANDE	TOTAL TAXA	TAXONOMIC	SURVEY	HUSBANDRY	TOTAL PROJECTS	TOTAL TAXA FOR PROJECTS	
CRITICAL	59	36	45	11	92	49	
ENDANGERED	71	26	39	11	76	48	
VULNERABLE	92	34	43	9	86	49	
SAFE	290	40	29	16	85	47	
TOTALS	512	136	156	47	339	193	

TABLE 5B

RECOMMENDED RESEARCH BY REGION							
REGION	TOTAL TAXA	THREATENED TAXA	TAXONOMIC	SURVEY	HUSBANDRY	TOTAL PROJECTS	TOTAL TAXA FOR PROJECTS
AFRICA	156	65	44	42	1	87	63
MADAGASCAR	49	25	33	46	28	107	46
ASIA	136	69	40	44	5	89	46
AMERICAS	171	63	19	24	13	56	38
WORLD	512	222	136	156	47	339	193

TABLE 5C

RECOMMENDED RESEARCH BY BROAD TAXONOMIC GROUP							
PRIMATE GROUP	TOTAL TAXA	THREATENED TAXA	TAXONOMIC	SURVEY	HUSBANDRY	TOTAL PROJECTS	TOTAL TAXA FOR PROJECTS
Malagasy Prosimians	49	25	33	46	28	107	46
Other Prosimians	30	12	7	10	0	17	10
African Cercopithecines	106	32	19	20	0	39	30
Asian Cercopithecines	24	8	8	8	5	21	9
African Colobines	29	22	25	15	1	41	26
Asian Colobines	67	39	17	21	0	38	21
Cebids	119	50	18	17	13	48	30
Callitrichids	52	13	1	7	0	8	8
Hylobatids	27	12	7	8	0	15	8
Pongids	9	9	1	4	0	5	5
ALL PRIMATES	512	222	136	156	47	339	193

TABLE 6A

RECOMMENDATIONS FOR CAPTIVE PROGRAMS BY CATEGORY OF THREAT						
MACE/LANDE	90/100 I	90/100 II	NUC I	NUC II	TOTAL	
CRITICAL	54	1	0	0	55	
ENDANGERED	12	34	1	0	47	
VULNERABLE	11	6	33	3	53	
SAFE	0	0	6	68	74	
TOTAL	77	41	40	71	229	

TABLE 6B

RECOMMENDATIONS FOR CAPTIVE PROGRAMS BY REGION									
REGION	TOTAL TAXA	THREATENED MACE/LANDE	90/100 I	90/100 II	NUCI	NUC II	TOTAL CAP PROGRAMS		
AFRICA	156	65	11	7	10	22	50		
MADAGASCAR	49	25	11	5	13	9	38		
ASIA	136	69	37	6	8	12	63		
AMERICAS	171	63	18	23	9	28	78		
WORLD	512	222	77	41	40	71	229		

TABLE 6C

RECOMMENDATIONS FOR CAPTIVE PROGRAMS BY BROAD TAXONOMIC GROUP							
PRIMATE GROUP	TOTAL TAXA	THREATENED MACE/LANDE	90/100 I	90/100 II	NUC I	NUC II	TOTAL CAP PROGRAMS
Malagasy Prosimians	49	25	11	5	13	9	38
Other Prosimians	30	12	1	2	6	5	14
African Cercopithecines	106	32	7	6	4	17	34
Asian Cercopithecines	24	8	3	2	0	4	9
African Colobines	29	22	1	0	3	2	6
Asian Colobines	67	39	23	1	1	5	30
Cebids	119	50	11	18	8	13	50
Callitrichids	52	13	7	5	1	15	28
Hylobatids	27	12	8	2	2	1	13
Pongids	9	9	5	0	2	0	7
ALL PRIMATES	512	222	77	41	40	71	229

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SECTION 6

**AFRICA PRIMATE TAXA
ASSESSMENTS & RECOMMENDATIONS**

AFRICA

Working Group: Fred Koontz, Jean-Marc Lernoald, John Oates, Dave Ruhter, Miranda Stevenson, Tom Struhsaker.

Tables 7A-7D present the assessments and recommendations for Africa primate taxa by each of the categories of threat.

Figure 4A illustrates categories of threat for Africa primate taxa in relation to other continents.

Figure 5A illustrates the recommendations for intensive conservation action for Africa primate taxa.

Fewer taxa have been recommended for captivity both in relation to total number of taxa from the region and number of taxa currently in captivity for Africa when compared to the other continents.

Group Commentary and Recommendations

- (1) Categories are assigned using the Mace-Lande criteria; estimates of total population size, degree of population fragmentation, rate of decline, and other social, economic and environmental factors are used. Taxonomic rank is also considered, however, for this group it played a minor role in designations because taxa are mostly equal; exceptions are *Arctocebus* and *Allenopithecus*.
- (2) Understanding of African primate taxonomy is limited. From a conservation perspective, a taxonomic review is sorely needed for: galagos; baboons; *Cercocebus galeritus*; *Cercopithecus pogonias* and *wolffi*; *Miopithecus*; red colobus; *Colobus angolensis* (subspecies?); *Colobus guereza* (subspecies?); *Pan troglodytes* (subspecies?); *Gorilla gorilla* (subspecies?). Highest priority goes to chimpanzees and gorillas.
- (3) Regional Action Plans are suggested for:
 - A. E. Nigeria/W. Cameroon/Bioko Island for: drill; *C. preusii*; *C. torquatus*; *C. pogonias pogonias*; *C. erythrotis*; 2 red colobus forms; and the local gorilla.
 - B. Togo, Benin, Nigeria to Cross River, for: *C. erythogaster*; *C. sclateri*; the local olive colobus; and the local chimpanzee.
 - C. Tana River Primates of Kenya.
 - D. Primates of Uzungwa Mountains and Zanzibar Island, Tanzania.
- (4) Regional Surveys are suggested for:
 - A. Eastern Ivory Coast and Western Ghana.
 - B. Many distributional questions in Zaire.

- (5) Taxa that are in captivity, and are Critical, Endangered, or Vulnerable are recommended for 90/100 I or II. Taxa not in these threat categories, but with existing captive populations of sufficient numbers are recommended for Nucleus I or II. Taxa not threatened, but with very low captive numbers are listed as eliminate (by phasing out). It is important to note that nucleus plans should be managed carefully, as conservation status can change rapidly in Africa.
- (6) Threatened taxa that are not already maintained in a captive breeding program, should be considered for such a program only after a holistic action plan for the species has been formulated. Threatened taxa not in captivity should be considered for captive breeding during PHVA workshops.
- (7) Hybrid issue: This needs to be resolved by the zoo community, however, it is the consensus of the group that hybrids should be avoided. For some taxa with low numbers, animals that need social partners might be housed with contracepted members of another subspecies.
- (8) It is suggested that *Arctocebus* be considered for a captive breeding program, due to its taxonomic distinctiveness and thus scientific study value.
- (9) It is suggested that a trial program for one of the red colobus be conducted to serve as a model for more at risk species.
- (10) Some taxa, e.g. *Procolobus badius temminckii* may need trial husbandry projects before the full captive programs recommended as required can be implemented.
- (11) Zoo biologist are encouraged to consider training programs for African zoo managers and keepers.

TABLE 7A

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA AFRICA CRITICAL

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE		
				SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Cercocebus galeritus</i>	<i>galeritus</i>	< 700			C1						W1	M1	T		NO REC
	<i>Cercopithecus solatus</i>		5-10,000			C1						W	M	S	7	90/100 II
	<i>Cercopithecus sclateri</i>		1-3,000			C1						W		T	0	90/100 I
	<i>Cercopithecus erythrogaster</i>	<i>togo benin</i>	?			C1						W		S	3	90/100 I
	<i>Procolobus rufomitratu</i>	<i>rufomitratu</i>	2-900			C1						W	M	T		NO REC
	<i>Procolobus kirikii</i>		<1,000			C1						W	M	T,S		NO REC
	<i>Gorilla gorilla</i>	<i>beringel</i>	2-300			C1										NO REC

TABLE 7B

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA AFRICA ENDANGERED

TAXON	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE				
			SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC			
<i>Cercocebus galeritus</i>	sanjei	< 600				E2								M	T,S		NO REC
<i>Mandrillus leucophaeus</i>		< 10,000				E2								M	S	86	90/100 I
<i>Cercopithecus diana</i>	roloway	10,000				E2									S	22	90/100 II
<i>Cercopithecus preussi</i>		5-10,000				E2								W			NO REC
<i>Cercopithecus nictitans</i>	stampflii	5-10,000				E2									S		NO REC
<i>Cercopithecus erythrogaster</i>	nigeria	<10,000				E2								W			NO REC
<i>Procolobus pennanti</i>	bouivieri	?				E2									T,S		NO REC
<i>Procolobus pennanti</i>	preussi	5-15,000				E2									M REG T,S		NO REC
<i>Procolobus gordonorum</i>		2-5,000				E2									M T,S		NO REC
<i>Cercopithecus mitis</i>	kandti	1,000				E2.5									S		NO REC
<i>Procolobus bacillus</i>	waldroni	10,000				E2.5									T,S		NO REC
<i>Procolobus rufomitris</i>	tephrosceles	50,000				E2.5									M T		NO REC

TABLE 7C

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
VULNERABLE

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
	<i>Galago matschiei (inusitus)</i>		<100,000				V3						S		NO REC
	<i>Galagoides thomasi</i>		<100,000				V3						S	0	NO REC
	<i>Galagoides zanzibaricus</i>		<100,000		D		V3						S	0	90/100 II
	<i>Arctocebus calabarensis</i>		<100,000				V3						S		NUC I
	<i>Cercocebus atys lunulatus</i>		50,000		D		V3						S	64	90/100 II
	<i>Cercocebus torquatus</i>		50,000		D		V3						S	120	90/100 II
	<i>Cercopithecus diana</i>		100,000				V3							240	90/100 I
	<i>Cercopithecus hamlyni</i>		100,000				V3							64	90/100 II
	<i>Cercopithecus lhoesti</i>		100,000				V3							40	90/100 II
	<i>Cercopithecus erythrotis</i>		5-10,000				V3			W					NO REC
	<i>Cercopithecus erythrotis camerunensis</i>		50,000				V3			W				3	NO REC
	<i>Cercopithecus pogonias</i>		<25,000				V3			W			T,S		NO REC
	<i>Macaca sylvanus</i>		>15,000				V3							1000	90/100 I
	<i>Procolobus badius</i>		10-100,000				V3						T		NO REC
	<i>Procolobus badius temminckii</i>		100,000				V3						T,S		NUC I
	<i>Procolobus pennanti</i>						V3						M REG T		NO REC
	<i>Procolobus verus</i>		50,000				V3			W					NO REC
	<i>Colobus polykomos</i>		100,000				V3							30	NUC I
	<i>Colobus vellerosus</i>		50-100,000				V3						S		NO REC
	<i>Colobus guereza caudatus</i>		2-10,000				V3						M3 T,S	26	90/100 I
	<i>Colobus satanas</i>		100,000				V3								NO REC
	<i>Colobus angolensis adolfriederici</i>		?				V3						T,S		NO REC
	<i>Colobus angolensis ruwenzorii</i>		?				V3						T,S		NO REC
	<i>Pan troglodytes verus</i>		8-10,000				V3						S	200	90/100 I
	<i>Pan troglodytes troglodytes</i>		51-77,000				V3							34	NUC I

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
VULNERABLE

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
<i>Pan troglodytes</i>	<i>schweinfurthi</i>		44-84,000				V3								20	NUC I
<i>Gorilla gorilla</i>	<i>gorilla</i>		30-100,000				V3							S	648	90/100 I
<i>Gorilla gorilla</i>	<i>graueri</i>		3-10,000	>10			V3							S		NO REC
<i>Cercocebus galeritus</i>	<i>chrysogaster</i>		< 50,000				V4							T,S	82	NUC I
<i>Cercocebus aterrimus</i>	<i>opdenboschi</i>		50,000				V4							T,S		NO REC
<i>Papio papio</i>			250,000				V4							S	200	NUC I
<i>Mandrillus sphinx</i>			> 10,000				V4								500	90/100 I
<i>Theropithecus gelada</i>			100,000				V4								146	90/100 I
<i>Cercopithecus salongo</i>			?				V4							S	0	NO REC
<i>Cercopithecus hamlyni</i>	<i>kahuziensis</i>		?				V4									NO REC
<i>Cercopithecus ascanius</i>	<i>atrinus</i>		?				V4							S		NO REC
<i>Cercopithecus wolffi</i>	<i>elegans</i>		?				V4							T,S		NO REC
<i>Cercopithecus aethiops</i>	<i>djamdjamensis</i>		?				V4							S	6	NUC I
<i>Allenopithecus nigroviridis</i>			10-100,000				V4							S	100	NUC I
<i>Procolobus rufomitratu</i>	<i>foai</i>		?				V4							T,S		NO REC
<i>Procolobus rufomitratu</i>	<i>elliotti</i>		?				V4							T,S		NO REC
<i>Procolobus rufomitratu</i>	<i>parmentieri</i>						V4							T,S		NO REC
<i>Colobus guereza</i>	<i>guereza</i>		?				V4							T,S	12	90/100 II
<i>Colobus guereza</i>	<i>gallarum</i>		?				V4							T,S		NO REC
<i>Pan paniscus</i>			5-10,000				V4							S	78	90/100 I

TABLE 7D

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
SAFE

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE	
		EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Galago senegalensis</i>	(no subsp)	> 100,000				Z							210	NO REC
<i>Galago senegalensis senegalensis</i>						Z								NO REC
<i>Galago senegalensis braccatus</i>						Z						2	NO REC	
<i>Galago elegantulus</i>		< 100,000				Z								NO REC
<i>Galago moholi</i>				D		Z						86	NUC II	
<i>Galago gallarum</i>						Z								NO REC
<i>Galagoides alleni</i>		> 100,000				Z								NO REC
<i>Galagoides demidovii</i>		> 100,000				Z						4	ELIM	
<i>Otolemur crassicaudatus</i>		> 100,000				Z						66	NUC II	
<i>Otolemur garnetti</i>		> 100,000				Z								NO REC
<i>Perodicticus potto</i>		> 100,000		D		Z						42	NUC II	
<i>Cercocebus atys atys</i>		100,000				Z						58	NUC II	
<i>Cercocebus galeritus agilis</i>		> 100,000				Z						16	NUC II	
<i>Cercocebus albigena (no subsp)</i>		100,000				Z								NO REC
<i>Cercocebus albigena albigena</i>						Z						15	ELIM	
<i>Cercocebus albigena zenkeri</i>						Z								NO REC
<i>Cercocebus albigena johnstoni</i>						Z								NO REC
<i>Cercocebus aterrimus aterrimus</i>		100,000				Z						T,S	78	NUC II
<i>Papio anubis</i>		> 100,000				Z							12	NUC II
<i>Papio cynocephalus</i>		> 100,000				Z							8	NUC II
<i>Papio hamadryas</i>		< 100,000				Z							500	NUC II
<i>Papio ursinus</i>		> 100,000				Z							50	NUC II
<i>Cercopithecus neglectus</i>		> 100,000				Z							900	NUC II
<i>Cercopithecus albogularis albogularis</i>		> 100,000				Z							70	NUC II
<i>Cercopithecus albogularis albotorquatus</i>						Z								NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
SAFE

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE			
				SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Cercopithecus albogularis erytharchus</i>						Z										NO REC
	<i>Cercopithecus albogularis francescae</i>						Z										NO REC
	<i>Cercopithecus albogularis kinobotensis</i>						Z										NO REC
	<i>Cercopithecus albogularis kolbi</i>						Z										NO REC
	<i>Cercopithecus albogularis labiatus</i>						Z										NO REC
	<i>Cercopithecus albogularis moloneyi</i>						Z										NO REC
	<i>Cercopithecus albogularis monoides</i>						Z										NO REC
	<i>Cercopithecus albogularis nyasae</i>						Z										NO REC
	<i>Cercopithecus albogularis phylax</i>						Z										NO REC
	<i>Cercopithecus albogularis zammaranoi</i>						Z										NO REC
	<i>Cercopithecus mitis (no subsp)</i>		> 100,000				Z								65		NUC II
	<i>Cercopithecus mitis boutourinii</i>						Z										NO REC
	<i>Cercopithecus mitis doggetti</i>						Z										NO REC
	<i>Cercopithecus mitis heymansi</i>						Z										NO REC
	<i>Cercopithecus mitis mitis</i>						Z										NO REC
	<i>Cercopithecus mitis opisthotictus</i>						Z										NO REC
	<i>Cercopithecus mitis schoutedeni</i>						Z										NO REC
	<i>Cercopithecus mitis stuhlmanni</i>						Z								2		NUC II
	<i>Cercopithecus nictitans (no subsp)</i>		> 100,000				Z										NO REC
	<i>Cercopithecus nictitans nictitans</i>						Z								40		NUC II
	<i>Cercopithecus nictitans martini</i>						Z										NO REC
	<i>Cercopithecus petaurista (no subsp)</i>		> 100,000				Z								64		NUC II
	<i>Cercopithecus petaurista petaurista</i>		< 100,000				Z										NO REC
	<i>Cercopithecus petaurista buettikoferi</i>		> 100,000				Z								6		ELIM
	<i>Cercopithecus cephus (no subsp)</i>						Z										NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
SAFE

TAXON	SCIENTIFIC NAME	RANGE	EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	RSRC CAPTIVE			
													T/S/H	NUM REC	CAP REC	
	<i>Cercopithecus cephus</i>	cephus	>100,000				Z						50	NUC II		
	<i>Cercopithecus cephus</i>	cephoides					Z								NO REC	
	<i>Cercopithecus ascanius</i>	(no subsp)					Z						150	NUC II		
	<i>Cercopithecus ascanius</i>	ascanius	?				Z								NO REC	
	<i>Cercopithecus ascanius</i>	katangae					Z								NO REC	
	<i>Cercopithecus ascanius</i>	schmidti					Z						70	NUC II		
	<i>Cercopithecus ascanius</i>	whitesidei					Z								NO REC	
	<i>Cercopithecus campbelli</i>	(no subsp)	>100,000				Z						46	NUC II		
	<i>Cercopithecus campbelli</i>	campbelli					Z						3	NO REC		
	<i>Cercopithecus campbelli</i>	lowei					Z								NO REC	
	<i>Cercopithecus mona</i>						Z						60	NUC II		
	<i>Cercopithecus pogonias</i>	(no subsp)					Z							8	ELIM	
	<i>Cercopithecus pogonias</i>	nigripes					Z								NO REC	
	<i>Cercopithecus pogonias</i>	denti					Z								NO REC	
	<i>Cercopithecus wolfi</i>	pyrogaster					Z							10	ELIM	
	<i>Cercopithecus wolfi</i>	wolfi	>100,000				Z								NO REC	
	<i>Cercopithecus aethiops</i>	(no subsp)					Z						150	NUC II		
	<i>Cercopithecus aethiops</i>	aethiops					Z								NO REC	
	<i>Cercopithecus aethiops</i>	hilgerti					Z								NO REC	
	<i>Cercopithecus aethiops</i>	matschiei					Z								NO REC	
	<i>Cercopithecus pygerythrus</i>	(no subsp)					Z								NO REC	
	<i>Cercopithecus pygerythrus</i>	arenarius					Z								NO REC	
	<i>Cercopithecus pygerythrus</i>	callidus					Z								NO REC	
	<i>Cercopithecus pygerythrus</i>	centralis					Z								NO REC	

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
SAFE

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE			
				SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Cercopithecus pygerythrus cynosuros</i>						Z										NO REC
	<i>Cercopithecus pygerythrus exubitor</i>						Z										NO REC
	<i>Cercopithecus pygerythrus helvescens</i>						Z										NO REC
	<i>Cercopithecus pygerythrus johnstoni</i>						Z										NO REC
	<i>Cercopithecus pygerythrus majoriae</i>						Z										NO REC
	<i>Cercopithecus pygerythrus nesiotus</i>						Z										NO REC
	<i>Cercopithecus pygerythrus ngamiensis</i>						Z										NO REC
	<i>Cercopithecus pygerythrus pygerythrus</i>						Z										NO REC
	<i>Cercopithecus pygerythrus rubella</i>						Z										NO REC
	<i>Cercopithecus pygerythrus rufoviridis</i>						Z										NO REC
	<i>Cercopithecus pygerythrus zavattarii</i>						Z										NO REC
	<i>Cercopithecus sabaesus (no subsp)</i>						Z									32	NUC II
	<i>Cercopithecus sabaesus budgetti</i>						Z										NO REC
	<i>Cercopithecus sabaesus marrensis</i>						Z										NO REC
	<i>Cercopithecus sabaesus tantalus</i>						Z										NO REC
	<i>Miopithecus talapoin talapoin</i>						Z								T,S		NO REC
	<i>Miopithecus talapoin northern</i>						Z								T	75	NUC II
	<i>Erythrocebus patas (no subsp)</i>						Z									300	NUC II
	<i>Erythrocebus patas baumstarki</i>						Z										NO REC
	<i>Erythrocebus patas patas</i>						Z										NO REC
	<i>Erythrocebus patas pyrrhonotus</i>						Z										NO REC
	<i>Erythrocebus patas villiersi</i>						Z										NO REC
	<i>Procolobus rufomitratus tholloni</i>		> 100,000				Z								T		NO REC
	<i>Procolobus rufomitratus oustaleiti</i>		100,000				Z								T		NO REC
	<i>Colobus guereza (no subsp)</i>		100,000				Z								T	250	NUC I

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AFRICA
SAFE

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRCCAPTIVE		
				SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Colobus guereza matschiei</i>						Z							T		NO REC
	<i>Colobus guereza kikuyuensis</i>						Z							T	252	NUC II
	<i>Colobus guereza occidentalis</i>						Z							T	0	NO REC
	<i>Colobus angolensis angolensis</i>		> 100,000				Z							T	60	NUC II
	<i>Colobus angolensis palliatus</i>						Z							T		NO REC
	<i>Pan troglodytes (no subsp)</i>						Z								2000	90/100 I

FIGURE 4A
DEGREE OF THREAT FOR PRIMATE TAXA
AFRICA

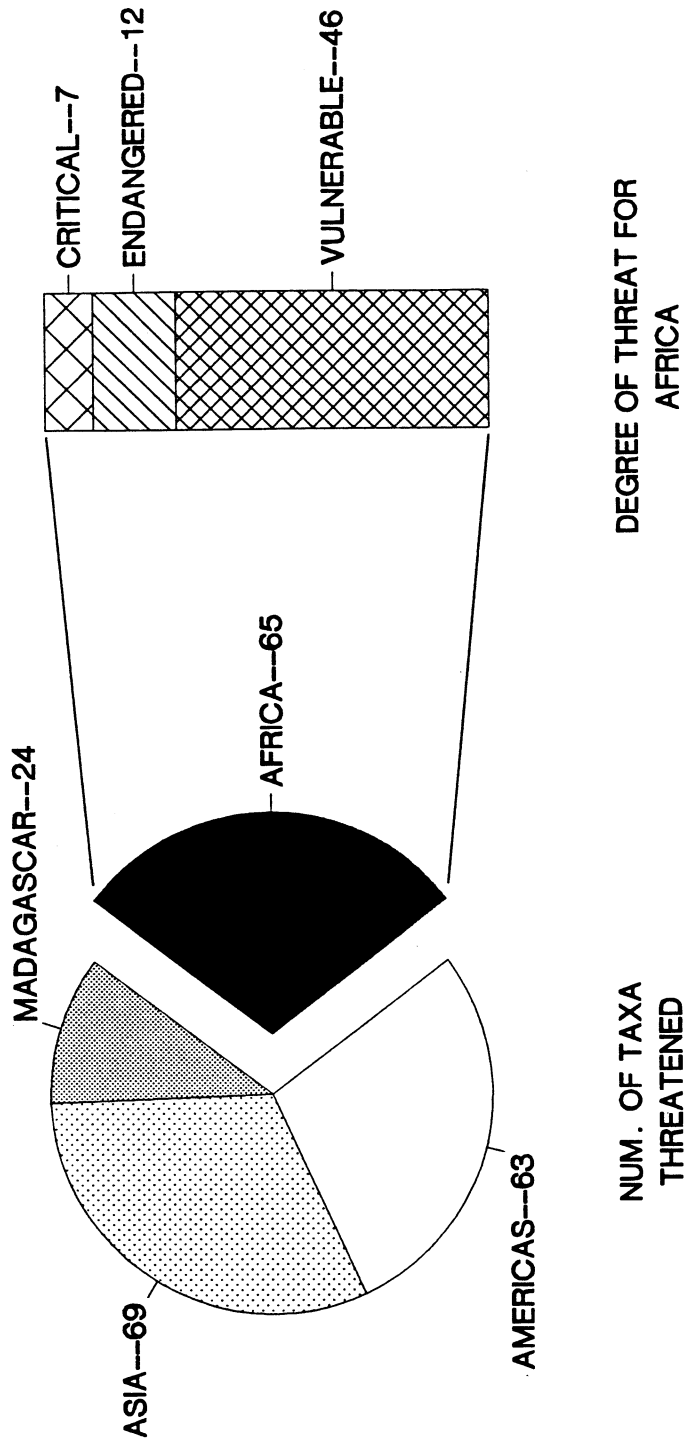
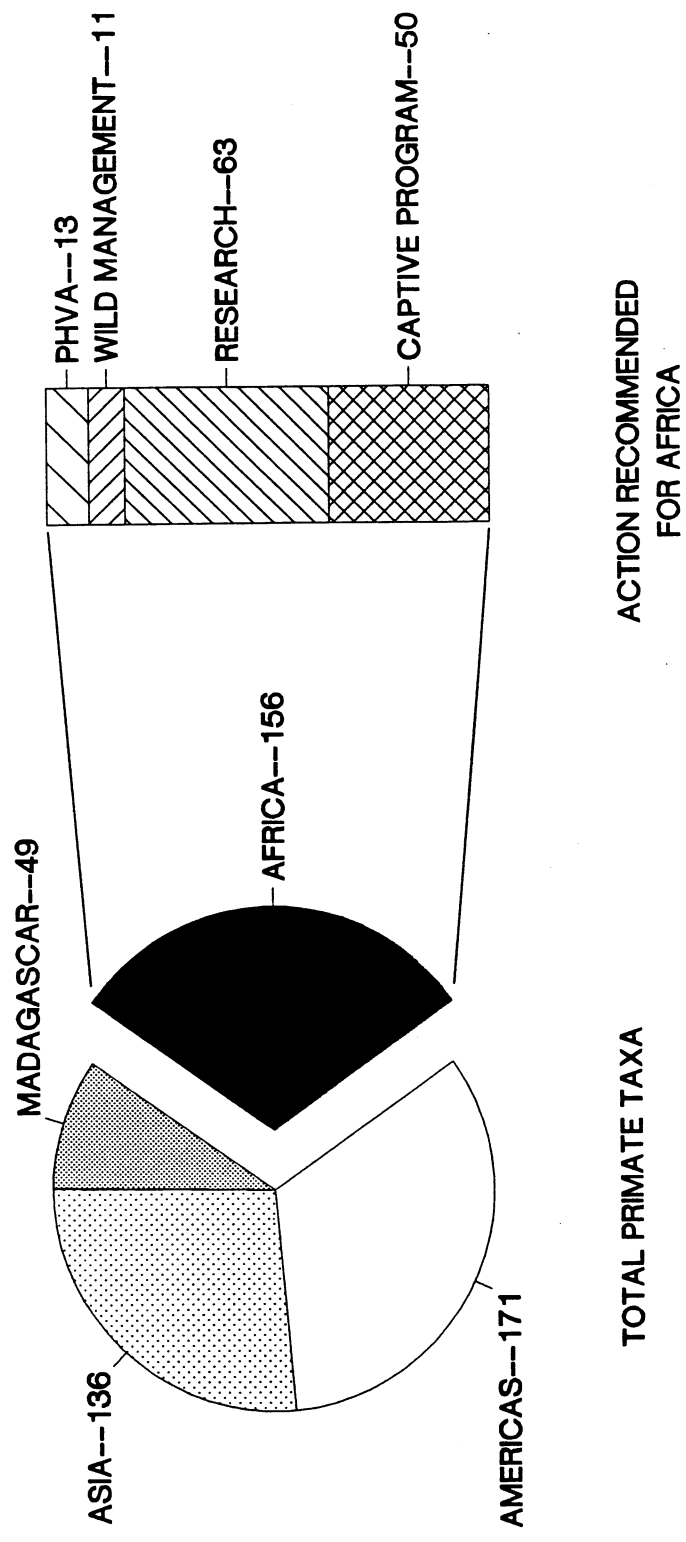


FIGURE 5A
INTENSIVE MANAGEMENT ACTION
AFRICA



**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

SECTION 7

**MADAGASCAR PRIMATE TAXA
ASSESSMENTS & RECOMMENDATIONS**

MADAGASCAR

Working Group: David Anderson, Ingrid Porton, Russ Mittermeier

Tables 8A-8D present the assessments and recommendations for Madagascar primate taxa by each of the categories of threat.

Figure 4B illustrates categories of threat for Madagascar primate taxa in relation to other continents.

Figure 5B illustrates the recommendations for intensive conservation action for Madagascar primate taxa

Group Commentary and Recommendations

- (1) 7 of the 49 taxa are classified as Critical: 5 due to very low population numbers or low numbers/fragmented populations; 2 due to relatively low numbers combined with taxonomic distinctiveness (*Daubentonia madagascariensis*, *Indri indri*).
- (2) 25 taxa are classified as Critical, Endangered, or Vulnerable. All of these taxa are recommended for captive breeding programs (90%/100 years, or nucleus population to retain 98% of wild gene pool requiring interaction with the wild.)
- (3) 24 taxa are classified as not in need of immediate attention. These include: 6 of the 7 *Leiplemur* species; 3 taxonomically controversial subspecies (*Varecia varecia subcinctus*, *V. v. editorum*, *Eulemur fulvus mayottensis*); the abundant *Cheirogaleus major* of which there are none in captivity, and *Hapalemur griseus occidentalis*.
- (4) A PHVA workshop is recommended for all taxa classified as Critical, Endangered, or Vulnerable. For species such as *Indri indri* a PHVA should occur before the initiation of a captive breeding program. This would also be useful for *Propithecus diadema*, although the two *Propithecus* species already in captivity may justifiably serve as husbandry models.
- (5) It is suggested that during the PHVA workshop for the more critically endangered lemur taxa, a review of the remaining taxa also occur. The high rate of habitat destruction and fragmentation in Madagascar essentially endangers all lemurs. A PHVA that concentrates on several highly critical forms but incorporates data on the other species from the available experts would allow for a more comprehensive lemur conservation strategy.
- (6) The direction and prioritization of wild management programs should be defined after a PHVA workshop.

- (7) Taxonomy Research: The taxonomy of many of the Malagasy prosimians remains unclear. Detailed genetic studies complemented with field information on population distributions, ecology, and behavior are essential to the resolution of these issues. The following taxonomic questions should receive priority because these taxa are already maintained in fairly large captive populations and the resolution of the species/subspecies question may impact on the direction of the existing captive breeding strategies.
- (A) *Varecia*: *Varecia varecia* has variously been divided into 2 or 4 subspecies - *V.v. rubra*, the red and black form, and *V. v. variegata*, *V.v. editorum*, and *V.v. subcinctus*, the black and white form. Research on whether the black and white form is 1, 2, or 3 subspecies should be carried out as soon as possible.
 - (B) *Eulemur fulvus*: *Eulemur fulvus* has been divided into 7 subspecies. Five of the 7 share the same chromosome number (*E.f. collaris* & *albocollaris* do not). Two taxonomists believe *E.f. mayottensis* is actually *E.f. fulvus*. Resolution of the subspecies issue will directly impact the direction of the captive management program for this group.
 - (C) *Lemur catta*: Recent taxonomic revisions identify *Lemur catta* as the sole species in the genus *Lemur*. The species *fulvus*, *macaco*, *coronatus*, *mongoz* and *rubriventer* are placed in the genus *Eulemur* (Simon & Rumpler 1988, Macedonia & Shedd in press).
 - (D) *Propithecus*: Validation of the subspecies designations within *P. diadema* and *P. verreauxi* is required (especially if *P.v. deckeni* and *P.v. coronatus* are indeed separate subspecies).
- Of lesser priority are the following:
- (E) *Phaner*: *P. furcifer* has been divided into 2 and 4 subspecies. Determine if subspecies designations appropriate.
 - (F) *Lepilemur*: The taxonomy of *Lepilemur* has not been satisfactorily resolved. Some taxonomists classify the lepilemurs as distinct species whereas others classify the different forms as subspecies within *L. mustelinus*.
- (8) Surveys: Census and distribution surveys are required for all Malagasy prosimians to allow for a more accurate assessment of the order in which taxa should receive conservation action. Survey work should be prioritized based on the current estimates of wild populations. Survey work for those taxa classified as Critical and Endangered should commence as soon as possible, preferably within 1-2 years.

- (9) Husbandry Research: Three taxa are targeted for more intense captive management programs: *Indri indri*, *Avahi laniger*, and *Propithecus diadema* have never been successfully managed in captivity. Trial husbandry programs for these species are required prior to the initiation of a captive breeding program. Such trial husbandry should initially begin at one of the zoos in Madagascar.

Although a captive breeding program is not suggested for any of the *Lepilemur* taxa, a trial husbandry program for *Lepilemur mustelinus* is suggested due to the fact that no *Lepilemurs* have been successfully maintained in captivity. It is preferred that such a program be carried out in Madagascar on an opportunistic basis should a confiscated individuals be available.

A number of species have been maintained in captivity in very small numbers (*Allocebus*, *Phaner*, *Hapilemur simus*, *Hapilemur aureus*, *Propithecus tattersalli*, *Propithecus verreauxi*, and *Daubentonia*). Husbandry protocols for these taxa are important protocols.

TABLE 8A

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA MADAGASCAR CRITICAL

TAXON	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE	
			SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Daubentonia madagascariensis</i>		>2,500		D	C	C		1	3	W1		S,H	12	90/100 I
<i>Allocebus trichotis</i>		250		D	C	C		1	2	W1		T,S,H	6	90/100 I
<i>Indri indri</i>		2,500		D	C	C		1	3	W1	M	S,H		90/100 I
<i>Propithecus verreauxi coronatus</i>		250		D	C	C		2	3	W1	M	T,S,H	2	90/100 I
<i>Propithecus tattersalli</i>		250		D	C	C		2	3	W1	M	T,S,H	3	90/100 I
<i>Eulemur macaco flavifrons</i>		> 100		D	C	C		2	3	W1		T,S	36	90/100 I
<i>Hapalemur griseus alaotrensis</i>		250		D	C	C		2	3	W1	M	T,S,H	12	90/100 I

TABLE 8B

**CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
MADAGASCAR
ENDANGERED**

TAXON	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE	
			SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Propithecus diadema candidus</i>		1,000		D		E		2	4	W1	M	T,S,H		90/100 I
<i>Propithecus diadema perrieri</i>		1,000		D		E		2	4	W1	M	T,S,H		90/100 I
<i>Eulemur coronatus</i>		>2,500		D		E		2	4	W1	M	S	38	90/100 II
<i>Eulemur mongoz</i>		2,500		D		E		2	4	W1	M	S,H	58	90/100 II
<i>Varecia variegata rubra</i>		2,500		D		E		2	4	W1	M	T,S	254	90/100 II
<i>Varecia variegata variegata</i>		5,000		D		E		2	4	W1	M	T,S	550	90/100 II
<i>Varecia variegata subcinctus</i>				D		E							2	NO REC
<i>Varecia variegata editorum</i>				D		E								NO REC
<i>Hapalemur simus</i>		1,000		D		E		2	3	W1	M	S,H	2	90/100 I
<i>Hapalemur aureus</i>		1,000		D		E		2	3	W1	M	S,H	4	90/100 I

TABLE 8C

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA MADAGASCAR VULNERABLE

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE	
		EST #	SUB POP	TRND	AREA	M/L STS	THIRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Propithecus diadema diadema</i>		>2,500		D		V		2	5	W1	M	T,S,H	3	NUC I
<i>Propithecus diadema edwardsi</i>		>2,500		D		V		2	5	W1	M	T,S,H		NUC I
<i>Propithecus verreauxi coquerli</i>		10,000		D		V		2	5	W1		T,S,H	18	NUC I
<i>Propithecus verreauxi deckeni</i>		>2,500		D		V		2	5	W1		T,S,H		NUC I
<i>Eulemur fulvus albocollaris</i>		>2,500		D		V		2	5	W2		T,S	6	NUC I
<i>Eulemur fulvus collaris</i>		10,000		D		V		2	5	W2		T,S	38	NUC I
<i>Eulemur fulvus santordi</i>		2,500		D		V		2	5	W2		T,S	18	NUC I
<i>Eulemur rubiventer</i>		>10,000		D		V		2	5	W1		S	19	NUC I

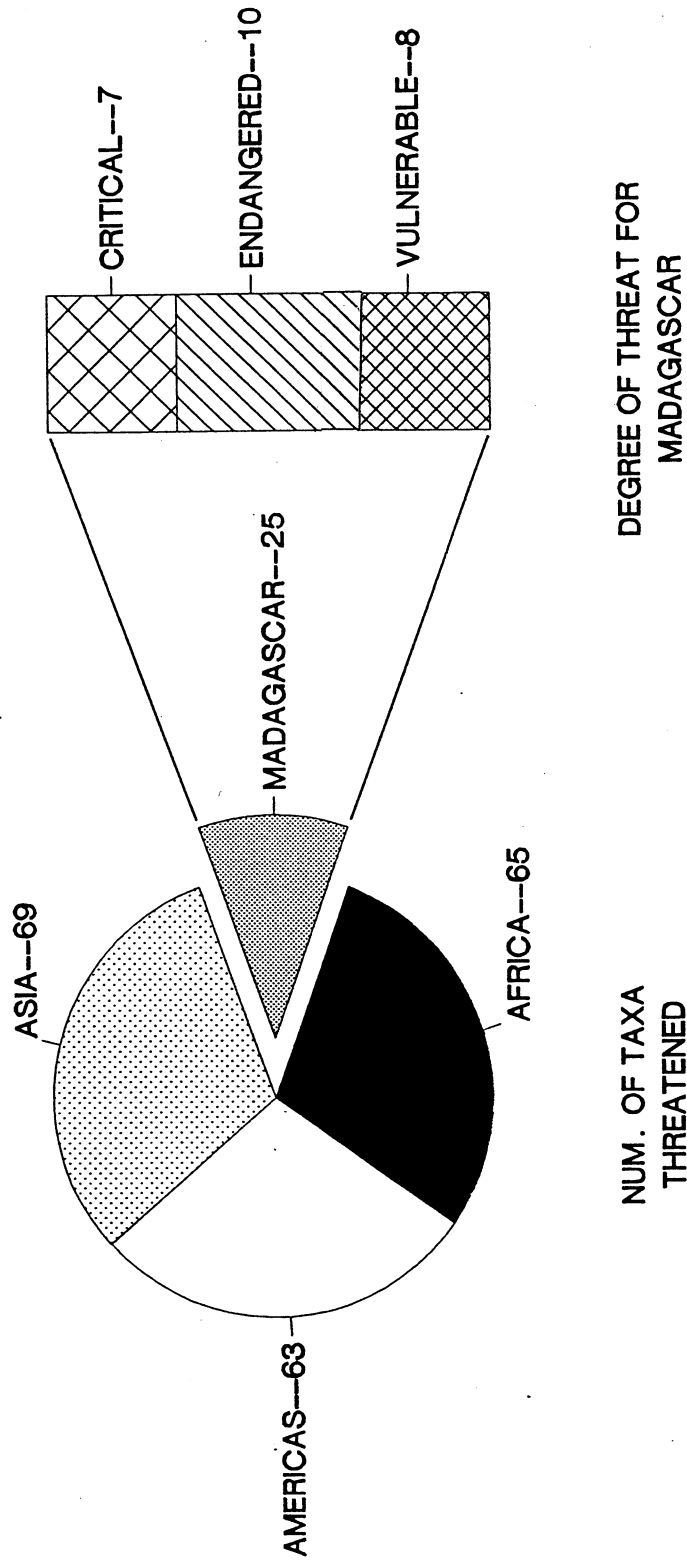
TABLE 8D

**CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
MADAGASCAR
SAFE**

TAXON	RANGE	WILD POPULATION											RSRC		CAP REC
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM		
<i>Cheirogaleus major</i>		500,000		D	Z			2	6	W3		S		NO REC	
<i>Cheirogaleus medius</i>		>500,000		D	Z			2	6	W3		S	126	NUC II	
<i>Microcebus rufus</i>		>500,000		D	Z			2	6	W3		S	20	NUC II	
<i>Microcebus murinus</i>		>500,000		D	Z			2	6	W3		S	166	NUC II	
<i>Mirza coquereli</i>		> 50,000		D	Z			1	5	W2		T,S	64	NUC I	
<i>Phaner furcifer</i>		>25,000		D	Z			1	5	W2		T,S,H	2	NUC I	
<i>Avahi laniger</i>	laniger	>10,000		D	Z			1	5	W2		T,S,H		NUC I	
<i>Avahi laniger</i>	occidentalis	>10,000		D	Z			1	5	W2		T,S,H		NUC I	
<i>Propithecus verreauxi</i>	verreauxi	100,000		D	Z			2	6	W2		T,S,H	3	NUC II	
<i>Lemur catta</i>		>10,000		D	Z			2	6	W2		T,S	815	NUC I	
<i>Eulemur fulvus</i>	fulvus	>10,000		D	Z			2	6	W3		T,S	94	NUC II	
<i>Eulemur fulvus</i>	albifrons	>10,000		D	Z			2	6	W2		T,S	109	NUC II	
<i>Eulemur fulvus</i>	mayottensis	>2,500		D	Z								68	NO REC	
<i>Eulemur fulvus</i>	rufus	100,000		D	Z			2	6	W3		T,S	64	NUC II	
<i>Eulemur macaco</i>	macaco	>10,000		D	Z			2	5	W1		T,S	240	90/100 II	
<i>Haplemur griseus</i>	griseus	100,000		D	Z			2	6	W3		T,S,H	18	NUC II	
<i>Haplemur griseus</i>	occidentalis	10,000		D	Z			2	6	W3		T,S		NO REC	
<i>Lepilemur mustelinus</i>		>10,000		D	Z			2	6	W3		T,S,H		NUC II	
<i>Lepilemur edwardsi</i>		>100,000		D	Z			2	6	W3		T,S,H		NO REC	
<i>Lepilemur dorsalis</i>		>10,000		D	Z			2	6	W3		T,S,H		NO REC	
<i>Lepilemur leucopus</i>		>100,000		D	Z			2	6	W3		T,S,H		NO REC	
<i>Lepilemur microdon</i>		>10,000		D	Z			2	6	W3		T,S,H		NO REC	
<i>Lepilemur ruficaudatus</i>		100,000		D	Z			2	6	W3		T,S,H		NO REC	
<i>Lepilemur septentrionalis</i>		10,000		D	Z			2	6	W3		T,S,H		NO REC	

FIGURE 4B

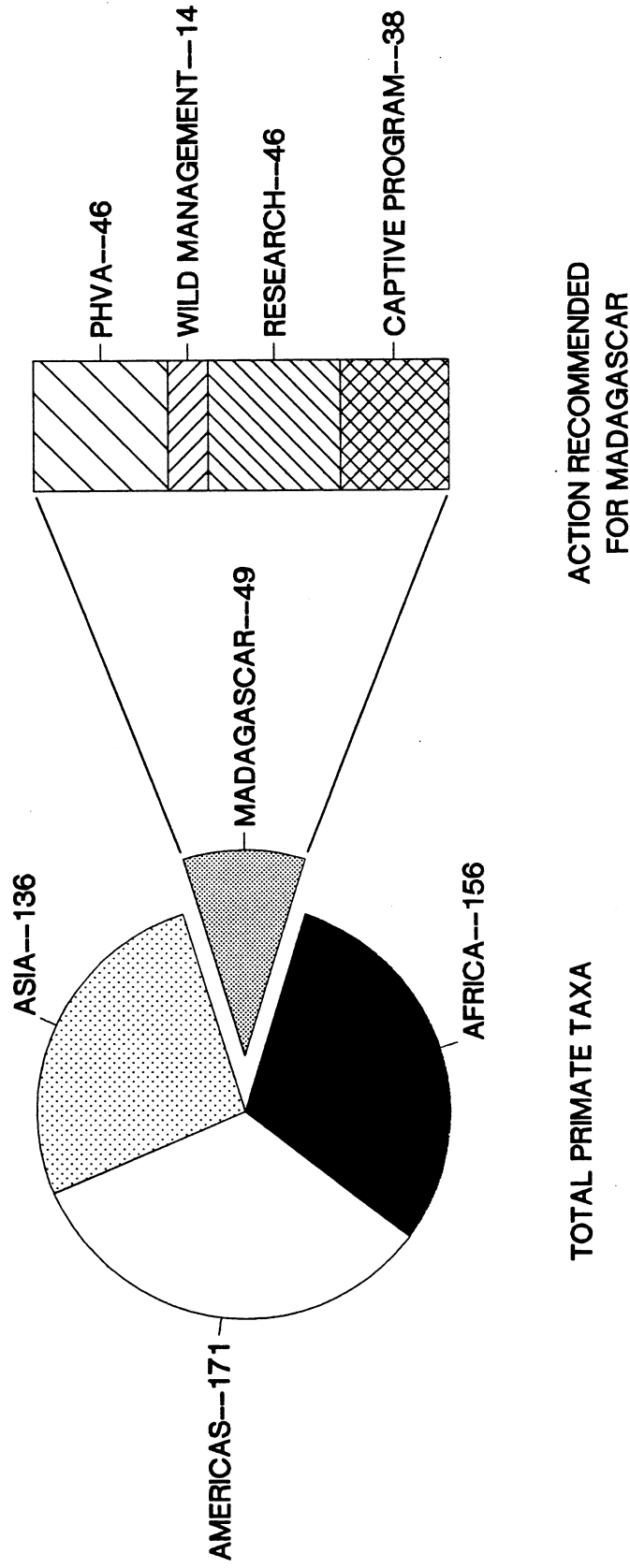
DEGREE OF THREAT FOR PRIMATE TAXA MADAGASCAR



DEGREE OF THREAT FOR
MADAGASCAR

NUM. OF TAXA
THREATENED

FIGURE 5B
INTENSIVE MANAGEMENT ACTION
MADAGASCAR



**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

SECTION 8

**ASIA PRIMATE TAXA
ASSESSMENTS & RECOMMENDATIONS**

ASIA

Working Group: Gerry Binczik, Ardeth Eudey, Leslie Johnston, Jean-Marc Lernoould, Christian Schmidt, Ron Tilson, Kathy Traylor-Holzer, Wendy Turner.

Tables 9A-9D present the assessments and recommendations for Asia primate taxa by each of the categories of threat.

Figure 4C illustrates categories of threat for Asia primate taxa in relation to other continents.

Figure 5C illustrates the recommendations for intensive conservation action for Asia primate taxa

Group Commentary and Recommendations

- (1) Of a possible 150 taxa of primates in Asia, 136 are considered. Of these taxa: 30 taxa are designated as Critical; 22 Endangered; and 17 Vulnerable.
- (2) Assignments to these categories is based on estimates of numbers in the wild, taxonomic distinctiveness, potential of rapid habitat loss and reflect the Mace-Lande criteria for priority categories.
- (3) Conservative estimates of numbers are used to conform to intuitive estimates of population status. When survey data is available and it is known that habitat is declining, population estimates are revised down to reflect this information.
- (4) For taxa in the 3 categories of threat but not already in captivity, it is strongly recommended that individuals not be moved into captivity until a Population and Habitat Viability Analysis (PHVA) has been conducted. However, it should be noted that many individuals of these taxa already may be in captivity as pets. There would be no direct detriment to the wild population by moving such animals into a captive breeding program. Designation of PHVAs for taxa with unquestionably low numbers is done without indicating a captive breeding component, since without the PHVA there is not enough information known at this time. However, it is critical to emphasize that these PHVAs must be organized as soon as possible to avoid crisis management.
- (5) Regional PHVAs are highly recommended for:

Priority 1:

- Mentawai Island primates
- Sulawesi primates
- Western Ghats (India) primates
- *Trachypithecus francoisi*
- *Rhinopithecus* ssp.

Priority 2:

- *Hylobates* spp
- Riau Islands primates (Indonesia)
- Javan primates (Bali)

- (6) Field work with Asian primates has been insufficient and many taxa are basically unknown. Therefore, some population estimates are best guesses and, in these cases, taxa have been indicated for taxonomic and distribution analysis.
- (7) Taxonomic clarification & distribution surveys are highly recommended for:

Priority 1:

- *Presbytis femoralis*
- *Presbytis melalophus*
- *Trachypithecus francoisi*

Priority 2:

- *Loris tardigradus*
- *Tarsius* spp
- *Macaca fascicularis*
- *Semnopithecus entellus*
- *Trachypithecus phayrei*
- *Hylobates lar*

- (8) Asian primates, in general, have been a neglected taxa in zoological collections. It is recommended that captive space available to Asian primates be increased to reflect the serious conservation problems they confront in the wild.
- (9) For species designated as either Critical, Endangered or Vulnerable, captive breeding plan recommendations have been included in the Tables.
- (10) For taxa which are designated as Critical, Endangered or Vulnerable but have low numbers in captivity, it is recommended that more individuals of these same taxa be moved into captivity as founders. For other closely related taxa which are not present in captivity, it is recommended that no individuals be acquired to initiate captive breeding programs until or PHVAs are completed and recommend such action. Examples of such taxa include *Tarsius syrichta* and *Trachypithecus francoisi francoisi*.
- (11) However, many taxa currently maintained in captive facilities are those designated as not in need of immediate attention. For these taxa, such as *Nycticebus coucang*, *Macaca fuscata*, *Hylobates lar* and *Hylobates syndactylus*, it is recommended that only a nucleus of 25-50 individuals be maintained in order to increase captive space available for species of greater conservation priority. This recommendation also includes taxa such as *Loris tardigradus* and *Semnopithecus entellus* where some subspecies are at risk but origin of captive stock is unknown.

- (12) There are taxa which appear to be relatively common and widespread in the wild, but need to be closely monitored due to the possibility of dramatic habitat loss or designation as distinct taxonomic categories. Taxa in this category include *Macaca arctoides* sp., *Macaca fascicularis* sp., probably some of the *Trachypithecus* sp. and *Presbytis* sp.
- (13) Other groups, such as *Nasalis* and *Simias*, due to their taxonomic distinctiveness, should be accorded high priority in all conservation action planning.

TABLE 9A

**CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
CRITICAL**

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRCCAPTIVE				
			EST #	SUB POP	TRND	AREA	M/L STS	THRTRS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Macaca pagensis</i>		< 2,500	>4	D		C								T	0	90/100 I
	<i>Semnopithecus entellus aeneas</i>		< 250				C								T,S		90/100 I
	<i>Semnopithecus entellus lulus</i>		< 250				C								T,S		90/100 I
	<i>Semnopithecus entellus dusumerei</i>		< 250				C								T,S		90/100 I
	<i>Semnopithecus entellus elissa</i>		< 250				C								T,S		90/100 I
	<i>Presbytis comata comata</i>		< 250				C										90/100 I
	<i>Presbytis comata fredericae</i>		< 250				C										90/100 I
	<i>Presbytis femoralis batuanae</i>		< 1,000		D		C								T,S	0	90/100 I
	<i>Presbytis femoralis natunae</i>		< 1,000	1	D		C								T,S	0	90/100 I
	<i>Presbytis femoralis potenziani</i>		< 250	3			C								T,S	0	90/100 I
	<i>Presbytis rubicunda carinatae</i>		< 250				C								T,S	0	90/100 I
	<i>Trachypithecus francoisi leucocephalis</i>		< 250	3?	D		C								T,S	10	90/100 I
	<i>Trachypithecus francoisi poliocephalis</i>		< 250				C								T,S	0	90/100 I
	<i>Trachypithecus francoisi delacouri</i>		< 250	3?	D		C								T,S	0	90/100 I
	<i>Trachypithecus francoisi laotum</i>		< 250				C								T,S	0	90/100 I
	<i>Trachypithecus francoisi hatinhensis</i>		< 250				C								T,S	0	90/100 I
	<i>Trachypithecus geei concolor</i>		< 250		D		C								T,S	23	90/100 I
	<i>Simias concolor siberu</i>		< 250	>3			C									0	90/100 I
	<i>Rhinopithecus avunculus siberu</i>		< 250	>1			C									0	90/100 I
	<i>Rhinopithecus avunculus tonkin</i>	Tonkin	< 250	>2			C								S	0	90/100 I
	<i>Rhinopithecus bieti</i>	Yunnan	< 2,000	FRG	D		C								S	40	90/100 I
	<i>Rhinopithecus brelichi</i>	Guizhou	< 1,000	1	S		C								S	0	90/100 I
	<i>Hylobates concolor concolor</i>		< 250				C								T,S	1	90/100 I
	<i>Hylobates concolor hainanus</i>		< 100	1-2	S		C								T,S	0	90/100 I
	<i>Hylobates concolor fuvogaster</i>		< 250				C								T,S		90/100 I

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
CRITICAL

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE			
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
<i>Hylobates concolor</i>	lu	< 250	>2	D		C					W			T,S	0	90/100 I
<i>Hylobates concolor</i>	siki	< 250				C					W			T,S	4	90/100 I
<i>Hylobates klossii</i>		< 1,000	>4	D		C					W				1	90/100 I
<i>Hylobates moloch</i>	moloch	< 1,500	19	S		C					W				10	90/100 I
<i>Hylobates pileatus</i>		< 1,000	4	D		C					W			S	66	90/100 I

TABLE 9B

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
ENDANGERED

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRCCAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Loris tardigradus malabaricus</i>		<2,500					E						M	T,S		NUC I
	<i>Tarsius syrichta</i>		<2,500	FRG D	D			E								24	90/100 II
	<i>Tarsius pumilus</i>		<2,500					E						W	T,S		NO REC
	<i>Macaca silenus</i>		<2,500	8				E						W1	M	345	90/100 I
	<i>Macaca maurus</i>		<50,000	2-5	D			E						W	T,H	1	90/100 I
	<i>Macaca nigra</i>		< 5,000	>3	D			E						W	T,S,H	106	90/100 II
	<i>Macaca thibetana</i>		< 10,000	FRG				E									NO REC
	<i>Macaca fuscata yakui</i>		< 2,500	>1	D			E						W			NO REC
	<i>Presbytis femoralis chrysomelas</i>		< 2,500	FRG D				E							T,S	0	NO REC
	<i>Presbytis femoralis cruciger</i>		< 2,500	FRG D				E							T,S	0	NO REC
	<i>Presbytis potenziani siberu</i>		< 2,500	1				E						W			NO REC
	<i>Trachypithecus vetulus monticola</i>		< 2,500					E									NO REC
	<i>Trachypithecus auratus kohlrbruggei</i>		< 2,500	FRG				E						W			NO REC
	<i>Trachypithecus cristatus vigilans</i>		< 2,500					E						W		0	NO REC
	<i>Trachypithecus francoisi francoisi</i>		< 2,500	FRG				E						W	T,S	60	90/100 II
	<i>Trachypithecus pileatus durga</i>		< 2,500	FRG				E									NO REC
	<i>Pygathrix nigripes</i>		< 2,500	>6	D			E						W		0	NO REC
	<i>Hylobates concolor leucogenys</i>		< 2,500	>2	D			E						W	T,S	70	90/100 II
	<i>Hylobates concolor gabriellae</i>		< 1,000	>2	D			E						W	T,S	17	90/100 II
	<i>Pongo pygmaeus pygmaeus</i>		37,000	>2	D			E							T	730	90/100 I
	<i>Pongo pygmaeus abelii</i>		6,000		D			E								204	90/100 I

TABLE 9C

**CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
VULNERABLE**

TAXON	RANGE	WILD POPULATION											RSRC		CAP		
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	REC	NUM	REC	
<i>Loris tardigradus</i>	<i>tardigradus</i>					V											NUC I
<i>Loris tardigradus</i>	<i>grandis</i>					V											NUC I
<i>Loris tardigradus</i>	<i>nycticeboides</i>			D		V											NUC I
<i>Loris tardigradus</i>	<i>nordicus</i>					V											NUC I
<i>Nycticebus pygmaeus</i>	<i>pygmaeus</i>	< 10,000		S		V										50	90/100 I
<i>Macaca cyclopis</i>		< 10,000	> 5	D		V				W						0	NO REC
<i>Trachypithecus vetulus</i>	<i>vetulus</i>					V											NO REC
<i>Trachypithecus vetulus</i>	<i>nester</i>					V											NO REC
<i>Trachypithecus vetulus</i>	<i>philbricki</i>					V											NO REC
<i>Trachypithecus johnii</i>		< 10,000	> 10	D		V				W						23	90/100 I
	<i>auratus</i>					V				W						30	NUC II
<i>Trachypithecus auratus</i>	<i>sondaicus</i>					V				W							NO REC
<i>Trachypithecus pileatus</i>	<i>pileatus</i>	> 2,500	FRG			V								S			NO REC
<i>Pygathrix nanaeus</i>		< 5,000	8	D		V				W						40	90/100 I
<i>Rhinopithecus roxellana</i>	Schuan	< 10,000	FRG	S		V				W						40	NO REC
<i>Hylobates hoolock</i>	<i>hoolock</i>	> 2,500	> 10			V				W						1	NUC I
<i>Hylobates hoolock</i>	<i>leuconedys</i>	> 2,500	> 10	D		V				W							NUC I

TABLE 9D

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
SAFE

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE	
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Loris tardigradus</i>	(no subsp)	>10,000		D	Z									NO REC
<i>Nycticebus cougang</i>	(no subsp)	>25,000			Z									NO REC
<i>Nycticebus cougang</i>	<i>cougang</i>	>10,000	>2	S	Z						T	100	NUC II	
<i>Nycticebus cougang</i>	<i>javanicus</i>				Z						T		NO REC	
<i>Nycticebus cougang</i>	<i>bengalensis</i>	>10,000			Z						T	8	NUC II	
<i>Nycticebus pygmaeus</i>	<i>bonhote</i>			S	Z						T		NO REC	
<i>Nycticebus intermedius ? china</i>	China				Z						T		NO REC	
<i>Tarsius bancanus</i>		>25,000		D	Z						T,S	4	NO REC	
<i>Tarsius spectrum</i>		>25,000			Z								NO REC	
<i>Tarsius diana</i>					Z						T,S		NO REC	
<i>Macaca nemestrina</i>	(no subsp)				Z							72	NUC II	
<i>Macaca nemestrina</i>	<i>nemestrina</i>	>25,000			Z								NO REC	
<i>Macaca nemestrina</i>	<i>leonina</i>	>25,000			Z							14	NO REC	
<i>Macaca nigrescens</i>		50,000	1	D	Z						T,S,H	18	NO REC	
<i>Macaca ochreata</i>		>100,000		D	Z						T,S,H	1	NO REC	
<i>Macaca brunnescens</i>		<5,000	2	D	Z						T,S,H	0	90/100 II	
<i>Macaca tonkeana</i>		>50,000		D	Z						T,S,H	7	NUC II	
<i>Macaca hecki</i>		>50,000	>3	D	Z						T,S		NO REC	
<i>Macaca sinica</i>		>10,000			Z							7	NO REC	
<i>Macaca radiata</i>		>25,000			Z							15	NO REC	
<i>Macaca assamensis</i>		>25,000		D	Z							14	NO REC	
<i>Macaca assamensis</i>	<i>assamensis</i>	>25,000			Z							20	NO REC	
<i>Macaca assamensis</i>	<i>pelops</i>	<10,000		D	Z								NO REC	
<i>Macaca fascicularis</i>	(no subsp)	>100,000		D	Z							69	NUC II	
<i>Macaca fascicularis</i>	<i>mordax</i>				Z							4	NO REC	

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
SAFE

TAXON	RANGE	WILD POPULATION										RSRC CAPTIVE		
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Macaca fascicularis philippinensis</i>				D	Z								3	NUC II
<i>Macaca mulatta (no subsp)</i>		> 100,000		S	Z								138	NUC II
<i>Macaca mulatta mulatta</i>					Z								83	NO REC
<i>Macaca mulatta valida</i>					Z								400	NUC II
<i>Macaca fuscata (no subsp)</i>					Z								276	NUC II
<i>Macaca fuscata fuscata</i>		< 25,000		5-10 D	Z									NO REC
<i>Macaca arctoides</i>		> 25,000		FRG D	Z								32	NUC II
<i>Semnopithecus entellus (no subsp)</i>		> 50,000			Z								46	NUC II
<i>Semnopithecus entellus entellus</i>		> 10,000			Z								8	NUC II
<i>Semnopithecus entellus thersites</i>					Z								16	NUC II
<i>Presbytis femoralis (no subsp)</i>		< 10,000		D	Z									NO REC
<i>Presbytis femoralis femoralis</i>		< 10,000		FRG D	Z								0	NO REC
<i>Presbytis femoralis maragae</i>					Z									NO REC
<i>Presbytis femoralis paenulata</i>					Z									NO REC
<i>Presbytis femoralis percura</i>					Z									NO REC
<i>Presbytis femoralis rhionis</i>					Z									NO REC
<i>Presbytis femoralis catemana</i>					Z									NO REC
<i>Presbytis femoralis sumatrana</i>					Z									NO REC
<i>Presbytis femoralis cana</i>					Z									NO REC
<i>Presbytis frontata</i>		> 10,000		D	Z									NO REC
<i>Presbytis hosei hosei</i>		> 10,000			Z									NO REC
<i>Presbytis hosei canicrus</i>		> 10,000			Z									NO REC
<i>Presbytis hosei sabana</i>		> 10,000			Z									NO REC
<i>Presbytis melalophos (no subsp)</i>	ERR	> 25,000		FRG D	Z									NO REC
<i>Presbytis melalophos mitrata</i>					Z									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
SAFE

TAXON	WILD POPULATION											RSRC CAPTIVE			
	SCIENTIFIC NAME	RANGE	EST #	SUB POP	TRND	AREA	M/L STS	THRTS UNQ	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Presbytis melalophos</i>	<i>fluviatilis</i>						Z								NO REC
<i>Presbytis melalophos</i>	<i>melalophos</i>						Z							1	NO REC
<i>Presbytis melalophos</i>	<i>nobilis</i>						Z								NO REC
<i>Presbytis melalophos</i>	<i>flavimanus</i>						Z								NO REC
<i>Presbytis melalophos</i>	<i>var. aurita</i>						Z								NO REC
<i>Presbytis rubicunda</i>	<i>rubicunda</i>		> 25,000				Z								NO REC
<i>Presbytis thomasi</i>	<i>(no subsp)</i>		> 10,000				Z								NO REC
<i>Presbytis thomasi</i>	<i>thomasi</i>						Z								NO REC
<i>Presbytis thomasi</i>	<i>nubilis</i>						Z								NO REC
<i>Trachypithecus vetulus</i>	<i>(no subsp)</i>		< 10,000	>4	D		Z							6	NO REC
<i>Trachypithecus auratus</i>	<i>(no subsp)</i>		< 10,000	FRG			Z								NO REC
<i>Trachypithecus cristatus</i>	<i>(no subsp)</i>		> 50,000	FRG	D		Z							15	NO REC
<i>Trachypithecus cristatus</i>	<i>cristatus</i>						Z								NO REC
<i>Trachypithecus cristatus</i>	<i>ultimus</i>						Z							31	NUC II
<i>Trachypithecus obscurus</i>			> 10,000				Z							70	NUC II
<i>Trachypithecus phayrei</i>			< 2,500	> 5	D		Z							2	NO REC
<i>Nasalis larvatus</i>			> 25,000	FRG	S		Z							26	NUC I
<i>Hylobates concolor</i>	<i>(no subsp)</i>						Z							91	NO REC
<i>Hylobates concolor</i>	<i>jindongensis</i>		< 250	1	D		Z								NO REC
<i>Hylobates lar (no subsp)</i>			> 25,000	>10	D		Z							301	NO REC
<i>Hylobates lar</i>	<i>lar</i>		< 10,000		S		Z							15	NO REC
<i>Hylobates lar</i>	<i>carpenteri</i>		> 10,000		D		Z							5	NO REC
<i>Hylobates lar</i>	<i>entelloides</i>		> 10,000		D		Z							8	NO REC
<i>Hylobates lar</i>	<i>vestitus</i>		< 10,000		D		Z								NO REC
<i>Hylobates lar</i>	<i>yunnanensis</i>		< 30		D		Z								NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ASIA
SAFE

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
	<i>Hylobates syndactylus</i>	(no subsp)	> 10,000	FRG				Z						196	NUC II
	<i>Hylobates syndactylus syndactylus</i>				D			Z						24	NO REC
	<i>Hylobates syndactylus continentis</i>				S			Z							NO REC
	<i>Hylobates hooock</i>	(no subsp)						Z							NO REC
	<i>Hylobates moloch</i>	(no subsp)						Z							NO REC
	<i>Hylobates moloch pangolisani</i>							Z							NO REC
	<i>Hylobates agilis</i>	(no subsp)	> 10,000					Z					30	NUC II	
	<i>Hylobates agilis albarbis</i>		< 10,000		D			Z							NO REC
	<i>Hylobates agilis agilis</i>		< 10,000	2	D			Z							NO REC
	<i>Hylobates agilis unko</i>				D			Z							NO REC
	<i>Hylobates muelleri</i>	(no subsp)	> 25,000	>3	D			Z					20	NUC II	
	<i>Hylobates muelleri abbotti</i>		> 10,000		D			Z					2	NUC II	
	<i>Hylobates muelleri funereus</i>		> 10,000		D			Z							NO REC
	<i>Hylobates muelleri muelleri</i>		> 10,000		D			Z							NO REC
	<i>Pongo pygmaeus</i>	(no subsp)	< 50,000		D			Z							NO REC

FIGURE 4C.
DEGREE OF THREAT FOR PRIMATE TAXA
ASIA

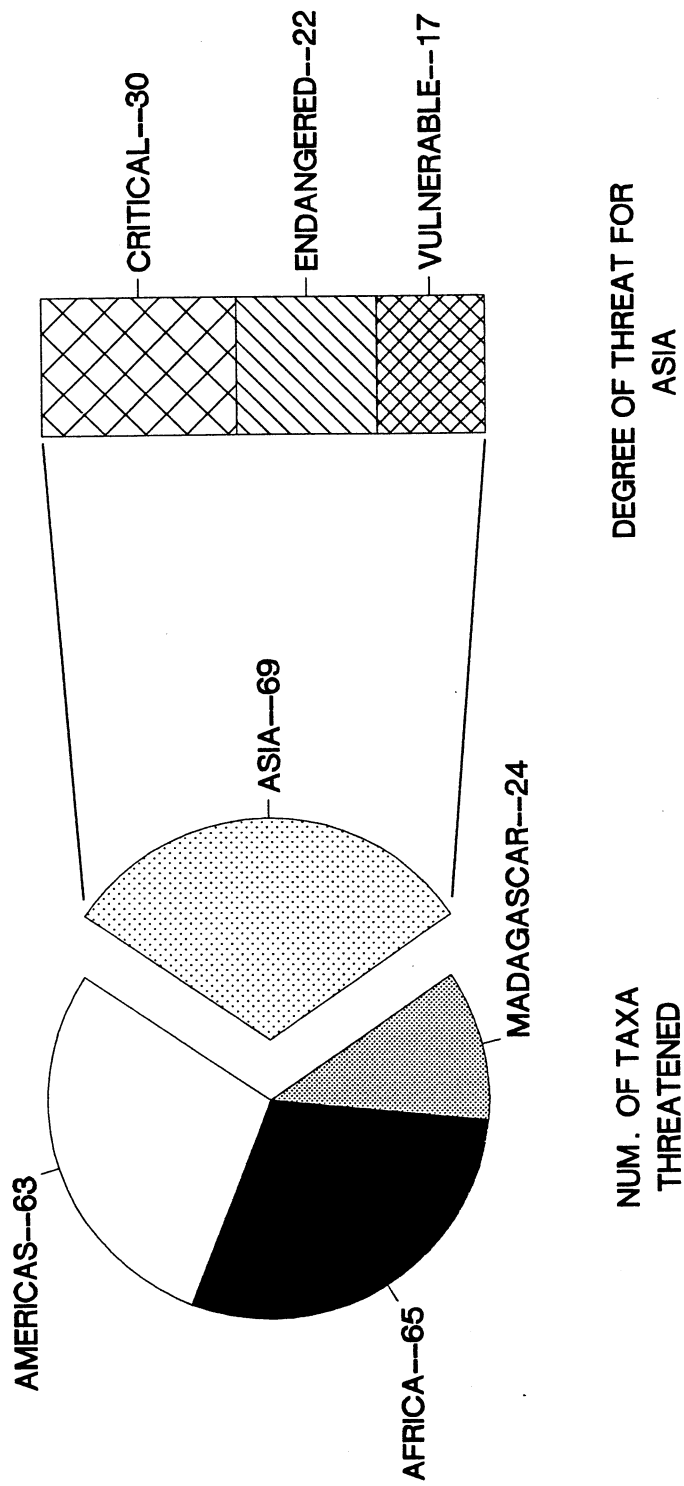
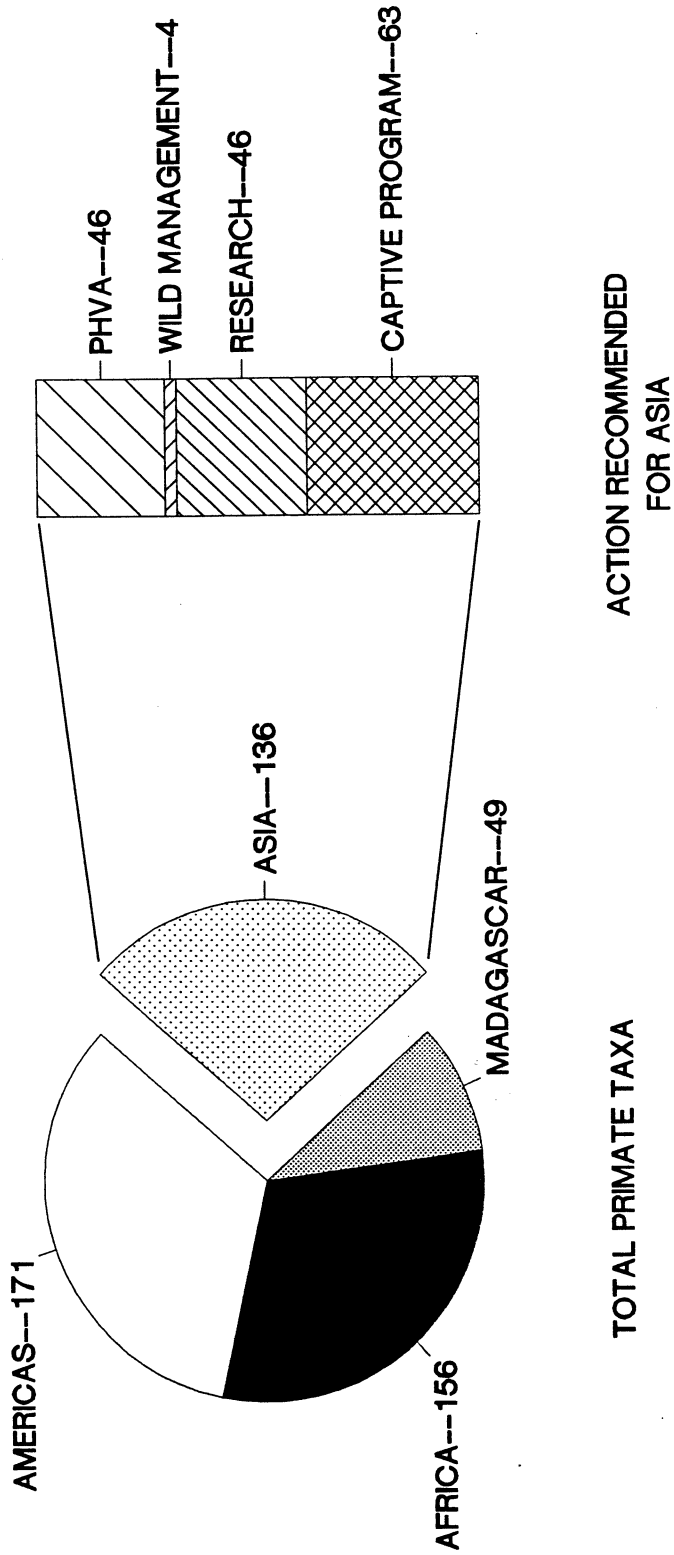


FIGURE 5C
INTENSIVE MANAGEMENT ACTION
ASIA



**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

SECTION 9

**AMERICAS PRIMATE TAXA
ASSESSMENTS & RECOMMENDATIONS**

AMERICAS

Working Group : Anne Baker, Bill Konstant, Russ Mittermeier, Frank Princee, Ann Seefeldt

Tables 10A-10D present the assessments and recommendations for America primate taxa by each of the categories of threat.

Figure 4D illustrates categories of threat for America primate taxa in relation to other continents.

Figure 5D illustrates the recommendations for intensive conservation action for America primate taxa

Group Commentary and General Recommendations

- (1) Recommendations are developed using the following process:
 - (A) Taxa are assigned to one of three categories of threat (Critical, Endangered Vulnerable) using the Mace/Lande criteria. A numerical rank is assigned to each category: 1 for Critical, 2 for Endangered, and 3 for Vulnerable.
 - (B) Taxa are ranked with respect to taxonomic distinctiveness. A rank of 1 is assigned to species in monotypic genera or in genera that included only Critical, Endangered, or Vulnerable species. A rank of 2 is assigned to species or subspecies that are Critical, Endangered, or Vulnerable, but whose conspecifics are not assigned into one of these categories.
 - (C) Taxonomic rankings are combined with numerical ranks to establish priorities for captive breeding programs. For taxa with a combined rank of 2 or 3, 90/100 I programs are recommended. For taxa with a combined rank of 4, 90/100 II programs are recommended. For taxa with a combined rank of 5, Nucleus I programs are recommended.
- (2) Numerical estimates of wild populations are conservative.
- (3) Taxa that are Critical or Endangered under the Mace/Lande criteria, and which are not presently in captivity, should not be moved into captivity until an analysis of the impact of such action on the wild population has been completed. Ideally the decision to initiate a captive population would be made as a part of a broad management program that addressed all aspects of the conservation requirements for a taxon. Population and habitat viability analyses (PHVA) provide an understanding of how changes in various parameters can impact population status, and are useful in identifying the optimal strategies for conserving a taxon. PHVA workshops are recommended for the following regions:

Top priority

- (A) A PHVA workshop that includes as many as possible of the Critical or Endangered taxa in the Atlantic Forest region of Brazil. These are:

Callithrix flaviceps
Brachyteles arachnoides
Alouatta fusca fusca
Cebus (apella) xanthosternos
Cebus apella robustus
Callithrix aurita
Callicebus personatus personatus
Callicebus personatus melanochir
Callicebus personatus barbarabrownii

- (B) A PHVA workshop that includes as many as possible of the Critical or Endangered taxa in the Amazonian region. These are:

Lagothrix lagotricha lugens
Lagothrix flavicauda
Ateles belzebuth marginatus
Ateles fusciceps fusciceps
Cacajao calvus calvus
Chiropotes albinasis
Chiropotes satanus satanus
Chiropotes satanus utahicki
Saguinus bicolor bicolor
Callithrix argentata intermedius

Medium priority

- A PHVA workshop that includes as many as possible of the Critical or Endangered taxa in the northern Colombia/Panama region. These are:

Ateles geoffroyi azurensis
Ateles belzebuth hybridus
Ateles fusciceps robustus
Alouatta coibensis coibensis
Alouatta coibensis trabeata
Aotus lemurinus lemurinus
Aotus lemurinus griseimembra
Saguinus oedipus

Lowest priority

- A PHVA workshop for the Central American region when *Ateles* taxonomy has been resolved.

- (4) Surveys are still necessary for almost all taxa. For taxa that are Critical or Endangered these survey should occur as soon as possible, preferably within a year.
- (5) There is much uncertainty about the taxonomic status of many of the American primates, particularly the Amazonian and Central American taxa. Resolving these uncertainties is extremely important. Highest priorities for taxonomic studies are: *Alouatta fusca fusca*, *Alouatta belzebul ululata*, *Brachyteles arachnoides*. Next in priority are: *Lagothrix lagotricha*, *Ateles geoffroyi*, *Ateles belzebuth hybridus*, *Ateles belzebuth marginatus*, *Cebus (apella) xanthosternos*, and *Aotus miconax*.
- (6) Husbandry research and the establishment of husbandry protocols are especially important for the following taxa: *Brachyteles arachnoides*, *Alouatta coibensis*, *Lagothrix lagotricha*.
- (7) Of the 172 American taxa, 78 are recommended for consideration for a captive breeding program: 18 in 90%/100 category; 23 in the 90%/100 II category; and 9 in the Nucleus I category. Those taxa (28) already in captivity which are not assigned to one of these categories should be managed at the Nucleus II level.
- (8) At least one representative of each of the American genera is recommended for consideration for a captive breeding effort.
- (9) An important component of a captive propagation program would be the establishment of a captive population in the country of origin. Accomplishing this will require support from zoos outside of the country and from national and international non-governmental organizations (NGOs). The need to provide long term assistance should be anticipated, but in diminishing amounts as within country support increases. Money invested can often attract local money because financial support serves as a form of recognition and "stamp of approval".

TABLE 10A

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
CRITICAL

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE			
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
<i>Callithrix flaviceps</i>		1-300	2-3	D		C								S	1	90/100 I
<i>Leontopithecus rosalia</i>		100-300				C			1	2					561	90/100 I
<i>Leontopithecus chrysopygus</i>		40-450				C			1	2					40	90/100 I
<i>Leontopithecus caissara</i>		25-125				C			1	2				S		90/100 I
<i>Callicebus personatus</i>	<i>barbarabrownae</i>	1-300				C			2	4	W			S		90/100 I
<i>Chiropotes satanas</i>	<i>satanas</i>	1-300		D		C			2	3	W			S	20	90/100 I
<i>Alouatta belzebul</i>	<i>ululata</i>	1-300				C			2	3	W			T,S,H		90/100 I
<i>Alouatta fusca</i>	<i>fusca</i>	10-12	1			C			2	3	W			T,S,H		90/100 I
<i>Alouatta colibensis</i>	<i>trabeata</i>	1-300				C			2	3	W			T,S,H		90/100 I
<i>Ateles belzebuth</i>	<i>marginatus</i>	1-300		D		C			2	3	W			T,S,H		90/100 I
<i>Ateles fusciceps</i>	<i>fusciceps</i>	1-300		D		C			2	3	W			S		90/100 I
<i>Ateles geoffroyi</i>	<i>azuereensis</i>	<100		D		C			2	3	W			T,S		90/100 I
<i>Brachyteles arachnoides</i>	(2 subspecies)	400-2000				C			1	2	W ¹			T,S,H	10	90/100 I
<i>Cebus apella</i>	<i>xanthosternos</i>	1-300				C			2	3	W			T,S	10	90/100 I
<i>Saimiri oerstedii</i>	<i>citrinellus</i>	300				C					W			M	1	NO REC

TABLE 10B

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
ENDANGERED

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Callithrix argentata leucippe</i>		1-3000	POS	D	E				2	4	W2				90/100 II
	<i>Callithrix argentata intermedia</i>		1-3,000	FRG	D	E				2	4	W2			0	90/100 II
	<i>Callithrix aurita</i>		1-3,000	6-8	D	E						W		S	9	90/100 II
	<i>Saguinus bicolor</i>		1-3,000	3	D	E				2	4	W		S	30	90/100 II
	<i>Saguinus oedipus</i>		1,000			E				2	4	W		S	1766	90/100 I
	<i>Saguinus leucopus</i>		1-3,000	FRG		E				2	4			S		90/100 II
	<i>Leontopithecus chrysomelas</i>		1-3,000			E				1	2		M		285	90/100 I
	<i>Callimico goeldii</i>		1-3,000	FRG	D	E				1	2			S	352	90/100 I
	<i>Aotus lemurinus</i>		1-3,000			E				2	4	W		S		90/100 II
	<i>Aotus lemurinus griseimembra</i>		1-3,000			E				2	4	W		S		90/100 II
	<i>Aotus miconax</i>		1-3,000			E				2	4			T,S		90/100 II
	<i>Callicebus personatus personatus</i>		1-3,000	FRG		E				2	4	W4		S		90/100 II
	<i>Callicebus personatus melanochir</i>		1-3,000	FRG		E				2	4	W		S		90/100 II
	<i>Cacaiao calvus calvus</i>		1-3,000	1		E				2	4	W		H	3	90/100 II
	<i>Chirotopes albinasus</i>		1-3,000		D	E				2	4	W			2	90/100 II
	<i>Chirotopes satanas utahicki</i>		1-3,000			E				2	4	W				90/100 II
	<i>Alouatta palliata mexicana</i>		1-3,000	FRG		E				2	4			H		90/100 II
	<i>Alouatta coibensis coibensis</i>		500-1,000	1		E				2	4	W3		H		90/100 II
	<i>Ateles belzebuth hybridus</i>		100-1000	FRG		E				2	4	W			22	90/100 II
	<i>Ateles fusciceps robustus</i>		1-3000	4	D	E				2	4	W			70	90/100 II
	<i>Ateles geoffroyi geoffroyi</i>		?		D	E				2	4			T	142	90/100 II
	<i>Ateles geoffroyi frontatus</i>		5-10,000	2	D	E				2	4			T		90/100 II
	<i>Ateles geoffroyi panamensis</i>		100-2000	3	D	E				2	4			T	4	90/100 II
	<i>Lagothrix lagotricha lugens</i>		1-3,000			E				2	4	W		T,H	4	90/100 II
	<i>Lagothrix flavicauda</i>		1-3,000			E				2	4	W				NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
ENDANGERED

TAXON	WILD POPULATION													RSRC CAPTIVE	
	RANGE	EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
<i>Cebus apella</i>		1-3,000				E		2	4	W		S		90/100 II	
<i>Saimiri oerstedii</i>		2,000	FRG			E		2	4				1	90/100 II	

TABLE 10C

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA AMERICAS VULNERABLE

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE			
				SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Callithrix humeralifer</i>		?				V										NUC I
	<i>Callicebus cupreus</i>		10,000				V										NO REC
	<i>Callicebus cupreus</i>		10,000				V										NO REC
	<i>Callicebus cupreus</i>		10,000				V										NO REC
	<i>Callicebus torquatus</i>		10,000				V									1	NO REC
	<i>Callicebus torquatus</i>		10,000				V										NO REC
	<i>Callicebus torquatus</i>		10,000				V										NUC I
	<i>Callicebus oenanthe</i>		10,000				V										NO REC
	<i>Callicebus caligatus</i>		10,000				V										NO REC
	<i>Callicebus moloch</i>		10,000				V									24	NUC II
	<i>Callicebus brunneus</i>		10,000				V										NO REC
	<i>Callicebus modestus</i>		10,000				V										NO REC
	<i>Callicebus olallae</i>		10,000				V										NO REC
	<i>Callicebus donacophilus</i>		10,000				V										NO REC
	<i>Callicebus personatus</i>		3-10,000				V									21	NUC II
	<i>Pithecia albicans</i>		1-3,000				V										NUC I
	<i>Ateles belzebuth</i>		1-3,000		D		V					2	5				NUC I
	<i>Ateles geoffroyi</i>		10-50,000		D		V					2	5			10	NUC I
	<i>Lagothrix lagothricha</i>		>10,000				V					2	4			40	NUC I
	<i>Lagothrix lagothricha</i>		>10,000				V					2	5			1	NUC I
	<i>Lagothrix lagothricha</i>		>10,000				V					2	5			14	NUC I

TABLE 10D

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA AMERICAS SAFE

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE	
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM REC	CAP REC
<i>Callithrix argentata</i>	<i>argentata</i>	> 100,000	NUM D		Z								29	NUC II
<i>Callithrix argentata</i>	<i>melanura</i>	> 100,000			Z								33	NUC II
<i>Callithrix nigriceps</i>		> 1-3,000			Z									NO REC
<i>Callithrix humeralifer</i>	<i>humeralifer</i>	> 100,000			Z									NO REC
<i>Callithrix jacchus</i>		> 100,000	FRG		Z								223	NUC II
<i>Callithrix geoffroyi</i>		> 10,000			Z								70	NUC II
<i>Callithrix kuhli</i>		10,000	> 10		Z								60	NUC II
<i>Callithrix penicillata</i>		> 100,000			Z								22	NUC II
<i>Cebuella pygmaea</i>		100,000			Z								613	NUC II
<i>Saguinus nigricollis</i>	<i>nigricollis</i>	> 10,000			Z								1	NO REC
<i>Saguinus nigricollis</i>	<i>graeli</i>	> 10,000			Z									NO REC
<i>Saguinus nigricollis</i>	<i>hermandezi</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>fuscicollis</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>acrensis</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>aviapiresi</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>crandalli</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>cruzlimai</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>fuscus</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>illigeri</i>	> 10,000			Z								42	NUC II
<i>Saguinus fuscicollis</i>	<i>lagonotus</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>leucogenys</i>	> 10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>melanoleucus</i>	10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>nigrifrons</i>	10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>primitivus</i>	10,000			Z									NO REC
<i>Saguinus fuscicollis</i>	<i>weddellii</i>	10,000			Z								19	NUC II

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
SAFE

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRC CAPTIVE				
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Saguinus tripartitus</i>		10,000					Z									NO REC
	<i>Saguinus mystax</i>	<i>mystax</i>	100,000					Z								30	NUC II
	<i>Saguinus mystax</i>	<i>pileatus</i>	>10,000					Z									NO REC
	<i>Saguinus mystax</i>	<i>pluto</i>	10,000					Z									NO REC
	<i>Saguinus labiatus</i>	<i>labiatus</i>	>100,000					Z								49	NUC II
	<i>Saguinus labiatus</i>	<i>thomasi</i>	>10,000					Z									NO REC
	<i>Saguinus imperator</i>	<i>(no subsp)</i>						Z									NO REC
	<i>Saguinus imperator</i>	<i>imperator</i>	100,000					Z								15	NUC II
	<i>Saguinus imperator</i>	<i>subgriseus</i>	100,000					Z								87	NUC II
	<i>Saguinus midas</i>	<i>midas</i>	>100,000					Z								109	NUC II
	<i>Saguinus midas</i>	<i>niger</i>	100,000					Z									NO REC
	<i>Saguinus inustus</i>		10,000					Z									NO REC
	<i>Saguinus bicolor</i>	<i>martinsi</i>	10,000					Z									NO REC
	<i>Saguinus bicolor</i>	<i>ochraceus</i>	10,000					Z									NO REC
	<i>Saguinus geoffroyi</i>		10,000					Z								87	NUC II
	<i>Aotus vociferans</i>		100,000					Z								22	NUC II
	<i>Aotus trivirgatus</i>		100,000					Z								76	NUC II
	<i>Aotus brumbacki</i>		100,000					Z									NO REC
	<i>Aotus nigriceps</i>		100,000					Z									NO REC
	<i>Aotus infulatus</i>							Z									NO REC
	<i>Aotus azarae</i>	<i>azarae</i>	10,000					Z									NO REC
	<i>Aotus azarae</i>	<i>boliviensis</i>	10,000					Z									NO REC
	<i>Aotus nancymai</i>		10,000					Z									NO REC
	<i>Callicebus torquatus</i>	<i>lucifer</i>	10,000					Z									NO REC
	<i>Callicebus torquatus</i>	<i>regulus</i>	10,000					Z									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
SAFE

TAXON	RANGE	WILD POPULATION										RSRC CAPTIVE			
		EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
<i>Callicebus torquatus</i>	<i>purinus</i>	10,000				Z									NO REC
<i>Callicebus moloch</i>	<i>remulus</i>	10,000				Z									NO REC
<i>Callicebus donacophilus</i>	<i>pallescens</i>					Z									NO REC
<i>Cacajao calvus</i>	<i>rubicundus</i>	> 10,000				Z							8	NUC II	
<i>Cacajao calvus</i>	<i>ucayalii</i>	> 10,000				Z									NO REC
<i>Cacajao calvus</i>	<i>novaesi</i>	> 10,000				Z									NO REC
<i>Cacajao melanocephalus</i>	<i>melanocephalus</i>	> 10,000				Z							1	NO REC	
<i>Cacajao melanocephalus</i>	<i>ouakary</i>	10,000				Z									NO REC
<i>Chiropotes satanas</i>	<i>chiropotes</i>	> 10,000		D		Z							1	NO REC	
<i>Pithecia pithecia</i>	<i>pithecia</i>	100,000				Z							95	NUC II	
<i>Pithecia pithecia</i>	<i>chrysocephala</i>	100,000				Z									NO REC
<i>Pithecia monachus</i>	<i>monachus</i>	10,000				Z									NO REC
<i>Pithecia monachus</i>	<i>milleri</i>	10,000				Z									NO REC
<i>Pithecia irrorata</i>	<i>irrorata</i>	10,000				Z									NO REC
<i>Pithecia irrorata</i>	<i>vanzolinii</i>	10,000				Z									NO REC
<i>Pithecia aequatorialis</i>		> 10,000				Z									NO REC
<i>Alouatta seniculus</i>	(no subsp)	> 100,000				Z							12	NUC II	
<i>Alouatta seniculus</i>	<i>sara</i>	> 100,000				Z							10	NUC II	
<i>Alouatta seniculus</i>	<i>straminea</i>	10,000				Z							2	NO REC	
<i>Alouatta belzebul</i>	<i>belzebul</i>	10,000				Z									NO REC
<i>Alouatta belzebul</i>	<i>discolor</i>	10,000				Z									NO REC
<i>Alouatta belzebul</i>	<i>nigerrima</i>	10,000				Z									NO REC
<i>Alouatta fusca</i>	<i>clamitans</i>	10,000				Z									NO REC
<i>Alouatta palliata</i>	<i>palliata</i>	> 10,000				Z							6	NUC II	
<i>Alouatta palliata</i>	<i>aequatorialis</i>	> 10,000				Z									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
SAFE

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION											RSRC CAPTIVE	
				SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Alouatta pigra</i>		10,000				Z								1	NO REC
	<i>Alouatta caraya</i>		100,000				Z								58	NUC II
	<i>Ateles paniscus</i>						Z									NO REC
	<i>Ateles paniscus paniscus</i>		> 100,000		D		Z								19	NUC II
	<i>Ateles paniscus chamek</i>		> 10,000		D		Z								34	NUC II
	<i>Ateles geoffroyi</i>						Z									NO REC
	<i>Ateles geoffroyi griseus</i>		?		D		Z									NO REC
	<i>Ateles geoffroyi pan</i>		?				Z									NO REC
	<i>Ateles geoffroyi ornatus</i>		?				Z								9	NO REC
	<i>Ateles geoffroyi yucatanensis</i>		?				Z									NO REC
	<i>Lagothrix lagothricha</i>						Z									NO REC
	<i>Cebus albifrons</i>						Z								35	NO REC
	<i>Cebus albifrons albifrons</i>						Z									NO REC
	<i>Cebus albifrons adustus</i>						Z									NO REC
	<i>Cebus albifrons aequatorialis</i>						Z									NO REC
	<i>Cebus albifrons cesarae</i>						Z									NO REC
	<i>Cebus albifrons cuscini</i>						Z									NO REC
	<i>Cebus albifrons hypoleucus</i>						Z									NO REC
	<i>Cebus albifrons leucocephalus</i>						Z									NO REC
	<i>Cebus albifrons maitiosus</i>						Z									NO REC
	<i>Cebus albifrons pleei</i>						Z									NO REC
	<i>Cebus albifrons trinitatis</i>						Z									NO REC
	<i>Cebus albifrons unicolor</i>						Z									NO REC
	<i>Cebus albifrons versicolor</i>						Z									NO REC
	<i>Cebus albifrons yuracus</i>						Z									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
AMERICAS
SAFE

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THIRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Cebus capuchinus</i>		> 100,000				Z								74	ELIM
	<i>Cebus olivaceus</i>						Z									NO REC
	<i>Cebus apella</i> (no subsp)						Z								154	ELIM
	<i>Cebus apella</i> <i>apella</i>		> 100,000				Z									NO REC
	<i>Cebus apella</i> <i>libidinosus</i>		< 100,000				Z									NO REC
	<i>Cebus apella</i> <i>nigritus</i>		> 10,000				Z									NO REC
	<i>Cebus apella</i> <i>macrocephalus</i>						Z									NO REC
	<i>Cebus apella</i> <i>pallidus</i>						Z									NO REC
	<i>Cebus apella</i> <i>cucullatus</i>						Z									NO REC
	<i>Cebus apella</i> <i>maranonis</i>						Z									NO REC
	<i>Saimiri sciureus</i> (no subsp)						Z								299	NO REC
	<i>Saimiri sciureus</i> <i>sciureus</i>		> 100,000				Z								80	NUC II
	<i>Saimiri sciureus</i> <i>macrodon</i>		> 100,000				Z									NO REC
	<i>Saimiri sciureus</i> <i>cassiquiarensis</i>		> 10,000				Z									NO REC
	<i>Saimiri sciureus</i> <i>albigena</i>		> 100,000				Z									NO REC
	<i>Saimiri boliviensis</i> <i>boliviensis</i>		> 100,000				Z								25	NUC II
	<i>Saimiri boliviensis</i> <i>peruviensis</i>		> 100,000				Z									NO REC
	<i>Saimiri boliviensis</i> <i>jaboruensis</i>		> 100,000				Z									NO REC
	<i>Saimiri boliviensis</i> <i>pluvialis</i>		> 10,000				Z									NO REC
	<i>Saimiri boliviensis</i> <i>vanzolinii</i>		?				Z									NO REC
	<i>Saimiri ustus</i>		10,000				Z									NO REC

FIGURE 4D
DEGREE OF THREAT FOR PRIMATE TAXA
AMERICAS

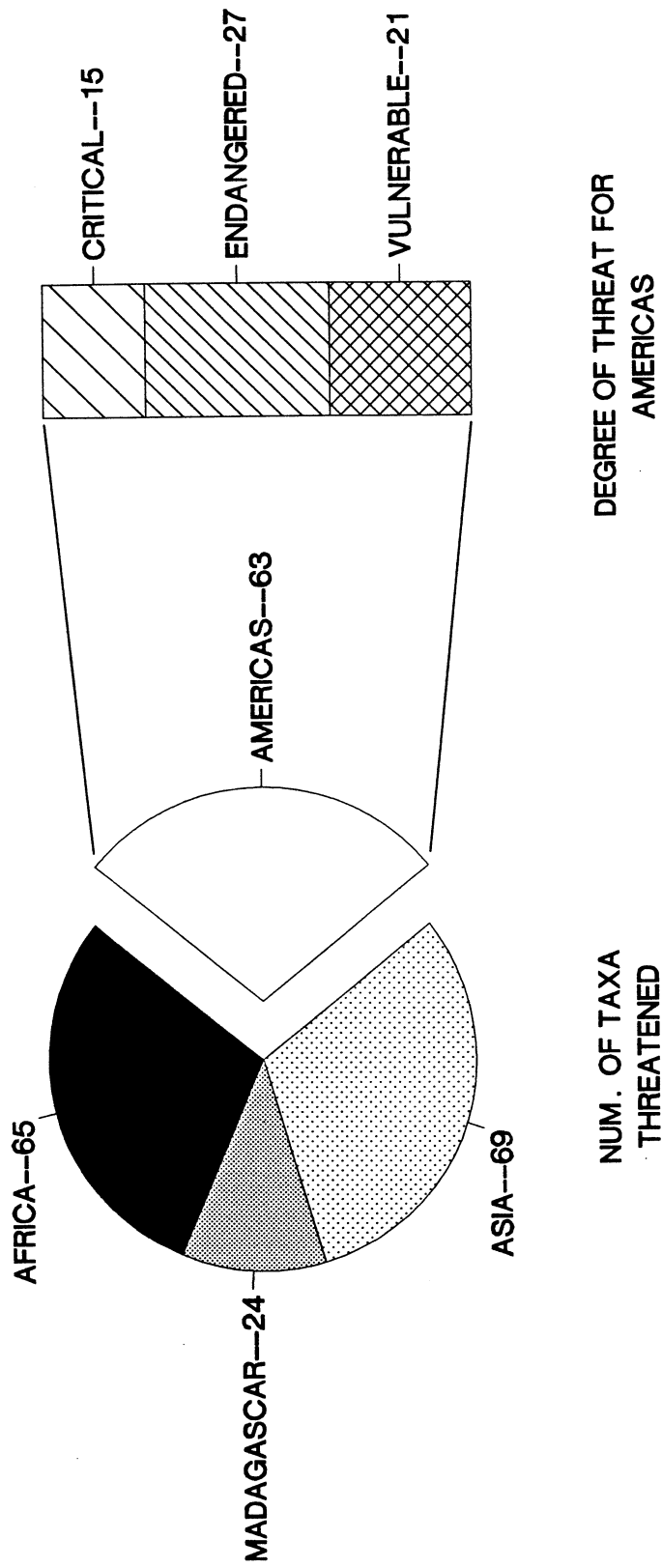
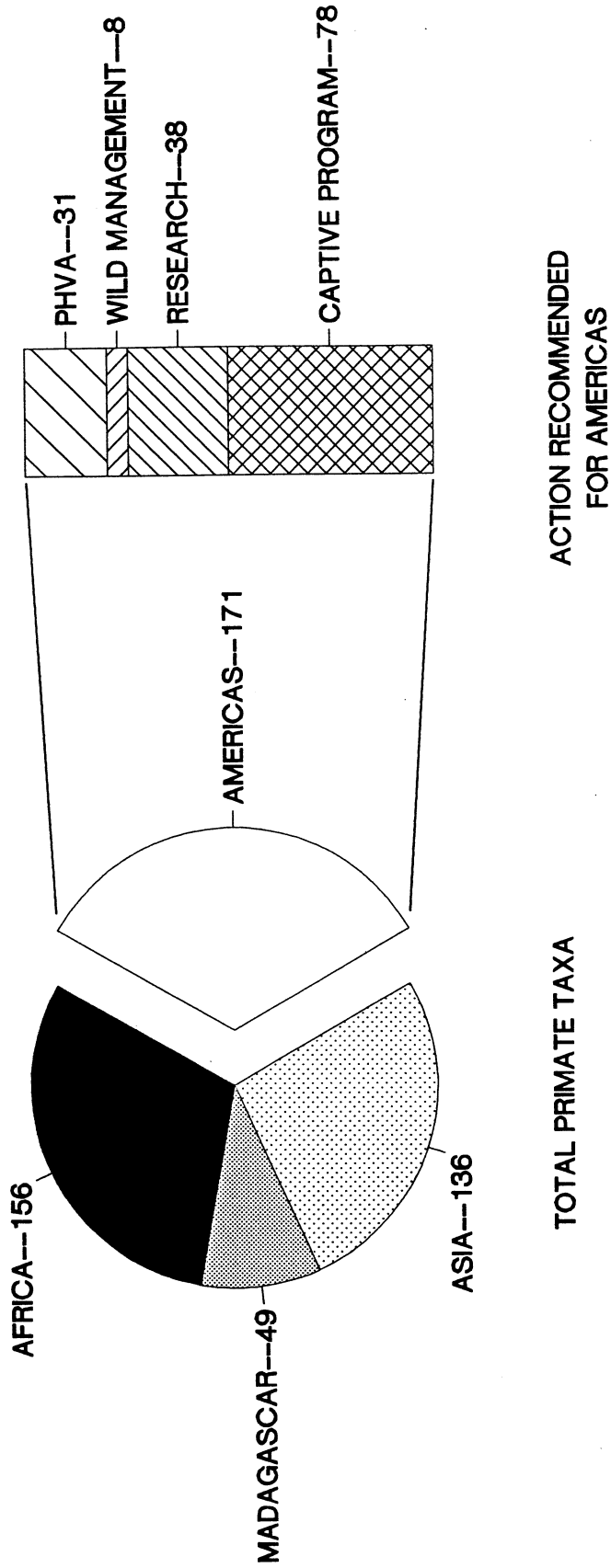


FIGURE 5D
INTENSIVE MANAGEMENT ACTION
AMERICAS



**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

APPENDIX 1

**AFRICA PRIMATE TAXA
INDIVIDUAL TAXON SHEETS**

AFRICAN PRIMATES CATEGORY CRITICAL

SPECIES: *Cercocebus galeritus galeritus* **TANA RIVER MANGABEY**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C1

Distribution:
Field Studies:
Estimated wild population: <700

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Taxonomic,
PHVA:Yes

SPECIES: *Cercopithecus solatus* **SUN-TAILED MONKEY**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - C1

Distribution:
Field Studies:
Estimated wild population: 5-10,000

Captivity: 7

Concerns/Comments:

Recommendations: Wild Management
Research: Survery,
PHVA:Yes

SPECIES: *Cercopithecus sclateri* **SCLATER'S GUENON**

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C1

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:Yes

SPECIES: *Cercopithecus erythrogaster* (*Togo, Benin*) **WHITE-THROATED
GUENON**

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C1

Distribution:
Field Studies:
Estimated wild population:

Captivity: 3

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:Yes

SPECIES: *Procolobus rufomitratus rufomitratus*

TANA RIVER RED COLOBUS

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C1

Distribution:
Field Studies:
Estimated wild population: 2-300

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Taxonomic,
PHVA:Yes

SPECIES: *Procolobus kirkii*

ZANZIBAR RED COLOBUS

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C1

Distribution:
Field Studies:
Estimated wild population: <1,000

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Gorilla gorilla beringei* **MOUNTAIN GORILLA**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C1

Distribution: Virunga volcanos Rwanda, Uganda, Zaire.

Field Studies:
Estimated wild population: 2-300

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

AFRICAN PRIMATES CATEGORY ENDANGERED

SPECIES: *Cercocebus galeritus sanjei* **SANJE MANGABEY**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - E2

Distribution:
Field Studies:
Estimated wild population: <600

Captivity: 0

Concerns/Comments: Groves suggests that this is an *agilis* not a *galeritus*.

Recommendations: Wild Management
 Research: Survery, Taxonomic,
 PHVA:No

SPECIES: *Mandrillus leucophaeus* **DRILL**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E2

Distribution:
Field Studies:
Estimated wild population: <10,000

Captivity: 43
 INT S 500.

Concerns/Comments:

Recommendations: Wild Management
 Research: Survery,
 PHVA:Yes

SPECIES: *Cercopithecus diana roloway* **ROLOWAY MONKEY**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - E2

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 17
INT S 200.

Concerns/Comments:

Recommendations:

Research: Survery,
PHVA:No

SPECIES: *Cercopithecus preussi* **PREUSS' MONKEY**

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - E2

Distribution:

Field Studies:

Estimated wild population: 5-10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Cercopithecus mitis kandti* **BLUE MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E2.5

Distribution:
Field Studies:
Estimated wild population: 1,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:No

SPECIES: *Cercopithecus nictitans stampflii* **PUTTY-NOSED GUENON**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E2

Distribution:
Field Studies:
Estimated wild population: 5-10,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:No

SPECIES: *Cercopithecus erythrogaster* (Nigeria)

WHITE-THROATED GUENON

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - E2

Distribution:

Field Studies: This is grey bellied form , the other red bellied.

Estimated wild population: <10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Procolobus badius waldroni*

MISS WALDRON'S BAY COLOBUS

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - E2.5

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Procolobus pennanti bouivieri* **PENNANT'S RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - E2

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations: Research: Survery, Taxonomic,
 PHVA:No

SPECIES: *Procolobus pennanti preussi* **PENNANT'S RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - E2

Distribution:
Field Studies:
Estimated wild population: 5-15,000

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
 Research: Survery, Taxonomic,
 PHVA:No

SPECIES: *Procolobus rufomitratu*s *tephrosceles*

UGANDAN RED COLOBUS

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - E2.5

Distribution:
Field Studies:
Estimated wild population: 50,000

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Taxonomic,
PHVA:No

SPECIES: *Procolobus gordonorum*

UHEHE RED COLOBUS

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - E2

Distribution:
Field Studies:
Estimated wild population: 2-5,000

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Survery, Taxonomic,
PHVA:No

Space reserved for an undiscovered but endangered taxon.

AFRICAN PRIMATES CATEGORY VULNERABLE

SPECIES: *Galago matschiei (inustus)* **LESSER NEEDLE-CLAWED BUSHBABY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V3.5

Distribution: Kivu Province, E. Zaire, W. Province and Mt
Moroto Uganda.

Field Studies:
Estimated wild population: <100,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:No

SPECIES: *Galagoides thomasi* **THOMAS'S BUSHBABY**

Status: CITES Appendix -
Red Data Book - K
Mace/Lande - V3

Distribution: Mountain and highland reagions in Zaire
basin. Also in Mount Cameroon (isolated
population). Also populations in Loanda
Highlands in Angola and Mt Marsabit in S.W.
Uganda.

Field Studies:
Estimated wild population: <100,000

Captivity: 0

Concerns/Comments: Threatened by deforestation. Further
information required on the species.

Recommendations:
Research: Survery,
PHVA:No

SPECIES: *Galagoides zanzibaricus* **ZANZIBAR BUSHBABY**

Status: CITES Appendix -
 Red Data Book - K
 Mace/Lande - V3.5

Distribution: Zanzibar and coastal Tanzania, Kenya and Somalia.

Field Studies:

Estimated wild population: <100,000

Captivity: 0

May be some in captivity, identification problems however mean that captive programme would require founders.

Concerns/Comments: Habitat destruction, especially of coastal forest of Kenya and Tanzania.

Recommendations:

Research: Survery,
 PHVA:No

SPECIES: *Arctocebus calabarensis* **ANGWANTIBO**

Status: CITES Appendix -
 Red Data Book - K
 Mace/Lande - V3

Distribution: Rainforest of w Equitorial Africa from Nigeria to Zaire.

Field Studies:

Estimated wild population: <100,000

Captivity: 0

Concerns/Comments: Threatened by habitat destruction but ability to live in secondary forest may incese its chances.

Recommendations:

Research:
 PHVA:No

SPECIES: *Cercocebus atys lunulatus***WHITE FRONTED MANGABEY****Status:** CITES Appendix -
Red Data Book -
Mace/Lande - V3**Distribution:****Field Studies:****Estimated wild population:** 50,000**Captivity:** 36**Concerns/Comments:** Groves suggests that galeritus/torquatus and albigena/aterrimus are two separate groups, the latter being the genus Lophocebus with one species Albigena and several subspecies.**Recommendations:**Research: Survery, Taxonomic,
PHVA:No**SPECIES:** *Cercocebus torquatus***CHERRY-CROWNED MANGABEY****Status:** CITES Appendix -
Red Data Book - V
Mace/Lande - V3**Distribution:****Field Studies:****Estimated wild population:** 50,000**Captivity:** 120**Concerns/Comments:****Recommendations:**Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Cercocebus galeritus chrysogaster*

GOLDEN BELLIED MANGABEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population: <50,000

Captivity: 4

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Cercocebus aterrimus opdenboschi*

BLACK MANGABEY

Status: CITES Appendix -
Red Data Book - K
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population: 50,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Papio papio* **GUINEA BABOON**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V4

Distribution:

Field Studies:

Estimated wild population: 250,000

Captivity: 106

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:No

SPECIES: *Mandrillus sphinx* **MANDRILL**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 282

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Theropithecus gelada* **GELADA**

Status: CITES Appendix -
 Red Data Book - R
 Mace/Lande - V4

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 73

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cercopithecus diana diana* **DIANA MONKEY**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 141
 INT S2280.

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cercopithecus salongo*

SALONGO MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery,
PHVA:No

SPECIES: *Cercopithecus hamlyni hamlyni*

OWL FACED MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 32

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus hamlyni kahuziensis*

OWL FACED MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus lhoesti*

L'HOEST'S MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V3.5

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 20

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus erythrotis erythrotis* **RED-EARED GUENON**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 5-10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:Yes

SPECIES: *Cercopithecus erythrotis camerunensis* **RED-EARED GUENON**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 50,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
 PHVA:Yes

SPECIES: *Cercopithecus ascanius atrinasus*

RED-TAILED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery,
PHVA:No

SPECIES: *Cercopithecus pogonias pogonias*

CROWNED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population: <25,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Cercopithecus wolfi elegans* **WOLF'S GUENON**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Cercopithecus aethiops djamdjamensis* **GRIVET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 6

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:No

SPECIES: *Miopithecus talapoin talapoin* **SOUTHERN TALAPOIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution: Angolan form. This is the more endangered.

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Allenopithecus nigroviridis* **ALLEN'S SWAMP MONKEY**

Status: CITES Appendix -
Red Data Book - K
Mace/Lande - V4

Distribution: This is probably more common that considered
in this report and in relatively safe areas.

Field Studies:

Estimated wild population: 10-100,000

Captivity: 47

Concerns/Comments:

Recommendations:

Research: Survery,
PHVA:No

SPECIES: *Macaca sylvanus* **BARBARY MACAQUE**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: >15,000

Captivity: 1000

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Procolobus badius badius* **WESTERN RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 10-100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Taxonomic,
 PHVA:No

SPECIES: *Procolobus badius temminckii* **RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

Recommendations: Research: Survery, Taxonomic, Husbandry.
 PHVA:No

SPECIES: *Procolobus pennanti pennanti* **PENNANT'S RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
 Research: Taxonomic,
 PHVA:No

SPECIES: *Procolobus rufomitratu*s foai **RED COLOBUS**

Status: CITES Appendix -
Red Data Book - I
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Procolobus rufomitratu*s ellioti **RED COLOBUS**

Status: CITES Appendix -
Red Data Book - K
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Procolobus rufomitratu* *parmentieri* **RED COLOBUS**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Procolobus verus* **OLIVE COLOBUS**

Status: CITES Appendix -
Red Data Book - R
Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population: 50,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:Yes

SPECIES: *Colobus polykomos* **WESTERN B&W COLOBUS**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 10

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Colobus vellerosus* **GEOFFROY'S B & W COLOBUS**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population: 50-100,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research: Survery,
 PHVA:No

SPECIES: *Colobus guereza guereza* **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 7

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Colobus guereza gallarum* **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population:

Captivity: 2

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Colobus guereza caudatus* **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 2-10,000

Captivity: 26

Concerns/Comments:

Recommendations: Wild Management
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Colobus satanas* **BLACK COLOBUS**

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Colobus angolensis adolfifriederici*

ANGOLIAN B&W COLOBUS

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Colobus angolensis ruwenzorii*

ANGOLIAN B&W COLOBUS

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V3

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Pan troglodytes verus* **WEST AFRICAN CHIMPANZEE**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 8-10,000

Captivity: 124

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:No

SPECIES: *Pan troglodytes troglodytes* **CENTRAL CHIMPANZEE**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V3.5

Distribution:

Field Studies:

Estimated wild population: 51-77,000

Captivity: 34

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Pan troglodytes schweinfurthi* **EASTERN CHIMPANZEE**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V3.5

Distribution:
Field Studies:
Estimated wild population: 44-84,000

Captivity: 20

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Pan paniscus* **BONOBO**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V4

Distribution:
Field Studies:
Estimated wild population: 5-10,000,

Captivity: 78
 INT S 740.

Concerns/Comments:

Recommendations:

Research: Survery,
 PHVA:No

SPECIES: *Gorilla gorilla gorilla* **WESTERN LOWLAND GORILLA**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V3.5

Distribution:

Field Studies:

Estimated wild population: 30-100,000

Captivity: 471
 INT S6480.

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:No

SPECIES: *Gorilla gorilla graueri* **EASTERN LOWLAND GORILLA**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - V3

Distribution:

Field Studies:

Estimated wild population: 3-10,000

Captivity: 6
 INT S 80.

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:No

AFRICAN PRIMATES CATEGORY SAFE

SPECIES: *Galago senegalensis* (no subsp) **LESSER BUSHBABY**

Status: CITES Appendix -II
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >100,000

Captivity: 105

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Galago senegalensis senegalensis* **LESSER BUSHBABY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: This is the W African from (Senegal to Ethiopia). Taxonomy in urgent need of revision. Species ranges from Senegal to the Gulf of Aden and into Southern Africa.

Field Studies:
Estimated wild population:

Captivity: 5

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Galago senegalensis braccatus*

YELLOW-THIGHED BUSHBABY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Highlands of Kenya and Tanzania

Field Studies:

Estimated wild population:

Captivity: 2

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Galago elegantulus*

NEEDLE-CLAWED BUSHBABY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Forested areas between Niger and Zaire
Rivers. Gulf of Guinea and Fernando Po.

Field Studies:

Estimated wild population: <100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Galago moholi* **MOHOL BUSHBABY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: S. Africa E. S. Africa, N. Mozambique, W.&S.
Tanzania, E. Zaire

Field Studies:

Estimated wild population:

Captivity: 43
Only form really viable for captive programme
from old
'senegalensis' group.

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Galago gallarum* **SOMALI BUSHBABY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Common border of Somalia, Kenya and Ethiopia,
Southern boundary is Tana River, S.E. border
is Somali coastal zone.

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Galagoides alleni* **ALLEN'S BUSHBABY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: W. Africa, Niger and Zaire Rivers, Gulf of
 Guinea and Fernando Po.

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:**Recommendations:**

 Research:
 PHVA:No

SPECIES: *Galagoides demidovii* **DEMIDOFF'S BUSHBABY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: W. Africa Guinea forest to W. Nigeria. C.
 African rainforests, S to mouth of Congo and
 N.E. Angola. vAlso in E. Africa Uganda and
 Tanzania.

Field Studies:

Estimated wild population: >100,000

Captivity: 4

Concerns/Comments:**Recommendations:**

 Research:
 PHVA:No

SPECIES: *Otolemur crassicaudatus* **THICK-TAILED BUSHBABY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: S. Africa. In Brachystegia vegetation zone S.
and E. of Zaire Basin. Tanzania and Kenya and
Transvaal.

Field Studies:

Estimated wild population: >100,000

Captivity: 33

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Otolemur garnettii* **E. AFRICAN GREATER BUSHBABY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Coastal E. Africa from Somalia to Tanzania
and Zanzibar. Coastal riverine and highland
forests.

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Perodicticus potto* **POTTO**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Guinea and Mid-African Forest Zone from
 Sierra Leone in W. to W.Kenya in the N.E.
 From Mid Zaire south to Lower Congo. Also
 N.E. Angola. Forest habitat.

Field Studies:

Estimated wild population: >100,000

Captivity: 21

 There may be five sub-species. Useful to
 carry out research in captivity for better
 management.

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cercocebus atys atys* **SOOTY MANGABEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 58

Concerns/Comments:

Recommendations:

 Research: Taxonomic,
 PHVA:No

SPECIES: *Cercocebus galeritus agilis* **AGILE MANGABEY**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 8

Concerns/Comments:

Recommendations:

 Research: Taxonomic,
 PHVA:No

SPECIES: *Cercocebus albigena (no subsp)* **GREY-CHEEKED MANGABEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 7

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cercocebus albigena albigena*

GREY-CHEEKED MANGABEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 2

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercocebus albigena zenkeri*

GREY-CHEEKED MANGABEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercocebus albigena johnstoni*

GREY-CHEEKED MANGABEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 3

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercocebus aterrimus aterrimus*

BLACK MANGABEY

Status: CITES Appendix -
Red Data Book - K
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 39

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Papio anubis* **ANUBIS BABOON**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - N

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 6

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Papio cynocephalus* **YELLOW BABOON**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - N

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 5

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Papio hamadryas* **HAMADRYAS BABOON**

Status: CITES Appendix -
 Red Data Book - R
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <100,000

Captivity: 307

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Papio ursinus* **CHACMA BABOON**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 26

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cercopithecus neglectus*

DE BRAZZA'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 155

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis albogularis*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 20

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis albotorquatus*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis erythrarchus*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis francescae*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus albogularis kinobotensis*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus albogularis kolbi*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis labiatus*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis moloneyi*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 4

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus albogularis monoides*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 3

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus albogularis nyasae*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis phylax*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus albogularis zammaranoi*

SYKES'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus mitis* (no subsp)

BLUE MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >100,000

Captivity: 11

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus mitis boutourlinii* **BLUE MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus mitis doggetti* **BLUE MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 4

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus mitis heymansi* **BLUE MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus mitis mitis* **BLUE MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus mitis opisthotictus*

BLUE MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus mitis schoutedeni*

BLUE MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus mitis stuhlmanni*

BLUE MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 20

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus nictitans nictitans*

GREATER-WHITE-NOSED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 10

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopitecus nictitans martini*

MARTIN'S WHITE-NOSED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 2

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus petaurista (no subsp)*

LESSER SPOT NOSED GUENO

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >100,000

Captivity: 19

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus petaurista petaurista*

LESSER-SPOT-NOSED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <100,000

Captivity: 13

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus petaurista buettikoferi*

LESSER-SPOT NOSED GUEN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 4

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus cephus cephus*

MOUSTACHED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande - N

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 24

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus cephus cephoides*

MOUSTACHED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus ascanius* (no subsp)

RED-TAILED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >

Captivity: 15

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus ascanius ascanius*

RED-TAILED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus ascanius katangae*

RED-TAILED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus ascanius schmidtii*

RED-TAILED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 70

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus ascanius whitesidei*

RED-TAILED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus cambelli* (no subsp)

CAMBELL'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus cambelli cambelli*

CAMBELL'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 14
8 at Paimpont.

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus cambelli lowei*

LOWE'S MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 8

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus mona* **MONA MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 30

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cercopithecus pogonias* (no subsp) **CROWNED MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 4

Concerns/Comments:

Recommendations:

 Research: Taxonomic,
 PHVA:No

SPECIES: *Cercopithecus pogonias grayi*

CROWNED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Cercopithecus pogonias nigripes*

CROWNED GUENON

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Cercopithecus wolfi denti* **WOLF'S GUENON**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Cercopithecus wolfi pyrogaster* **FIRE-BELLIED GUENON**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 5

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Cercopithecus wolfi wolfi* **WOLF'S GUENON**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Cercopithecus aethiops (no subsp)* **GRIVET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 47

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus aethiops aethiops* **GRIVET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 25

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus aethiops hilgerti* **GRIVET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 4

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus aethiops matschiei* **GRIVET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus* (no subsp) **VERVET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 6

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus arenarius*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus callidus*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus centralis*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus cynosuroides*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus exubitor*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus helvescens*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus johnstoni*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus marjoriae*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus nesiotes*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus ngamiensis*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus pygerythrus*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus rubella*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus rufoviridis*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus pygerythrus zavattarii*

VERVET

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Cercopithecus sabaesus* (no subsp)

GREEN MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 16

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus sabaesus budgetti*

GREEN MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus sabaues marrensis*

GREEN MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cercopithecus sabaues tantalus*

GREEN MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Miopithecus talapoin* ? **NORTHERN TALAPOIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 56

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Erythrocebus patas* (no subsp) **PATAS MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 124

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Erythrocebus patas baumstarki* **PATAS MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 28

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Erythrocebus patas patas* **PATAS MONKEY**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Erythrocebus patas pyrrhonotus*

PATAS MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Erythrocebus patas villiersi*

PATAS MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Procolobus rufomitratu s tholloni* **RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - I
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research: Taxonomic,
 PHVA:No

SPECIES: *Procolobus rufomitratu s oustaleti* **RED COLOBUS**

Status: CITES Appendix -
 Red Data Book - K
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research: Taxonomic,
 PHVA:No

SPECIES: *Colobus guereza* (no subsp) **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 123

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Colobus guereza matschiei* **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 2

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Colobus guereza kikuyuensis* **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 252

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Colobus guereza occidentalis* **GUEREZA**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0
Pure bred group in Zoo Lesna.

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Colobus angolensis angolensis*

ANGOLAN BLACK & WHITE COLOBUS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <100,000

Captivity: 23

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Colobus angolensis palliatus*

WESTERN B&W COLOBUS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 5

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Pan troglodytes* (no subsp)

CHIMPANZEE

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 2000

Concerns/Comments:

Recommendations:

Research:
PHVA:No

**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**
for
PRIMATES

**First Edition
August 1992**

APPENDIX 2
MADAGASCAR PRIMATE TAXA
INDIVIDUAL TAXON SHEETS

MADAGASCAN PRIMATES CATEGORY CRITICAL

SPECIES: *Daubentonia madagascariensis* **AYE AYE**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution: Sparsely distributed throughout the E. rainforest of Madagascar. Also in N and NW in the Sambirano region and occurs south to the Bemaraha Reserve...

Field Studies: See Harcourt and Thornback (1990)

Estimated wild population: >2,500

Captivity: 9
These numbers are approximate in Duke, Paris and Jersey

Concerns/Comments: This is the only living representative of its family. It may not be as rare as previously thought but very elusive

Recommendations:
Research: Survery, Husbandry.
PHVA:Yes

SPECIES: *Allocebus trichotis* **HAIRY-EARED DWARF LEMUR**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution: Rediscovered 1989. NE Madagascar Andranomahitsy Forest.

Field Studies: see Harcourt and Thornback (1990)

Estimated wild population: 250

Captivity: 6
in Madagascar at Mananara.

Concerns/Comments: The main threat to this species is the destruction of the rain forest, as it appears that the species occurs only in lowland forest.

Recommendations:
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Indri indri* **INDRI**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - C

Distribution: Noth Eastern rainforst, stretch of 500 kms.
Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 2,500

Captivity: 0
 never been kept successfully in captivity

Concerns/Comments: Severely threatened by destruction of habitat. This continues even in protected areas. Surveys urgently required

Recommendations: Wild Management
 Research: Survery, Husbandry.
 PHVA:Yes

SPECIES: *Propithecus verreauxi coronatus* **SIFAKA**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - C

Distribution: N W Madagascar from Betsiboka River south to near Antsalova
 Also seen inland at Bongolava. Live in dry deciduous forest.
 Debate over the other subspecies P.v.coronatus which has a dark chocolate brown head and chestnut breast. Ranges separated by Mahavavy River.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 250

Captivity: 2
 Paris Zoo.

Concerns/Comments: Forest destruction particularly fire.

Recommendations: Wild Management
 Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Propithecus tattersalli*

GOLDEN-CROWNED SIFAKA

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution: N E madagascar, at Daraina, 25 Km. diameter.
Population fragmented.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 250

Captivity: 3
INT S 30.
In Duke, one captive born.

Concerns/Comments: No population in any protected area. Most severely threatened of the lemurs. Fires and hunting. Need for National Park at Daraina.

Recommendations: Wild Management
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Eulemur macaco flavifrons*

SCLATER'S LEMUR

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution: N.W. Madagascar. N. limit Andranomalaza river.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >100

Captivity: 19
INT S 220.

Concerns/Comments: Not found in any protected area. Threatened with forest destruction. Males of this subspecies are black has a crest of short upstanding hairs on the crown of the head. Female coat more orange and neither sex has ear tufts.

Recommendations: Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Hapalemur griseus alaotrensis* **ALAOTRAN GENTLE LEMUR**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution: Restricted to reed beds of Lake Alaotra in N
E Madagascar. Feeds on reeds.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 250

Captivity: 10
INT S 30.
Held in JWPT and Duke.

Concerns/Comments: About 35,000 ha of habitat left, management
in wild necessary.

Recommendations: Wild Management
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

MADAGASCAN PRIMATES CATEGORY ENDANGERED

SPECIES: *Propithecus diadema candidus* **SILKY SIFAKA**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - E

Distribution: North East of Madagascar. Humid forest belt
north of Maroantsetra.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 1,000

Captivity: 0

Concerns/Comments: Threatened by habitat destruction. Also
eaten.

Recommendations: Wild Management
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Propithecus diadema perrieri* **PERRIER'S SIFAKA**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - E

Distribution: Very NE of Madagascar. Recorded in Ankarana
reserve. Drier forests of teh far NE.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 1,000

Captivity: 0

Concerns/Comments: Threatened by habitat destruction. .

Recommendations: Wild Management
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Eulemur coronatus* **CROWNED LEMUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: N. Madagascar. Dry Forest.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >2,500

Captivity: 38
 INT S 420.
 More founders required.

Concerns/Comments: Suitable habitat remaining probably less than 1300 sq Km. Occurs in Foret d'Ambre, Analamera and Ankarana. Management plan proposed for four reserves.

Recommendations: Wild Management
 Research: Survery,
 PHVA:Yes

SPECIES: *Eulemur mongoz* **MONGOOSE LEMUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: N. W Madagascar in dry forest.
 Ankarafantsika. Also on Comoro Islands.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 2,500

Captivity: 58
 INT S 560.
 Breeding programme in operation.

Concerns/Comments: Found in one reserve Ankarafantsika.

Recommendations: Wild Management
 Research: Survery, Husbandry.
 PHVA:Yes

SPECIES: *Varecia variegata rubra* **RED RUFFED LEMUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: E rainforest of Madagascar. Restricted to forests of the Masoala Peninusula.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 2,500

Captivity: 254
 INT S2480.
 Captive programme running, based at St Louis Zoo.

Concerns/Comments: Has a very small range and the forest is degraded. Plans for a National Park to be set up in the area.

Recommendations: Wild Management
 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Varecia variegata variegata* **BLACK AND WHITE RUFFED LEMUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: E. rain forest S. from the Antainambalana River.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 5,000

Captivity: 293
 INT S5410.

Concerns/Comments: There is much variation in coat colour and pattern in black and white ruffed lemurs. There may be three subspecies (*variegata*, *subcintus* and *editorum*.) Threats are forest destruction and hunting.

Recommendations: Wild Management
 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Hapalemur simus* **BROAD-NOSED GENTLE LEMUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: Small region of S E madagascar around
 Ranomafana and Kianjavato.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 1,000

Captivity: 2
 INT S 20.
 Paris Zoo.

Concerns/Comments: High human population causes forest
 destruction. National Park required at
 Ranomafana.

Recommendations: Wild Management
 Research: Survery, Husbandry.
 PHVA:Yes

SPECIES: *Hapalemur aureus* **GOLDEN BAMBOO LEMUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: Small are on S. E. Madagascar near
 Ranomafana.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 1,000

Captivity: 4
 INT S 30.
 At Tsimbazaza, Antananarivo Madagascar.

Concerns/Comments: High human population causes forest
 destruction. National Park required at
 Ranomafana.
 Duke has a research station in the area.

Recommendations: Wild Management
 Research: Survery, Husbandry.
 PHVA:Yes

MADAGASCAN PRIMATES CATEGORY VULNERABLE

SPECIES: *Propithecus diadema diadema* **DIADEMED SIFAKI**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - V

Distribution: E primary rainforest of Madagascar, from Mangoro river in the S to Maroantsetra in N.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >2,500

Captivity: 3
In Duke?? (please check this)
This is taxonomic research required in to P.diadema.
Rumpler reckons that some subspecies may be distinct specie e.g. P.d.perrieri.

Concerns/Comments: Threatened by habitat destruction. Also eaten.

Recommendations: Wild Management
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Propithecus diadema edwardsi* **MILN-EDWARD'S SIFAKA**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - V

Distribution: S.E. Madagascar. Rain forest.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >2,500

Captivity: 0

Concerns/Comments: Threatened by habitat destruction. .

Recommendations: Wild Management
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Propithecus verreauxi coquerli* **COQUEREL'S SIFAKA**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - V

Distribution: N W Madagascar. N & E of the Betsiboka river
Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 10,000

Captivity: 18
INT S 40.
Duke, breeding.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Propithecus verreauxi deckeni* **DECKENS SIFAKA**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - V

Distribution: N W Madagascar from Betsiboka River south to near Antsalova
Also seen inland at Bongolava. Live in dry deciduous forest.
Debate over the other subspecies P.v.coronatus which has a dark chocolate brown head and chestnut breast. Ranges separated by Mahavavy River.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >2,500

Captivity: 0
Paris Zoo.

Concerns/Comments: Forest destruction particularly fire.

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Eulemur fulvus albocollaris* **WHITE-COLLARED LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V

Distribution: E. rain forest.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >2,500

Captivity: 6
 At Strasbourg.

Concerns/Comments: May be endangered due to small range and rarity.

Recommendations:
 Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Eulemur fulvus collaris* **COLLARED LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V

Distribution: S. E. Madagascar, from Taolanaro to Mananara.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 10,000

Captivity: 38
 INT S 400.
 At Duke.

Concerns/Comments: In Andohahela Reserve.

Recommendations:
 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Eulemur fulvus sanfordi* **SANFORD'S LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V

Distribution: N. Madagascar.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 2,500

Captivity: 18
 In Duke.

Concerns/Comments: Can survive in secondary growth but threatened by forest destruction, especially due to its restricted range.

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Eulemur macaco macaco* **BLACK LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - V

Distribution: N.W. Madagascar from Anivorano to Maromandia.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 169
 INT S2320.
 Breeding programme ongoing.

Concerns/Comments: In Manongarivo Special reserve.

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Eulemur rubiventer*

RED-BELLIED LEMUR

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - V

Distribution: Throughout E Rainforest. but confined to forests of medium and high altitude and is rare.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 19
INT S 140.
Most in Duke, some at Tsimbazaza. More founders needed for captive programme.

Concerns/Comments: Major threat is destruction of E rainforest.

Recommendations:

Research: Survery,
PHVA:Yes

MADAGASCAN PRIMATES CATEGORY SAFE

SPECIES: *Cheirogaleus major* **GREATER DWARF LEMUR**

Status: CITES Appendix -I
 Red Data Book - A
 Mace/Lande - N

Distribution: Found throughout E rainforest in Madagascar.
Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 500,000

Captivity: 1
 survives in captivity but difficult to breed.
 Some at Duke. May be more than one subspecies

Concerns/Comments:

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Cheirogaleus medius* **WESTERN FAT TAILED DWARF LEMUR**

Status: CITES Appendix -I
 Red Data Book - A
 Mace/Lande - N

Distribution: Dry forest in S and W Madagascar, wide
 distribution

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >500,000

Captivity: 126
 Breeds well in captivity

Concerns/Comments: Occurs in reserves, Ankarafantsika ,
 Andohahela and Andranomena.
 No specific threats apart from reduction of
 dry forest areas.

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Microcebus rufus* **EASTERN BROWN MOUSE LEMUR**

Status: CITES Appendix -I
 Red Data Book - A
 Mace/Lande - N

Distribution: Found throughtout rainforest of E Madagascar
Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >500,000

Captivity: 20
 Some in Rotterdam Zoo and in Tsimbazaza. Does
 not breed as well as M.Murinus.

Concerns/Comments: Small nocturnal lemur, can survive in
 secondary growth, not threatened.

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Microcebus murinus* **GREY MOUSE LEMUR**

Status: CITES Appendix -I
 Red Data Book - A
 Mace/Lande - N

Distribution: West and South Madagascar, in dry deciduous
 forest.
 From Taolanaro to Sambirano River.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >500,000

Captivity: 166
 Breeds well in captivity, largest colony at
 Duke

Concerns/Comments: Small and nocturnal, can survive in secondary
 growth, unlikely to be severely threatened.

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Mirza coquereli* **COQUEREL'S MOUSE LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - N

Distribution: Discontinuous along West coast, in dry deciduous forest, along rivers and ponds.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >50,000

Captivity: 64
 Breeds well in captivity, most at Duke.

Concerns/Comments: Survives well in secondary growth. May be under threat from habitat destrkuction, not under severe threat.

Recommendations:
 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Phaner furcifer* **FORK-MARKED LEMUR**

Status: CITES Appendix -
 Red Data Book - R
 Mace/Lande - N

Distribution: Wide but discontnuous distribution in Madagascar. Found mainly in dry deciduous forest in the West. Five distinct populations exist and according to Groves there may be four of five subspecific forms some of which may be species.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >25,000

Captivity: 2
 None on ISIS two in Paris Zoo.

Concerns/Comments: No specific threats, habitat being destroyed.

Recommendations:
 Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Avahi laniger laniger* **EASTERN WOOLLY LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - N

Distribution: Rain forest of South Eastern Madagascar from Sambava to Taolanaro. Also occurs in Ankarana (further North). There is doubt as to the taxonomic status, may be three species.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 0
 none in captivity, those kept have died after a few days.

Concerns/Comments: Major threat is destruction of habitat but nocturnal secretive habits and small home ranges make it unlikely to be severely under threat.

Recommendations:
 Research: Survery, Husbandry.
 PHVA:Yes

SPECIES: *Avahi laniger occidentalis* **WESTERN WOOLLY LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - N

Distribution: North West Madagascar in the dry deciduous forest. North and East of the Betsiboka river and also in Manongarivo special reserve (further north).

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 0
 none in captivity, those held have not survived long

Concerns/Comments: Threats mainly forest destruction occurs in two reserves.

Recommendations:
 Research: Survery, Husbandry.
 PHVA:Yes

SPECIES: *Propithecus verreauxi verreauxi* **VERREAUX'S SIFAKI**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - N

Distribution: S and SW Madagascar, from Taolanaro to
Tsiribihina River. Arid to riverine forests.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 100,000

Captivity: 3
At Duke

Concerns/Comments: In Berenty, threats from habitat destruction

Recommendations:
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Lemur catta* **RING-TAILED LEMUR**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - N

Distribution: S and SW madagascar. Dry forest. N limit is
Mahababoky.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 815

Concerns/Comments: Habitat diminishing, may be more under threat
than previously thought.

Recommendations:
Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Eulemur fulvus fulvus* **BROWN LEMUR**

Status: CITES Appendix -I
Red Data Book - R
Mace/Lande - N

Distribution: N.W. Madagascar from N and E of the Betsiboka rivers to Analava.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 94

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Eulemur fulvus albifrons* **WHITE-FRONTED LEMUR**

Status: CITES Appendix -I
Red Data Book - R
Mace/Lande - N

Distribution: N E rainforest. S limit Toamasina.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 109
Some at Ivoloina Madagascar. Many in Europe and N. America of suspect origin.

Concerns/Comments: No specific threats.

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Eulemur fulvus mayottensis* **MAYOTTE LEMUR**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - N

Distribution: Mayotte Comoro Islands. Probably derived from *L.f.fulvus* introduced by man.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >2,500

Captivity: 68

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Eulemur fulvus rufus* **RED-FRONTED LEMUR**

Status: CITES Appendix -I
Red Data Book - R
Mace/Lande - N

Distribution: W. Madagascar.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 100,000

Captivity: 64

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Varecia variegata subcinctus* **BLACK AND WHITE RUFFED LEMUR**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande -

Distribution: Nosy Mangabe and surrounding mainland forest.

Field Studies:

Estimated wild population:

Captivity: 2
In Koln Zoo.

Concerns/Comments: Entirely Black except for white cheeks ears and throat.
White transverse band extending across the back and sides below the shoulders and another across the rump.

Recommendations:

Research:
PHVA:No

SPECIES: *Varecia variegata editorum* **BLACK AND WHITE RUFFED LEMUR**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande -

Distribution: Plateau in interior of N E Madagascar.

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments: black band between shoulders

Recommendations:

Research:
PHVA:No

SPECIES: *Hapalemur griseus griseus* **GREY GENTLE LEMUR**

Status: CITES Appendix -I
Red Data Book - K
Mace/Lande - N

Distribution: Throughout E forest
Field Studies: see Harcourt & Thornback (1990)
Estimated wild population: 100,000

Captivity: 18

Concerns/Comments: Restrictd to areas of bamboo growth, may reach higher densisties in disturbed forest?

Recommendations:
Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Hapalemur griseus occidentalis* **WESTERN GENTLE LEMUR**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - N

Distribution: W Madagascar. Two isolated populations. One at Lake Bememba and one in Sambirano.

Field Studies: see Harcourt & Thornback (1990)
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Lepilemur mustelinus*

WEASEL SPORTIVE LEMUR

Status: CITES Appendix -I
Red Data Book - R
Mace/Lande - N

Distribution: N.E. Madagascar Eastern rain forest, From
Tsaratanana to Toamasina.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 0

It is recommend that a species of *Lepilemur*
be taken for captive management. Starting in
Madagascar.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Lepilemur edwardsi*

MILNE-EDWARDS SPORTIVE LEMUR

Status: CITES Appendix -I
Red Data Book - R
Mace/Lande - N

Distribution: N. w. madagascar dry deciduous forest.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >100,000

Captivity: 0

It is recommend that a species of *Lepilemur*
be taken for captive management. Starting in
Madagascar.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Lepilemur dorsalis* **GREY-BACKED SPORTIVE LEMUR**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - N

Distribution: N. W. coast of Madagascar at Sambirano and Nosy Be.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 0

It is recommend that a species of *Lepilemur* be taken for captive management. Starting in Madagascar.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Lepilemur leucopus* **WHITE-FOOTED SPORTIVE LEMUR**

Status: CITES Appendix -I
 Red Data Book - R
 Mace/Lande - N

Distribution: S Madagascar. Didiereaceae forests

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments: Southern dry forest is being destroyed by overgrazing and poor land use.

Recommendations:

Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Lepilemur microdon* **SMALL-TOOTHED SPORTIVE LEMUR**

Status: CITES Appendix -I
 Red Data Book - R
 Mace/Lande - N

Distribution: E rainforest of Madagascar. South of
 Toamasina.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Lepilemur ruficaudatus* **RED-TAILED SPORTIVE LEMUR**

Status: CITES Appendix -I
 Red Data Book - R
 Mace/Lande - N

Distribution: S. W. forests of Madagascar south of
 Tsiribihina River.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 100,000

Captivity: 3
 Extreme N of Madagascar in Ankarana.

Concerns/Comments:

Recommendations:
 Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Lepilemur septentrionalis*

NORTHERN SPORTIVE LEMUR

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - N

Distribution: Extreme N of Madagascar in Ankarana.

Field Studies: see Harcourt & Thornback (1990)

Estimated wild population: 10,000

Captivity: 0
Extreme N of Madagascar in Ankarana.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

APPENDIX 3

**ASIA PRIMATE TAXA
INDIVIDUAL TAXON SHEETS**

ASIAN PRIMATES CATEGORY CRITICAL

SPECIES: *Macaca pagensis* **MENTAWI MACAQUE**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C

Distribution: Roland Wirth wishes to point out that there are two highly distinctive subspecies which he feels should be treated separately.

Field Studies:

Estimated wild population: <2,500

Captivity: 0

 There are animals in Bukkitinggi Zoo in Sumatra

Concerns/Comments:

Recommendations:

 Research: Taxonomic,
 PHVA:Yes

SPECIES: *Semnopithecus entellus aeneas* **ENTELLIS LANGUR**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

 Research: Survery, Taxonomic,
 PHVA:No

SPECIES: *Semnopithecus entellus iulus*

ENTELLIS LANGUR

Status: CITES Appendix -I
Red Data Book -
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Semnopithecus entellus dusumerei*

ENTELLIS LANGUR

Status: CITES Appendix -I
Red Data Book -
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Semnopithecus entellus elissa*

ENTELLIS LANGUR

Status: CITES Appendix -I
Red Data Book -
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Presbytis comata comata*

GRIZZLED LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution:

Field Studies: Wirth states that this is not critical but probably enddangered. It is common in Halimun and easy to see at Gunung Gede.

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Presbytis comata fredericae* **GRIZZLED LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - C

Distribution:

Field Studies: Study to be carried out by Perth Zoo and Mark
Linsley of Manchester Polytechnic.

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Presbytis femoralis batuanae* **BANDED LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <1,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Presbytis femoralis natunae* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <1,000

Captivity: 0

 There are two captive specimens (2.0) in
 Jakarta Zoo. They seem to do well in
 captivity, better than melanophos.

Concerns/Comments:

Recommendations:

 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Presbytis potenziani potenziani* **MENTAWAI LANGUR**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Presbytis rubicunda carinatae* **MAROON LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - C

Distribution:

Field Studies: Survey carried out on Carimata island in 1991. 60 observed. Has a wide habitat tolerance and part of the island is a nature reserve. Not critical according to Wirth, more probably endangered and he reckons more than 250 of a population. Also states that captive breeding not year high priority.

Estimated wild population: <250

Captivity: 0
Wirth suggests that captive breeding is not yet high priority.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus francoisi leucocephalis* **WHITE-HEADED LANGUR**

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution: China, Guangxi (border with Vietnam)

Field Studies:

Estimated wild population: <750

Captivity: 10

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus francoisi poliocephalis*

FRANCOIS LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution: Vietnam. Cat Ba island. Hai Phong province.
Does not occur on mainland of Vietnam.

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus francoisi delacouri*

FRANCOIS LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution: Vietnam. Cuc Phong National Park and
northwest of it.
May occur in Laos.

Field Studies: Joerg Adler just returned for Cuc Phong.
Survey carried out provided by Frankfurt Zoo
Soc. Reckons that this is Asia's most
critically endangered primate. One group
which is known to have consisted of 20
animals had 7 left in 1990 and 2 in 1991.
Cuc Phong population probably only 15-30
animals.
Cox and Ratajczcak (1989) examined
population along the Laotian border. Will be
extnt within 20 years unless something is
done.

Estimated wild population: <250

Captivity: 0
None in captivity.

Concerns/Comments: Management of park and protection essential.
Need a supervisor for the langur conservation
project at the park.

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus francoisi laotum*

FRANCOIS LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution: Laos, Ban Na Sao Mekong River

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus francoisi hatinhensis*

FRANCOIS LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution: Vietnam, little know

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus geei* **GOLDEN LANGUR**

Status: CITES Appendix -I
 Red Data Book - R
 Mace/Lande - C

Distribution: Bhutan, India.

Field Studies: There are more than 250 recent counts in Bhutan suggest a few thousand most likely endangered and not critical.

Estimated wild population: <250

Captivity: 5

Concerns/Comments:

Recommendations:

 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Simias concolor concolor* **PIG-TAILED SNUB-NOSED MONKEY**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:Yes

SPECIES: *Simias concolor siberu* **PIG-TAILED SNUB-NOSED MONKEY**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:Yes

SPECIES: *Rhinopithecus avunculus* **TONKIN SNUB-NOSED MONKEY**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C

Distribution: Vietnam. Small fragmented patches of mixed broad leaf and bamboo forest on limestone hills in northeast Bac Thai and Ha Tuyen province.

Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments: Endemic to Vietnam. High priority for conservation action.

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Rhinopithecus bieti* **YUNNAN SNUB-NOSED MONKEY**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C

Distribution: China, Yunnan province. Lives at high elevations in low-diversity temperate forests. 3,000 to 4,300 metres above sea level. Confined to the Yunling mountains in N.W. Yunnan and a small portion of Tibet.

Field Studies: Larger than most colobines and more tessestrial. Adult males may spend 70% of their time on the ground (Wu et al 1988). Winter temperatures may drop below -20C.

Estimated wild population: < 2,000

Captivity: 40

Concerns/Comments:

Recommendations: Wild Management
 Research: Survery,
 PHVA:Yes

SPECIES: *Rhinopithecus brelichi* **GUIZHOU SNUB-NOSED MONKEY**

Status: CITES Appendix -
 Red Data Book - E
 Mace/Lande - C

Distribution: Also known as the grey monkey. Red hair on back and head of adult males. About 800. In FanJing Mountain reserve. Little is known of the ecology and natural history.

Field Studies: Also known as the grey monkey. Red hair on back and head of adult males. About 800. In FanJing Mountain reserve. Little is known of the ecology and natural history.

Estimated wild population: < 800

Captivity: 0

Concerns/Comments:

Recommendations: Research: Survery,
 PHVA:Yes

SPECIES: *Hylobates concolor concolor* **LIGHT-CHEEKED GIBBON**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 1

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Hylobates concolor hainanus* **LIGHT-CHEEKED GIBBON**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: < 100

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Hylobates concolor furvogaster*

LIGHT-CHEEKED GIBBON

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Hylobates concolor lu*

LIGHT-CHEEKED GIBBON

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Hylobates concolor siki* **LIGHT-CHEEKED GIBBON**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - C

Distribution: Vietnam Anh Son, Tuong Cuong and Tuong Duong districts Nghe Tinh province. Probably also occurs in E Laos. This is probably a sub species of *H. leucogenys*.

Field Studies:
Estimated wild population: <250

Captivity: 4

Concerns/Comments:

Recommendations:
 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Hylobates klossii* **KLOSS'S GIBBON**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: <1,000

Captivity: 1

Concerns/Comments:

Recommendations:
 Research:
 PHVA:Yes

SPECIES: *Hylobates moloch moloch* **MOLOCH GIBBON**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - C

Distribution: Probably in low thousands in wild, more than suggested.

Field Studies:

Estimated wild population: <1,500

Captivity: 10

Concerns/Comments:

Recommendations:

Research:
 PHVA:Yes

SPECIES: *Hylobates pileatus* **PILEATED GIBBON**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <1,000

Captivity: 36

Concerns/Comments:

Recommendations:

Research: Survery,
 PHVA:Yes

ASIAN PRIMATES CATEGORY ENDANGERED

SPECIES: *Loris tardigradus malabaricus* **SLENDER LORIS**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Tarsius syrichta* **PHILIPPINE TARSIER**

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - E

Distribution: Philippines.
Field Studies:
Estimated wild population: <2,500

Captivity: 24

Concerns/Comments:

Recommendations: Research:
PHVA:No

SPECIES: *Tarsius pumilus* **LESSERT SPECTRAL TARSIER**

Status: CITES Appendix -
 Red Data Book - I
 Mace/Lande - E

Distribution: Montane mossy forests of central Sulawesi.

Field Studies:

Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Macaca silenus* **LION-TAILED MACAQUE**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: <2,500

Captivity: 282
 INT S4940.

Concerns/Comments:

Recommendations: Wild Management
 Research:
 PHVA:Yes

SPECIES: *Macaca maurus* **MOOR MACAQUE**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - E

Distribution: Sulawesi

Field Studies: Population is fragmented and declining based
 on work by
 Supriatna and his students.

Estimated wild population: <50,000

Captivity: 1

Concerns/Comments: General problem with all Sulawesi macawues.
 Probably all should be recommended for
 captive programs. One suggestion is that
 M.nigra and M.hecki are first priority
 followed by M. maurus and M.brunnescens.

Recommendations:

Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Macaca nigra* **CELEBES MACAQUE**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - E

Distribution: Sulawesi

Field Studies:

Estimated wild population: <5,000

Captivity: 106
 Enough for a well managed captive population

Concerns/Comments:

Recommendations:

Research: Survery,
 PHVA:Yes

SPECIES: *Macaca brunnescens* **MUNA-BUTUNG MACAQUE**

Status: CITES Appendix -
 Red Data Book - K
 Mace/Lande - E

Distribution: Sulawesi. Population declining.

Field Studies: Data from Pramono and Supriatna suggest that there are two populations, one on Pulau Muna and one on Pulau Buton in a protected area.

Estimated wild population: <5,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
 PHVA:No

SPECIES: *Macaca thibetana* **THIBETAN MACAQUE**

Status: CITES Appendix -
 Red Data Book - K
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: <10,000

Captivity: 0

Wild pop frangmented probalby below 10,000.
 Should be recommended for captive breeding.

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Macaca fuscata yakui* **JAPANESE MACAQUE**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:Yes

SPECIES: *Presbytis femoralis chrysomelas* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
 PHVA:No

SPECIES: *Presbytis femoralis cruciger* **BANDED LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Presbytis potenziani siberu* **MENTAWAI LANGUR**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:Yes

SPECIES: *Trachypithecus vetulus monticola*

PURPLE-FACED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Trachypithecus auratus kohlbruggei*

EBONY LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:Yes

SPECIES: *Trachypithecus cristatus vigilans*

SILVERED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Trachypithecus francoisi francoisi*

FRANCOIS LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - E

Distribution: Vietnam. Limestone hills north of Ra Ban village. Cho Don district, Bac Thai province. Protected in Be Be national park.

Field Studies:

Estimated wild population: <2,500

Captivity: 60
In zoos in U.S.A Japan and China and Europe.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Trachypithecus pileatus durga* **CAPPED LANGUR**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Pygathrix nigripes* **BLACK-SHANKED DOUC MONKEY**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <2,500

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:Yes

SPECIES: *Hylobates concolor leucogenys* **LIGHT-CHEEKED GIBBON**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - E

Distribution: This is probably a separate genus.
H.l.leucogenys occurs in Que Phong and Quy Chau districts, Nghe Tinh province Vietnam. In no protected areas. Also occurs in China (S. Yunnan province) and N Laos.

Field Studies:
Estimated wild population: <2,500

Captivity: 10

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Hylobates concolor gabriellae* **LIGHT-CHEEKED GIBBON**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: <1,000

Captivity: 17

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Pongo pygmaeus pygmaeus* **BORNEAN ORANG UTAN**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 37,000

Captivity: 179

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Pongo pygmaeus abelii* **SUMATRAN ORANG UTAN**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 6,000

Captivity: 216

Concerns/Comments:

Recommendations:

Research:
PHVA:No

ASIAN PRIMATES CATEGORY VULNERABLE

SPECIES: *Loris tardigradus tardigradus* **SLENDER LORIS**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Loris tardigradus grandis* **SLENDER LORIS**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Loris tardigradus nycticeboides* **SLENDER LORIS**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Loris tardigradus nordicus* **SLENDER LORIS**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Nycticebus pygmaeus pygmaeus*

PYGMY SLOW LORIS

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: <10,000

Captivity: 50

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Macaca cyclopis*

TAIWAN MACAQUE

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V

Distribution:

Field Studies: Decreasing small population in the wild.

Estimated wild population: <10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:Yes

SPECIES: *Trachypithecus vetulus vetulus*

PURPLE-FACED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus vetulus nester*

PURPLE-FACED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus vetulus philbricki*

PURPLE-FACED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus johnii*

NILGIRI LANGUR

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: <10,000

Captivity: 4

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Trachypithecus auratus auratus*

EBONY LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 30

Concerns/Comments:

Recommendations:
Research:
PHVA:Yes

SPECIES: *Trachypithecus auratus sondaicus*

EBONY LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:Yes

SPECIES: *Trachypithecus pileatus pileatus* **CAPPED LANGUR**

Status: CITES Appendix -I
Red Data Book -
Mace/Lande - V

Distribution: Wirth points out that *T.p.shortridgei* is missing from the list.
Endemic to Burma and a small part of China.
Should probably be a priority.

Field Studies:

Estimated wild population: >2,500

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery,
PHVA:No

SPECIES: *Pygathrix nemaus* **RED-SHANKED DOUC MONKEY**

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: <5,000

Captivity: 52
INT S 470.

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Rhinopithecus roxellana*

SICHUAN GOLDEN SNUB-NOSED MONK

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution: Sichuan Province of China, fragmented small
populations.

Field Studies:

Estimated wild population: <10,000

Captivity: 40

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Hylobates hoolock hoolock*

HOOLOCK GIBBON

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: >2,500

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Hylobates hoolock leuconedys*

HOOLOCK GIBBON

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: >2,500

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

ASIAN PRIMATES CATEGORY SAFE

SPECIES: *Loris tardigradus* (no subsp)

SLENDER LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 54

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Nycticebus coucang* (no subsp)

COMMON SLOW LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >25,000

Captivity: 101

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Nycticebus coucang coucang*

COMMON SLOW LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 6

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Nycticebus coucang javanicus*

COMMON SLOW LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Nycticebus coucang bengalensis*

COMMON SLOW LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 8

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Nycticebus pygmaeus bonhote*

PYGMY LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Nycticebus intermedius*

LORIS

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Tarsius bancanus*

BORNEO TARSIER

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Kalimantan, Bangka, Belitung and S. Sumatra.

Field Studies:

Estimated wild population: >25,000

Captivity: 4

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Tarsius spectrum* **SPECTRAL TARSIER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Sulawesi lowlands

Field Studies:

Estimated wild population: >25,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Tarsius diana* **DIANA TARSIER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Central Sulawesi, near Kamarora

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Macaca radiata* BONNET MACAQUE

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:**Field Studies:**

Estimated wild population: >25,000

Captivity: 15

Concerns/Comments:**Recommendations:**

Research:
 PHVA:No

SPECIES: *Macaca assamensis* (no subsp)**ASSAMESE MACAQUE**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:**Field Studies:**

Estimated wild population: >25,000

Captivity: 9

Concerns/Comments:**Recommendations:**

Research:
 PHVA:No

SPECIES: *Macaca nemestrina* (no subsp)

FIG-TAILED MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >50,000

Captivity: 97

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca nemestrina nemestrina*

FIG-TAILED MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >25,000

Captivity: 2

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca nemestrina leonina* **PIG-TAILED MACAQUE**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >25,000

Captivity: 14

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca nigrescens* **GORONTALO MACAQUE**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Sulawesi, secure population on Dumongo-Bone
National Park

Field Studies:

Estimated wild population: ~50,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:No

SPECIES: *Macaca ochreata* BOOTED MACAQUE

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Sulawesi. Fairly secure due to huge forested areas where it occurs.

Field Studies:

Estimated wild population: >100,000

Captivity: 1

Concerns/Comments:**Recommendations:**

Research: Survery, Taxonomic, Husbandry.
 PHVA:No

SPECIES: *Macaca tonkeana* TONKEAN MACAQUE

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Sulawesi large range

Field Studies: Supriatna and Froehlich . Population numbers unknown .

Estimated wild population:

Captivity: 7

Concerns/Comments:**Recommendations:**

Research: Survery, Taxonomic, Husbandry.
 PHVA:No

SPECIES: *Macaca hecki* HECK'S MACAQUE

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution: Sulawesi.

Field Studies: There is considerable dispute about this species. Erwin says that it is more common than thought, certainly more than 50,000. Says protected populations are low but no basis for small population estimates.

Roland Wirth says that Mr Sugardjito claims that this is the most endangered of all Sulawesi macaques.

He recommends it for captive breeding especially as there are some in Bukkitinggi Zoo in Sumatra

Estimated wild population: >50,000

Captivity: 0

See remark under previous comment re captive breeding and Bukkitinggi Zoo in Sumatra.

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:No

SPECIES: *Macaca sinica* TORQUE MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 7

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca assamensis assamensis* **ASSAMESE MACAQUE**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Patchily distributed in Vietnam.

Field Studies:

Estimated wild population: > 25,000

Captivity: 14

Suggestion that this should be recommended
for a captive program.

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca assamensis pelops* **ASSAMESE MACAQUE**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 20

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca fascicularis* (no subsp)

LONG-TAILED MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 69

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca fascicularis philippinensis*

LONG-TAILED MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: There is also an form endemic to Vietnam,
M.f.condorensis.

Field Studies:

Estimated wild population:

Captivity: 3

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca fascicularis mordax*

LONG-TAILED MACAQUE

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 4

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Macaca mulatta (no sub)*

RHESUS MACAQUE

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >100,000

Captivity: 138

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Macaca mulatta mulatta* **RHESUS MACAQUE**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 33
 Probably no need to keep any at all in
 captivity!! from a conservation point of view.

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Macaca mulatta valida* **RHESUS MACAQUE**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 400

Concerns/Comments:

Recommendations:
 Research: Survery, Taxonomic,
 PHVA:No

SPECIES: *Macaca fuscata* (no subsp)

JAPANESE MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 228

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca fuscata fuscata*

JAPANESE MACAQUE

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <25,000

Captivity: 60

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Macaca arctoides* **STUMP-TAIL MACAQUE**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >25,000

Captivity: 32

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Semnopithecus entellus (no sbsp)* **HANUMAN LANGUR**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >50,000

Captivity: 114

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Semnopithecus entellis entellus*

ENTELLIS LANGUR

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:**Field Studies:****Estimated wild population:** >10,000**Captivity:** 8

Apparently S.e. priam exist in Krefelder Zoo
 and some in Czechoslovakia.

Concerns/Comments:**Recommendations:**

Research:
 PHVA:No

SPECIES: *Semnopithecus entellis thersites*

ENTELLIS LANGUR

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:**Field Studies:****Estimated wild population:****Captivity:** 16**Concerns/Comments:****Recommendations:**

Research:
 PHVA:No

SPECIES: *Presbytis femoralis maragae* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Presbytis femoralis paenulata* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Presbytis femoralis percura* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Presbytis femoralis rhionis* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Rhio Archipelago. Possibly only on Binting
 Island and possibly critical so may have been
 underestimated in this report.

Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Presbytis femoralis catemana* **BANDED LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis femoralis sumatrana* **BANDED LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis femoralis cana* **BANDED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Presbytis frontata* **WHITE-FRONTED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Presbytis hosei hosei* **HOSE'S LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Presbytis hosei canicrus* **HOSE'S LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Presbytes hosei sabana* **HOSE'S LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Presbytis melalophos (no subsp)* **BLACK-CRESTED LANGUR**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >25,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Presbytis melalophos mitrata*

BLACK-CRESTED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0
Definite need for husbandry research into a
non-endangered form.

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis melalophos fluviatilis*

BLACK-CRESTED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis melalophos melalophos*

BLACK-CRESTED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis melalophos nobilis*

BLACK-CRESTED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis melalophos flavimanus*

BLACK-CRESTED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis melalophos var. aurita*

BLACK-CRESTED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis rubicunda rubicunda* **MAROON LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Study into husbandry methods with less
endangered forms required.

Field Studies:

Estimated wild population: <25,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis thomasi* (no subsp) **THOMAS' LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis thomasi thomasi*

THOMAS' LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Presbytis thomasi nubilis*

THOMAS' LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus phayrei* **PHAYRE'S LANGUR**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies: Should be split into sub-specific forms.
At least
P.p phayrei, P.p.tripurae and
T.p.crepusculus. The latter is in Hanoi Zoo.

Groves suggests three subspecies. shanicus
(Se-en N Burma) , phayrei (N Bruma and
Bangladesh borders) and crepusculus
(rain-forest of central Thailand to S.W.
Laos).

Estimated wild population: <2,500

Captivity: 2

Concerns/Comments:**Recommendations:**

Research:
PHVA:No

SPECIES: *Nasalis larvatus* **PROBOSCIS MONKEY**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:**Field Studies:**

Estimated wild population: >25,000

Captivity: 26

Concerns/Comments:**Recommendations:**

Research:
PHVA:No

SPECIES: *Trachypithecus vetulus* (no subsp)

PURPLE-FACED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 6

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus auratus* (no subsp)

EBONY LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: <10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus cristatus ultimus*

SILVERED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 31

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus obscurus*

DUSKY LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Should be divided into at least two
subspecies, T.o.obscurus and
T.o.flavicaudatus.

Field Studies:
Estimated wild population: >10,000

Captivity: 70

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus cristatus* (no subsp)

SILVERED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >50,000

Captivity: 15

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Trachypithecus cristatus cristatus*

SILVERED LANGUR

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: There is another subspecies *T.c.caudalis* from central Vietnam but has not been recorded in the wild for over 20 years.

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates concolor* (no subsp)

WHITE-CHEEKED GIBBON

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 15

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates concolor jindongensis*

LIGHT-CHEEKED GIBBON

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: <250

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates lar* (no subsp)

WHITE-HANDED GIBBON

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >25,000

Captivity: 301

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates lar lar*

WHITE-HANDED GIBBON

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <10,000

Captivity: 15

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates lar carpenteri* **WHITE-HANDED GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 5

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Hylobates lar entelloides* **WHITE-HANDED GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 8

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Hylobates lar vestitus* **WHITE-HANDED GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: <10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Hylobates lar yunnanensis* **WHITE-HANDED GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: <30

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Hylobates syndactylus* (no subsp)

SIAMANG

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 196

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates syndactylus syndactylus*

SIMANG

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 241

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates syndactylus continentis* **SIAMANG**

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates hoolock (no subsp)* **HOOLOCK GIBBON**

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates moloch* (no subsp)

MOLOCH GIBBON

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 5

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates moloch pongolisoni*

MOLOCH GIBBON

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 4500-5000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates agilis* (no subsp) **AGILE GIBBON**

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 30

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Hylobates agilis agilis* **AGILE GIBBON**

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: <10,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Hylobates agilis albibarbis* **AGILE GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Hylobates agilis unko* **AGILE GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Hylobates muelleri* (no subsp)

MULLER'S GIBBON

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >25,000

Captivity: 20

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates muelleri muelleri*

MULLER'S GIBBON

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Hylobates muelleri funereus* **MULLER'S GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Hylobates muelleri abbotti* **MULLER'S GIBBON**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 2

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

APPENDIX 4

**AMERICAS PRIMATE TAXA
INDIVIDUAL TAXON SHEETS**

AMERICAN PRIMATES CATEGORY CRITICAL

SPECIES: *Callithrix flaviceps*

BUFFY-HEADED MARMOSET

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution: Brazil, S.E. Southern Minas Gerais.

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: 1-300

Captivity: 1

Concerns/Comments:

Recommendations: Wild Management
Research: Survery,
PHVA:Yes

SPECIES: *Leontopithecus rosalia*

GOLDEN LION TAMARIN

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 100-300

Captivity: 441
INT S5610.

Concerns/Comments:

Recommendations: Wild Management
Research:
PHVA:No

SPECIES: *Leontopithecus chrysopygus*

GOLDEN-RUMPED LION TAMARIN

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 40-450

Captivity: 60
INT S 600.

Concerns/Comments:

Recommendations: Wild Management
Research:
PHVA:No

SPECIES: *Leontopithecus caissara*

BLACK-FACED LION TAMARIN

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 25-125

Captivity: 0

Concerns/Comments:

Recommendations: Wild Management
Research: Survery,
PHVA:No

SPECIES: *Callicebus personatus barbarabrownae*

MASKED TITI

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:Yes

SPECIES: *Chiropotes satanas satanas*

BLACK SAKI

Status: CITES Appendix -
Red Data Book - E
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: 1-300

Captivity: 20

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:Yes

SPECIES: *Alouatta belzebul ululata* **RED-HANDED HOWLER**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: 1-300

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

HOWLER

SPECIES: *Alouatta fusca fusca*

BROWN HOWLER

Status: CITES Appendix -
Red Data Book - I
Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: 10-12

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Alouatta coibensis trabeata* **HOWLER**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 1-300

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Ateles belzebuth marginatus* **LONG-HAIRED SPIDER**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 1-300

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic, Husbandry.
PHVA:Yes

SPECIES: *Ateles fusciceps fusciceps*

BROWN-HEADED SPIDER MONKEY

Status: CITES Appendix -
Red Data Book - I
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 1-300

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery,
PHVA:Yes

SPECIES: *Ateles geoffroyi azuerensis*

BLACK HANDED SPIDER MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: <100

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Survery, Taxonomic,
PHVA:Yes

SPECIES: *Brachyteles arachnoides* **MURIQUI**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: 400-2000

Captivity: 10

Concerns/Comments:

Recommendations: Wild Management
 Research: Survery, Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Cebus apella xanthosternos* **TUFTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - C

Distribution:
Field Studies:
Estimated wild population: 1-300

Captivity: 10

Concerns/Comments:

Recommendations: Wild Management
 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Saimiri oerstedii citrinellus*

RED-BACKED SQUREL MONKEY

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - C

Distribution:

Field Studies:

Estimated wild population: 300

Captivity: 1

Concerns/Comments:

Recommendations: Wild Management
Research:
PHVA:Yes

AMERICAN PRIMATES CATEGORY ENDANGERED

SPECIES: *Callithrix argentata leucippe* **WHITE-SILVERY MARMOSET**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - E

Distribution: Brazil. W. Mato Grosso and South of the
Amazon

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: 1-3000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Callithrix argentata intermedia* **TASSEL-EARED MARMOSET**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - E

Distribution: Brazil. S. of the Amazon river Aripuana.

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

SPECIES: *Callithrix aurita* **BUFFY-TUFTED-EARED MARMOSET**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: S.E. Brazil Rio de Janeiro
Field Studies: see Stevenson and Rylands (1988)
Estimated wild population: 1-3,000

Captivity: 9

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:Yes

SPECIES: *Saguinus bicolor bicolor* **BARE-FACED TAMARIN**

Status: CITES Appendix -I
 Red Data Book - I
 Mace/Lande - E

Distribution: Brazil, north of the Rio Amazonas near the
 mouth of the Amazon confined between the east
 bank of the Rio Negro and the North bank for
 the Amazonas.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 1-3,000

Captivity: 30
 In captivity in Brazil and Jersey.

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:Yes

SPECIES: *Saguinus oedipus* **COTTON-TOP TAMARIN**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution: Columbia N.

Field Studies:

Estimated wild population: 1,000

Captivity: 488
 INT S***O.

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:Yes

SPECIES: *Saguinus leucopus* **WHITE-FOOTED TAMARIN**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 1-3,000

Captivity: 4

Concerns/Comments:

Recommendations:

 Research: Survery,
 PHVA:No

SPECIES: *Leontopithecus chrysomelas*

GOLDEN-HEADED LION TAMARIN

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 1-3,000

Captivity: 102
 INT S3000.

Concerns/Comments:

Recommendations: Wild Management
 Research:
 PHVA:No

SPECIES: *Callimico goeldi*

GO OWLER

SPECIES: *Ca*

Status: CITES Appendix -I
 Red Data Book - R
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 1-3,000

Captivity: 352
 INT S3520.

Concerns/Comments:

Recommendations: Research: Survery,
 PHVA:No

SPECIES: *Aotus lemurinus lemurinus* **DOUROUCOULI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:Yes

SPECIES: *Aotus lemurinus griseimembra* **DOUROUCOULI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research: Survery,
PHVA:Yes

SPECIES: *Callicebus personatus melanochir* **MASKED TITI**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Cacajao calvus calvus* **WHITE UAKARI**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 3

Concerns/Comments:

Recommendations:
 Research: Husbandry.
 PHVA:Yes

SPECIES: *Chiropotes albinasus* **WHITE-NOSED SAKI**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 2

Concerns/Comments:

Recommendations:
 Research:
 PHVA:Yes

SPECIES: *Chiropotes satanas utahicki* **BLACK SAKI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:Yes

SPECIES: *Alouatta palliata mexicana* **MANTLED HOWLER**

Status: CITES Appendix -I
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Husbandry.
PHVA:No

SPECIES: *Alouatta coibensis coibensis* **HOWLER**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 500-1,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Husbandry.
PHVA:Yes

SPECIES: *Ateles belzebuth hybridus* **LONG-HAIRED SPIDER**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 100-1000

Captivity: 22

Concerns/Comments:

Recommendations:

 Research: Survery, Taxonomic,
 PHVA:Yes

SPECIES: *Ateles fusciceps robustus* **BROWN-HEADED SPIDER MONKEY**

Status: CITES Appendix -
 Red Data Book - I
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 1-3,000

Captivity: 70

Concerns/Comments:

Recommendations:

 Research:
 PHVA:Yes

SPECIES: *Ateles geoffroyi geoffroyi*

BLACK HANDED SPIDER MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population:

Captivity: 142

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Ateles geoffroyi frontatus*

BLACK HANDED SPIDER MONKEY

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 5-10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Ateles geoffroyi panamenisis*

BLACK HANDED SPIDER MONKEY

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 100-2000

Captivity: 4

OWLER

Concerns/Comments:

Recommendations:

Research: Taxonomic,
 PHVA:No

SPECIES: *Lagothrix lagotricha lugens*

WOOLLY MONKEY

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 1-3,000

Captivity: 4

Concerns/Comments:

Recommendations:

Research: Taxonomic, Husbandry.
 PHVA:Yes

SPECIES: *Lagothrix flavicauda* **YELLOW-TAILED WOOLLY MONKEY**

Status: CITES Appendix -I
 Red Data Book - E
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0 .

Concerns/Comments:

Recommendations:
 Research:
 PHVA:Yes

SPECIES: *Cebus apella robustus* **TUFTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - E

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0 .

Concerns/Comments:

Recommendations:
 Research: Survery,
 PHVA:Yes

SPECIES: *Saimiri oerstedii oerstedii*

RED-BACKED SURREL MONKEY

Status: CITES Appendix -I
Red Data Book - E
Mace/Lande - E

Distribution:

Field Studies:

Estimated wild population: 2,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:Yes

AMERICAN PRIMATES CATEGORY VULNERABLE

SPECIES: *Callithrix humeralifer chrysoleuca* **TASSEL-EARED MARMOSET**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution: Brazil, S of the Amazon junction of R. Canuma
and R. Tapajos.

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >1,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus cupreus cupreus* **TITI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus cupreus discolor* **TITI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 5

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Callicebus cupreus ornatus* **TITI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Callicebus torquatus torquatus*

YELLOW-HANDED TITI

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus torquatus lugens*

YELLOW-HANDED TITI

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus torquatus medemi*

YELLOW-HANDED TITI

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus oenanthe*

TITI

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus caligatus* **TITI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Callicebus moloch* **DUSKI TITI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 14

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Callicebus brunneus* **TITI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Callicebus modestus* **TITI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivi OWLER **Captivity:** 0

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Callicebus olallae* **TITI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Callicebus donacophilus donacophilus* **REED TITI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 31

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Callicebus personatus nigrifrons*

MASKED TITI

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 3-10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Pithecia albicans*

BUFFY SAKI

Status: CITES Appendix -
Red Data Book -
Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Ateles belzebuth belzebuth* **LONG-HAIRED SPIDER**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 1-3,000

Captivity: 10

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Ateles geoffroyi vellerosus* **BLACK HANDED SPIDER MONKEY**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande - V

Distribution:
Field Studies:
Estimated wild population: 10-50,000

Captivity: 40

Concerns/Comments:

Recommendations:

Research: Taxonomic,
 PHVA:No

SPECIES: *Lagothrix lagotricha lagotricha*

WOOLLY MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research: Taxonomic, Husbandry.
PHVA:No

SPECIES: *Lagothrix lagotricha cana*

SMOKEY WOOLLY MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research: Taxonomic, Husbandry.
PHVA:No

SPECIES: *Lagothrix lagotricha poeppigii*

BROWN WOOLLY MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande - V

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 14

Concerns/Comments:

Recommendations:

Research: Taxonomic, Husbandry.
PHVA:No

AMERICAN PRIMATES CATEGORY SAFE

SPECIES: *Callithrix argentata argentata* **SILVERY MARMOSET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Brazil. W. Mato Grosso and South of the
Amazon

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >100,000

Captivity: 29

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callithrix argentata melanura* **BLACK-TAILED MARMOSET**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Brazil. W. Mato Grosso and South of the
Amazon. Into Rondonia and Bolivia.

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >100,000

OWLER

Captivity: 33

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callithrix nigriceps*

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: W. Brazil south of the Amazon Rondonia, Mato Grosso.

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callithrix humeralifer humeralifer*

TASSEL-EARED MARMOSET

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution: Brazil, S of the Amazon junction of R. Canuma and R. Tapajos.

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callithrix jacchus* **COMMON MARMOSET**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: N.E. Brazil

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >100,000

Captivity: 223

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Callithrix geoffroyi* **GEOFFROYI'S MARMOSET**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: E. Brazil, Bahia, and Minas Gerais

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: >10,000

Captivity: 43

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Callithrix kuhli* **KUHLI'S MARMOSET**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Bahia, Brazil

Field Studies: see Stevenson and Rylands (1988)

Estimated wild population: 10,000

Captivity: 30

Concerns/Comments:**Recommendations:**

Research:
 PHVA:No

SPECIES: *Cebuella pygmaea* **PYGMY MARMOSET**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: Amazonia, Columbia, Ecuador, Peru, Bolivia,
 Brazil

Field Studies: see Soini (1988)

Estimated wild population: 100,000

Captivity: 420
 INT S6130.

Concerns/Comments:**Recommendations:**

Research:
 PHVA:No

SPECIES: *Saguinus nigricollis nigricollis*

BLACK-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Peru, N.W. Brazil

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus nigricollis graellsii*

BLACK-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Amazonia, Ecuador, Peru

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus nigricollis hernandezi* **BLACK-BACKED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Rio Caguan, Colombia.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis fuscicollis* **SADDLE-BACKED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: W. Brazil between Rios Jurua and Javari

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis acrensis* **SADDLE-BACKED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribu OWLER

Distribution: S.W. Brazil

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis avilapirensi* **SADDLE-BACKED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: W. Brazil, S. Amazonas abetween Rios Jurua
and Purus

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis crandalli*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: W. Brazil, S. Amazonas between Rios Purus and
Madeira

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis cruzlimai*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: W. Brazil between Rios Purus and Tapuaua

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis fuscus* **SADDLE-BACKED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: S.E. Columbia and N.W. Brazil between Rios
Japura and Ica

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis illigeri* **SADDLE-BACKED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: E. Peru, Loreto

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 42

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis lagonotus*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: N.E. Peru and E. Ecuador

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis leucogenys*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: N. central Peru

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis melanoleucus*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: S.W. Brazil between Rios Jurua and Tarauaca
Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis primitivus*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: W. Brazil Rio Purus
Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus fuscicollis weddellii*

SADDLE-BACKED TAMARIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Brazil, S.W. Amazonas between Rios
Madeira-Mamore and Purus

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 19

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus tripartitus*

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: Peru, Rt Bank Rio Napo

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus mystax mystax* **MOUSTACHED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: South Amazonas, W. Brazil and E. Peru
Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 100,000

Captivity: 30

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus mystax pileatus* **MOUSTACHED TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution: S. Amazonas, W. Brazil between Rios Jurua and
Purus

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus mystax pluto* **MOUSTACHED TAMARIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: S. Amazonas, W. Brazil on Rio Purus
Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Saguinus labiatus labiatus* **RED-BELLIED TAMARIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: S. Amazonas, W. Brazil between Rios Madeira
 and Purus

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >100,000

Captivity: 49

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Saguinus labiatus thomasi* **RED-BELLIED TAMARIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: N. Amazonas, Rio Tonantins Brazil
Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saguinus imperator (no subsp)* **EMPEROR TAMARIN**

Status: CITES Appendix -
 Red Data Book - I
 Mace/Lande -

Distribution:
Field Studies: see Snowdon and Soini (1988)

Estimated wild population:

Captivity: 15

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saguinus imperator imperator* **EMPEROR TAMARIN**

Status: CITES Appendix -
Red Data Book - I
Mace/Lande -

Distribution: S.E. Peru N Bolivia and SW Brazil, upper Rio
Jurua and upper Rio
Purus basins of the SW Amazonas.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population:

Captivity: 15

Concerns/Comments:

Recommendations:

Research: Taxonomic,
PHVA:No

SPECIES: *Saguinus imperator subgrisescens* **EMPEROR TAMARIN**

Status: CITES Appendix -
Red Data Book - I
Mace/Lande -

Distribution: S.E. Peru N Bolivia and SW Brazil, upper Rio
Jurua and upper Rio
Purus basins of the SW Amazonas.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 100,000

Captivity: 87

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus midas midas* **RED-HANDED TAMARIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: N. Amazonas and E. Rio Negro. Guyana,
 Suriname, French Guiana.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: >100,000

Captivity: 109

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saguinus midas niger* **BLACK TAMARIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: N.E. Brazil S of the Amazon

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saguinus inustus* **MOTTLED-FACED TAMARIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution: N. of the Amazon between the rivers Negro and
 Japura , Brazil and
 Columbia

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Saguinus bicolor martinsi* **BARE-FACED TAMARIN**

Status: CITES Appendix -I
 Red Data Book - I
 Mace/Lande -

Distribution: Para, Brazil N of the Rio Amazonas.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Saguinus bicolor ochraceus* **BARE-FACED TAMARIN**

Status: CITES Appendix -I
Red Data Book - I
Mace/Lande -

Distribution: N.E. Amazonas, Brazil on the rt bank of of
the Rio Nhamunda.

Field Studies: see Snowdon and Soini (1988)

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saguinus geoffroyi* **GEOFFROY'S TAMARIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 88

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Aotus vociferans* **DOUROUCOULI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 22

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Aotus trivirgatus* **DOUROUCOULI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 76

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Aotus brumbacki* DOUROUCOULI

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Aotus nigriceps* DOUROUCOULI

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Aotus infulatus* **DOUROUCOULI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Aotus azarae azarae* **DOUROUCOULI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Aotus azarae boliviensis* **DOUROUCOULI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Aotus nancymai* **DOUROUCOULI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Callicebus donacophilus pallescens*

REED TITI

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cacajao calvus rubicundus*

RED UAKARI

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 8

Concerns/Comments:

Recommendations:

Research: Husbandry.
PHVA:No

SPECIES: *Cacajao calvus ucayalii* **UAKARI**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cacajao calvus novaesi* **UAKARI**

Status: CITES Appendix -I
 Red Data Book - V
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cacajao melanocephalus melanocephalus*

BLACK UAKARI

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cacajao melanocephalus ouakary*

BLACK UAKARI

Status: CITES Appendix -I
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Chiropotes satanas chiropotes* **BLACK SAKI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Pithecia pithecia pithecia* **WHITE-FACED SAKI**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 95

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Pithecia pithecia chrysocephala*

WHITE-FACED SAKI

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 100,000

Captivity: 0

Concerns/Comments:

OWLER

Conc

Recommendations:

Research:
 PHVA:No

SPECIES: *Pithecia monachus monachus*

RED-BEARDED SAKI

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 5

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Pithecia monachus milleri* **RED-BEARDED SAKI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Pithecia irrorata irrorata* **IRRORATA SAKI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Pithecia irrorata vanzolinii* **IRRORATA SAKI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Pithecia aequatorialis* **SAKI**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta seniculus* (no subsp) **RED HOWLER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 12

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Alouatta seniculus sara* **RED HOWLER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Alouatta seniculus straminea* **RED HOWLER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 2

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta belzebul belzebul* **RED-HANDED HOWLER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 1

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta belzebul discolor* **RED-HANDED HOWLER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta belzebul nigerrima* **RED-HANDED HOWLER**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta fusca clamitans* **BROWN HOWLER**

Status: CITES Appendix -
 Red Data Book - I
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta palliata palliata* **MANTLED HOWLER**

Status: CITES Appendix -I
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >10,000

Captivity: 6

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Alouatta palliata aequatorialis*

MANTLED HOWLER

Status: CITES Appendix -I
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Alouatta pigra*

GUATEMALAN BLACK HOWLER

Status: CITES Appendix -
Red Data Book - I
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: 10,000

Captivity: 1

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Alouatta caraya* **BLACK HOWLER MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 100,000

Captivity: 58
 INT S 720.

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Ateles paniscus (no subsp)* **BLACK SPIDER MONKEY**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 45

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

SPECIES: *Ateles paniscus paniscus* **BLACK SPIDER**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 9

Concerns/Comments:

Recommendations:

Research:
PHVA:No OWLER

SPECIES: *Ateles paniscus chamek* **BLACK SPIDER**

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 34

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Ateles geoffroyi* (no subsp)

BLACK-HANDED SPIDER MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 177

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Ateles geoffroyi grisescens*

BLACK HANDED SPIDER MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 3

Concerns/Comments:

Recommendations:
Research: Taxonomic,
PHVA:No

SPECIES: *Ateles geoffroyi pan* **BLACK HANDED SPIDER MONKEY**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Ateles geoffroyi ornatus* **BLACK HANDED SPIDER MONKEY**

Status: CITES Appendix -
 Red Data Book - V
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 11

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Ateles geoffroyi yucatanensis*

BLACK-HANDED SPIDER

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Lagothrix lagothricha* (no subspp)

WOOLLY MONKEY

Status: CITES Appendix -
Red Data Book - V
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 55

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons albifrons*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 47

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons adustus*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons aequatorialis*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
 Field Studies:
 Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Cebus albifrons cesarae*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
 Field Studies:
 Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Cebus albifrons cuscinus*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons hypoleucus*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons leucocephalus*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons malitiosus*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons pleei* **WHITE-FRONTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

OWLER

Research:
PHVA:No

Recommendations:

SPECIES: *Cebus albifrons trinitatis* **WHITE-FRONTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons unicolor*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons versicolor*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus albifrons yuracus*

WHITE-FRONTED CAPUCHIN

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Cebus capuchinus*

WHITE-THROATED CAPUCHIN

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >100,000

Captivity: 73

Concerns/Comments:

Recommendations:

Research:
 PHVA:No

SPECIES: *Cebus olivaceus* **WEEPER CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 13

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus apella (no subsp)* **TUFTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 147

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus apella apella* **TUFTED CAPUCHIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 13

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus apella libidonosus* **TUFTED CAPUCHIN**

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: <100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus apella nigritus* **TUFTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cebus apella macrocephalus* **TUFTED CAPUCHIN**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Cebus apella cucullatus*

TUFTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Cebus apella maranonis*

TUFTED CAPUCHIN

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saimiri sciureus* (no subsp)

SQUIRREL MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population:

Captivity: 281

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Saimiri sciureus sciureus*

SQUIRREL MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: >100,000

Captivity: 80

Concerns/Comments:

Recommendations:
Research:
PHVA:No

SPECIES: *Saimiri sciureus macrodon* **SQUIRREL MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saimiri sciureus cassiquiariensis* **SQUIRREL MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saimiri sciureus albigena* **SQUIRREL MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saimiri boliviensis boliviensis* **BLACK-CAPPED SQUIRREL MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 75

Concerns/Comments:

Recommendations:

 Research:
 PHVA:No

SPECIES: *Saimiri boliviensis peruviansis*

BLACK-CAPPED SURREL MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saimiri boliviensis jaburuensis*

BLACK-CAPPED SURREL MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

OWLER

Field Studies:

Estimated wild population: >100,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saimiri boliviensis pluvialis*

BLACK-CAPPED SURREL MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population: >10,000

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saimiri boliviensis vanzolinii*

BLACK-CAPPED SURREL MONKEY

Status: CITES Appendix -
Red Data Book -
Mace/Lande -

Distribution:

Field Studies:

Estimated wild population:

Captivity: 0

Concerns/Comments:

Recommendations:

Research:
PHVA:No

SPECIES: *Saimiri ustus* **SQUIREL MONKEY**

Status: CITES Appendix -
 Red Data Book -
 Mace/Lande -

Distribution:
Field Studies:
Estimated wild population: 10,000

Captivity: 0

Concerns/Comments:

Recommendations:
 Research:
 PHVA:No

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**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

APPENDIX 5

**ASSESSMENTS & RECOMMENDATIONS FOR
PRIMATE TAXA IN TAXONOMIC ORDER**

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE	
		EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Daubentonia madagascariensis</i>		>2,500		D		C		1	3	W1		S,H	12	90/100 I
<i>Allocebus trichotis</i>		250		D		C		1	2	W1		T,S,H	6	90/100 I
<i>Cheirogaleus major</i>		500,000		D		Z		2	6	W3		S		NO REC
<i>Cheirogaleus medius</i>		>500,000		D		Z		2	6	W3		S	126	NUC II
<i>Microcebus rufus</i>		>500,000		D		Z		2	6	W3		S	20	NUC II
<i>Microcebus murinus</i>		>500,000		D		Z		2	6	W3		S	166	NUC II
<i>Mirza coquereli</i>		>50,000		D		Z		1	5	W2		T,S	64	NUC I
<i>Phaner furcifer</i>		>25,000		D		Z		1	5	W2		T,S,H	2	NUC I
<i>Avahi laniger</i>	<i>laniger</i>	>10,000		D		Z		1	5	W2		T,S,H		NUC I
<i>Avahi laniger</i>	<i>occidentalis</i>	>10,000		D		Z		1	5	W2		T,S,H		NUC I
<i>Indri indri</i>		2,500		D		C		1	3	W1	M	S,H		90/100 I
<i>Propithecus diadema</i>	<i>diadema</i>	>2,500		D		V		2	5	W1	M	T,S,H	3	NUC I
<i>Propithecus diadema</i>	<i>candidus</i>	1,000		D		E		2	4	W1	M	T,S,H		90/100 I
<i>Propithecus diadema</i>	<i>edwardsi</i>	>2,500		D		V		2	5	W1	M	T,S,H		NUC I
<i>Propithecus diadema</i>	<i>perrieri</i>	1,000		D		E		2	4	W1	M	T,S,H		90/100 I
<i>Propithecus verreauxi</i>	<i>verreauxi</i>	100,000		D		Z		2	6	W2		T,S,H	3	NUC II
<i>Propithecus verreauxi</i>	<i>coquereli</i>	10,000		D		V		2	5	W1		T,S,H	18	NUC I
<i>Propithecus verreauxi</i>	<i>deckeni</i>	>2,500		D		V		2	5	W1		T,S,H		NUC I
<i>Propithecus verreauxi</i>	<i>coronatus</i>	250		D		C		2	3	W1	M	T,S,H	2	90/100 I
<i>Propithecus tattersalli</i>		250		D		C		2	3	W1	M	T,S,H	3	90/100 I
<i>Lemur catta</i>		>10,000		D		Z		2	6	W2		T,S	815	NUC I
<i>Eulemur coronatus</i>		>2,500		D		E		2	4	W1	M	S	38	90/100 II
<i>Eulemur fulvus</i>	<i>fulvus</i>	>10,000		D		Z		2	6	W3		T,S	94	NUC II
<i>Eulemur fulvus</i>	<i>albifrons</i>	>10,000		D		Z		2	6	W2		T,S	109	NUC II
<i>Eulemur fulvus</i>	<i>albocollaris</i>	>2,500		D		V		2	5	W2		T,S	6	NUC I
<i>Eulemur fulvus</i>	<i>collaris</i>	10,000		D		V		2	5	W2		T,S	38	NUC I

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRCC		CAP REC	
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM			
	<i>Eulemur fulvus mayottensis</i>		>2,500	D	Z											68	NO REC
	<i>Eulemur fulvus rufus</i>		100,000	D	Z			2	6	W3					T,S	64	NUC II
	<i>Eulemur fulvus sanfordi</i>		2,500	D	V			2	5	W2					T,S	18	NUC I
	<i>Eulemur mongoz</i>		2,500	D	E			2	4	W1	M				S,H	58	90/100 II
	<i>Eulemur macaco macaco</i>		>10,000	D	Z			2	5	W1					T,S	240	90/100 II
	<i>Eulemur macaco flavifrons</i>		>100	D	C			2	3	W1					T,S	36	90/100 I
	<i>Eulemur rubiventer</i>		>10,000	D	V			2	5	W1					S	19	NUC I
	<i>Varecia variegata rubra</i>		2,500	D	E			2	4	W1	M				T,S	254	90/100 II
	<i>Varecia variegata variegata</i>		5,000	D	E			2	4	W1	M				T,S	550	90/100 II
	<i>Varecia variegata subcinctus</i>			D	E											2	NO REC
	<i>Varecia variegata editorum</i>			D	E												NO REC
	<i>Hapalemur griseus griseus</i>		100,000	D	Z			2	6	W3					T,S,H	18	NUC II
	<i>Hapalemur griseus alaotensis</i>		250	D	C			2	3	W1	M				T,S,H	12	90/100 I
	<i>Hapalemur griseus occidentalis</i>		10,000	D	Z			2	6	W3					T,S		NO REC
	<i>Hapalemur simus</i>		1,000	D	E			2	3	W1	M				S,H	2	90/100 I
	<i>Hapalemur aureus</i>		1,000	D	E			2	3	W1	M				S,H	4	90/100 I
	<i>Lepilemur mustelinus</i>		>10,000	D	Z			2	6	W3					T,S,H		NUC II
	<i>Lepilemur edwardsi</i>		>100,000	D	Z			2	6	W3					T,S,H		NO REC
	<i>Lepilemur dorsalis</i>		>10,000	D	Z			2	6	W3					T,S,H		NO REC
	<i>Lepilemur leucopus</i>		>100,000	D	Z			2	6	W3					T,S,H		NO REC
	<i>Lepilemur microdon</i>		>10,000	D	Z			2	6	W3					T,S,H		NO REC
	<i>Lepilemur ruficaudatus</i>		100,000	D	Z			2	6	W3					T,S,H		NO REC
	<i>Lepilemur septentrionalis</i>		10,000	D	Z			2	6	W3					T,S,H		NO REC
	<i>Galago senegalensis (no subsp)</i>		>100,000		Z											210	NO REC
	<i>Galago senegalensis senegalensis</i>				Z												NO REC
	<i>Galago senegalensis braccatus</i>				Z											2	NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Galago matschiei (inustus)</i>		<100,000					V3						S		NO REC
	<i>Galago elegantulus</i>		<100,000					Z								NO REC
	<i>Galago moholi</i>				D			Z							86	NUC II
	<i>Galago gallarum</i>							Z								NO REC
	<i>Galagoides alleni</i>		>100,000					Z								NO REC
	<i>Galagoides demidovii</i>		>100,000					Z							4	ELIM
	<i>Galagoides thomasi</i>		<100,000					V3						S	0	NO REC
	<i>Galagoides zanzibaricus</i>		<100,000		D			V3						S	0	90/100 II
	<i>Otolemur crassicaudatus</i>		>100,000					Z							66	NUC II
	<i>Otolemur gametti</i>		>100,000					Z								NO REC
	<i>Arctocebus calabarensis</i>		<100,000					V3						S		NUC I
	<i>Perodicticus potto</i>		>100,000		D			Z							42	NUC II
	<i>Loris tardigradus (no subsp)</i>		>10,000		D			Z								NO REC
	<i>Loris tardigradus tardigradus</i>							V						T,S		NUC I
	<i>Loris tardigradus grandis</i>							V						T,S		NUC I
	<i>Loris tardigradus malabaricus</i>		<2,500					E						T,S		NUC I
	<i>Loris tardigradus nycticeboides</i>				D			V						T,S		NUC I
	<i>Loris tardigradus nordicus</i>							V						T,S		NUC I
	<i>Nycticebus cougang (no subsp)</i>		>25,000					Z								NO REC
	<i>Nycticebus cougang cougang</i>		>10,000	>2	S			Z						T	100	NUC II
	<i>Nycticebus cougang javanicus</i>							Z						T		NO REC
	<i>Nycticebus cougang bengalensis</i>		>10,000					Z						T	8	NUC II
	<i>Nycticebus pygmaeus pygmaeus</i>		<10,000		S			V						T	50	90/100 I
	<i>Nycticebus pygmaeus bonhote</i>				S			Z						T		NO REC
	<i>Nycticebus intermedia ? china</i>	China						Z						T		NO REC
	<i>Tarsius bancanus</i>		>25,000		D			Z						T,S	4	NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE			
		EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
<i>Tarsius spectrum</i>		>25,000				Z										NO REC
<i>Tarsius syrichta</i>		<2,500	FRG D	D		E									24	90/100 II
<i>Tarsius pumilus</i>		<2,500				E			W					T,S		NO REC
<i>Tarsius diana</i>						Z								T,S		NO REC
<i>Callithrix argentata</i>	<i>argentata</i>	>100,000	NUM D	D		Z									29	NUC II
<i>Callithrix argentata</i>	<i>leucippe</i>	1-3000	POS D	D		E		4	W2			2				90/100 II
<i>Callithrix argentata</i>	<i>melanura</i>	>100,000				Z									33	NUC II
<i>Callithrix argentata</i>	<i>intermedia</i>	1-3,000	FRG D	D		E		4	W2			2			0	90/100 II
<i>Callithrix nigriceps</i>		>1-3,000				Z										NO REC
<i>Callithrix humeralifer</i>	<i>humeralifer</i>	>100,000				Z										NO REC
<i>Callithrix humeralifer</i>	<i>chrysoleuca</i>	?				V										NUC I
<i>Callithrix jacchus</i>		>100,000	FRG			Z									223	NUC II
<i>Callithrix aurita</i>		1-3,000	6-8	D		E			W					S	9	90/100 II
<i>Callithrix flaviceps</i>		1-300	2-3	D		C			W	M				S	1	90/100 I
<i>Callithrix geoffroyi</i>		>10,000				Z									70	NUC II
<i>Callithrix kuhli</i>		10,000	>10			Z									60	NUC II
<i>Callithrix penicillata</i>		>100,000				Z									22	NUC II
<i>Cebuella pygmaea</i>		100,000				Z									613	NUC II
<i>Saguinus nigricollis</i>	<i>nigricollis</i>	>10,000				Z									1	NO REC
<i>Saguinus nigricollis</i>	<i>graelisi</i>	>10,000				Z										NO REC
<i>Saguinus nigricollis</i>	<i>hemandezi</i>	>10,000				Z										NO REC
<i>Saguinus fuscicollis</i>	<i>fuscicollis</i>	>10,000				Z										NO REC
<i>Saguinus fuscicollis</i>	<i>acrensis</i>	>10,000				Z										NO REC
<i>Saguinus fuscicollis</i>	<i>avilapiresi</i>	>10,000				Z										NO REC
<i>Saguinus fuscicollis</i>	<i>crandalli</i>	>10,000				Z										NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRC CAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Saguinus fuscicollis</i>	<i>cruzimai</i>	>10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>fuscus</i>	>10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>illigeri</i>	>10,000				Z								42	NUC II
	<i>Saguinus fuscicollis</i>	<i>lagonotus</i>	>10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>leucogenys</i>	>10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>melanoleucus</i>	10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>nigrifrons</i>	10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>primitivus</i>	10,000				Z									NO REC
	<i>Saguinus fuscicollis</i>	<i>weddellii</i>	10,000				Z								19	NUC II
	<i>Saguinus tripartitus</i>		10,000				Z									NO REC
	<i>Saguinus mystax</i>	<i>mystax</i>	100,000				Z								30	NUC II
	<i>Saguinus mystax</i>	<i>pileatus</i>	>10,000				Z									NO REC
	<i>Saguinus mystax</i>	<i>pluto</i>	10,000				Z									NO REC
	<i>Saguinus labiatus</i>	<i>labiatus</i>	>100,000				Z								49	NUC II
	<i>Saguinus labiatus</i>	<i>thomasi</i>	>10,000				Z									NO REC
	<i>Saguinus imperator</i>	<i>(no subsp)</i>					Z									NO REC
	<i>Saguinus imperator</i>	<i>imperator</i>	100,000				Z								15	NUC II
	<i>Saguinus imperator</i>	<i>subgriseus</i>	100,000				Z								87	NUC II
	<i>Saguinus midas</i>	<i>midas</i>	>100,000				Z								109	NUC II
	<i>Saguinus midas</i>	<i>niger</i>	100,000				Z									NO REC
	<i>Saguinus inustus</i>		10,000				Z									NO REC
	<i>Saguinus bicolor</i>	<i>bicolor</i>	1-3,000	3	D		E			2	4	W		S	30	90/100 II
	<i>Saguinus bicolor</i>	<i>martinsi</i>	10,000				Z									NO REC
	<i>Saguinus bicolor</i>	<i>ochraceus</i>	10,000				Z									NO REC
	<i>Saguinus oedipus</i>		1,000				E			2	4	W		S	1766	90/100 I
	<i>Saguinus geoffroyi</i>		10,000				Z								87	NUC II

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	RANGE	WILD POPULATION											RSRC CAPTIVE	
		EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Saguinus leucopus</i>		1-3,000	FRG			E		2	4			S		90/100 II
<i>Leontopithecus rosalia</i>		100-300				C		1	2		M		561	90/100 I
<i>Leontopithecus chrysomelas</i>		1-3,000				E		1	2		M		285	90/100 I
<i>Leontopithecus chrysopygus</i>		40-450				C		1	2		M		40	90/100 I
<i>Leontopithecus caissara</i>		25-125				C		1	2		M	S		90/100 I
<i>Callimico goeldii</i>		1-3,000	FRG D			E		1	2			S	352	90/100 I
<i>Aotus lemurinus</i>	<i>lemurinus</i>	1-3,000				E		2	4	W		S		90/100 II
<i>Aotus lemurinus</i>	<i>griseimembra</i>	1-3,000				E		2	4	W		S		90/100 II
<i>Aotus vociferans</i>		100,000				Z							22	NUC II
<i>Aotus trivirgatus</i>		100,000				Z							76	NUC II
<i>Aotus brumbacki</i>		100,000				Z								NO REC
<i>Aotus miconax</i>		1-3,000				E		2	4			T,S		90/100 II
<i>Aotus nigriceps</i>		100,000				Z								NO REC
<i>Aotus infulatus</i>						Z								NO REC
<i>Aotus azarae</i>	<i>azarae</i>	10,000				Z								NO REC
<i>Aotus azarae</i>	<i>boliviensis</i>	10,000				Z								NO REC
<i>Aotus nancymai</i>		10,000				Z								NO REC
<i>Callicebus cupreus</i>	<i>cupreus</i>	10,000				V								NO REC
<i>Callicebus cupreus</i>	<i>discolor</i>	10,000				V								NO REC
<i>Callicebus cupreus</i>	<i>ornatus</i>	10,000				V								NO REC
<i>Callicebus torquatus</i>	<i>torquatus</i>	10,000				V							1	NO REC
<i>Callicebus torquatus</i>	<i>lugens</i>	10,000				V								NO REC
<i>Callicebus torquatus</i>	<i>medemi</i>	10,000				V								NO REC
<i>Callicebus torquatus</i>	<i>lucifer</i>	10,000				Z								NUC I
<i>Callicebus torquatus</i>	<i>regulus</i>	10,000				Z								NO REC
<i>Callicebus torquatus</i>	<i>purinus</i>	10,000				Z								NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	WILD POPULATION										RSRC CAPTIVE				
	SCIENTIFIC NAME	RANGE	EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Callicebus oenanthe</i>			10,000				V								NO REC
<i>Callicebus caligatus</i>			10,000				V								NO REC
<i>Callicebus moloch</i>	<i>moloch</i>		10,000				V							24	NUC II
<i>Callicebus moloch</i>	<i>remulus</i>		10,000				Z								NO REC
<i>Callicebus brunneus</i>			10,000				V								NO REC
<i>Callicebus modestus</i>			10,000				V								NO REC
<i>Callicebus olallae</i>			10,000				V								NO REC
<i>Callicebus donacophilus</i>	<i>donacophilus</i>		10,000				V							21	NUC II
<i>Callicebus donacophilus</i>	<i>pallascens</i>						Z								NO REC
<i>Callicebus personatus</i>	<i>personatus</i>		1-3,000	FRG			E		2	4	W4		S		90/100 II
<i>Callicebus personatus</i>	<i>nigrifrons</i>		3-10,000				V								NUC I
<i>Callicebus personatus</i>	<i>melanochir</i>		1-3,000	FRG			E		2	4	W		S		90/100 II
<i>Callicebus personatus</i>	<i>barbarabrownae</i>		1-300				C		2	4	W		S		90/100 I
<i>Cacajao calvus</i>	<i>calvus</i>		1-3,000	1			E		2	4	W		H	3	90/100 II
<i>Cacajao calvus</i>	<i>rubicundus</i>		> 10,000				Z							8	NUC II
<i>Cacajao calvus</i>	<i>ucayalii</i>		> 10,000				Z								NO REC
<i>Cacajao calvus</i>	<i>novaeasi</i>		> 10,000				Z								NO REC
<i>Cacajao melanocephalus</i>	<i>melanocephalus</i>		> 10,000				Z							1	NO REC
<i>Cacajao melanocephalus</i>	<i>ouakary</i>		10,000				Z								NO REC
<i>Chiropotes albinasus</i>			1-3,000		D		E		2	4	W			2	90/100 II
<i>Chiropotes satanas</i>	<i>satanas</i>		1-300		D		C		2	3	W		S	20	90/100 I
<i>Chiropotes satanas</i>	<i>chiropotes</i>		> 10,000		D		Z							1	NO REC
<i>Chiropotes satanas</i>	<i>utahicki</i>		1-3,000				E		2	4	W				90/100 II
<i>Pithecia pithecia</i>	<i>pithecia</i>		100,000				Z							95	NUC II
<i>Pithecia pithecia</i>	<i>chrysocephala</i>		100,000				Z								NO REC
<i>Pithecia monachus</i>	<i>monachus</i>		10,000				Z							1	NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Pithecia monachus</i>	<i>milleri</i>	10,000			Z											NO REC
	<i>Pithecia irrorata</i>	<i>irrorata</i>	10,000			Z											NO REC
	<i>Pithecia irrorata</i>	<i>vanzolinii</i>	10,000			Z											NO REC
	<i>Pithecia albicans</i>		1-3,000			V				2	5						NUC I
	<i>Pithecia aequatorialis</i>		>10,000			Z											NO REC
	<i>Alouatta seniculus</i>	(no subsp)	>100,000			Z										12	NUC II
	<i>Alouatta seniculus</i>	<i>sara</i>	>100,000			Z										10	NUC II
	<i>Alouatta seniculus</i>	<i>straminea</i>	10,000			Z										2	NO REC
	<i>Alouatta belzebul</i>	<i>belzebul</i>	10,000			Z											NO REC
	<i>Alouatta belzebul</i>	<i>discolor</i>	10,000			Z											NO REC
	<i>Alouatta belzebul</i>	<i>nigerrima</i>	10,000			Z											NO REC
	<i>Alouatta belzebul</i>	<i>ululata</i>	1-300			C				2	3	W			T,S,H		90/100 I
	<i>Alouatta fusca</i>	<i>fusca</i>	10-12	1		C				2	3	W			T,S,H		90/100 I
	<i>Alouatta fusca</i>	<i>clarnitans</i>	10,000			Z											NO REC
	<i>Alouatta palliata</i>	<i>palliata</i>	>10,000			Z										6	NUC II
	<i>Alouatta palliata</i>	<i>mexicana</i>	1-3,000	FRG		E				2	4				H		90/100 II
	<i>Alouatta palliata</i>	<i>aequatorialis</i>	>10,000			Z											NO REC
	<i>Alouatta coibensis</i>	<i>coibensis</i>	500-1,000	1		E				2	4	W3			H		90/100 II
	<i>Alouatta coibensis</i>	<i>trabeata</i>	1-300			C				2	3	W			T,S,H		90/100 I
	<i>Alouatta pigra</i>		10,000			Z										1	NO REC
	<i>Alouatta caraya</i>		100,000			Z										58	NUC II
	<i>Ateles belzebul</i>	<i>belzebul</i>	1-3,000		D	V				2	5					10	NUC I
	<i>Ateles belzebul</i>	<i>hybridus</i>	100-1000	FRG		E				2	4	W				22	90/100 II
	<i>Ateles belzebul</i>	<i>marginatus</i>	1-300		D	C				2	3	W			T,S,H		90/100 I
	<i>Ateles paniscus</i>					Z											NO REC
	<i>Ateles paniscus</i>	<i>paniscus</i>	>100,000		D	Z										19	NUC II

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RINK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
<i>Ateles paniscus</i>	<i>chamek</i>		> 10,000		D	Z									34	NUC II
<i>Ateles fusciceps</i>	<i>fusciceps</i>		1-300		D	C			2	3	W			S		90/100 I
<i>Ateles fusciceps</i>	<i>robustus</i>		1-3000	4	D	E			2	4	W				70	90/100 II
<i>Ateles geoffroyi</i>	<i>(no subsp)</i>					Z										NO REC
<i>Ateles geoffroyi</i>	<i>geoffroyi</i>		?		D	E			2	4				T	142	90/100 II
<i>Ateles geoffroyi</i>	<i>azuensis</i>		<100		D	C			2	3	W			T,S		90/100 I
<i>Ateles geoffroyi</i>	<i>frontatus</i>		5-10,000	2	D	E			2	4				T		90/100 II
<i>Ateles geoffroyi</i>	<i>griseus</i>		?		D	Z										NO REC
<i>Ateles geoffroyi</i>	<i>pan</i>		?			Z										NO REC
<i>Ateles geoffroyi</i>	<i>panamensis</i>		100-2000	3	D	E			2	4				T	4	90/100 II
<i>Ateles geoffroyi</i>	<i>ornatus</i>		?			Z									9	NO REC
<i>Ateles geoffroyi</i>	<i>vellerus</i>		10-50,000		D	V								T	40	NUC I
<i>Ateles geoffroyi</i>	<i>yucatanensis</i>		?			Z										NO REC
<i>Brachyteles arachnoides</i>	<i>(2 subspecies)</i>		400-2000			C			1	2	W1			T,S,H	10	90/100 I
<i>Lagothrix lagothricha</i>	<i>(no subsp)</i>					Z										NO REC
<i>Lagothrix lagothricha</i>	<i>lagothricha</i>		> 10,000			V			2	4				T,H		NUC I
<i>Lagothrix lagothricha</i>	<i>cana</i>		> 10,000			V			2	5				T,H	1	NUC I
<i>Lagothrix lagothricha</i>	<i>lugens</i>		1-3,000			E			2	4	W			T,H	4	90/100 II
<i>Lagothrix lagothricha</i>	<i>poepigii</i>		> 10,000			V			2	5				T,H	14	NUC I
<i>Lagothrix flavicauda</i>			1-3,000			E			2	4	W					NO REC
<i>Cebus albifrons</i>	<i>(no subsp)</i>					Z									35	NO REC
<i>Cebus albifrons</i>	<i>albifrons</i>					Z										NO REC
<i>Cebus albifrons</i>	<i>adustus</i>					Z										NO REC
<i>Cebus albifrons</i>	<i>aequatorialis</i>					Z										NO REC
<i>Cebus albifrons</i>	<i>cesarae</i>					Z										NO REC
<i>Cebus albifrons</i>	<i>cuschnus</i>					Z										NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE		
				SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
<i>Cebus albifrons</i>	<i>hypoleucus</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>leucocephalus</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>malitiosus</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>pleei</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>trinitatis</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>unicolor</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>versicolor</i>						Z									NO REC
<i>Cebus albifrons</i>	<i>yuracus</i>						Z									NO REC
<i>Cebus capuchinus</i>			> 100,000				Z								74	ELIM
<i>Cebus olivaceus</i>							Z									NO REC
<i>Cebus apella</i>	(no subsp)						Z								154	ELIM
<i>Cebus apella</i>	<i>apella</i>		> 100,000				Z									NO REC
<i>Cebus apella</i>	<i>libidinosus</i>		< 100,000				Z									NO REC
<i>Cebus apella</i>	<i>robustus</i>		1-3,000				E		2	4	W			S		90/100 II
<i>Cebus apella</i>	<i>nigritus</i>		> 10,000				Z									NO REC
<i>Cebus apella</i>	<i>xanthosternos</i>		1-300				C		2	3	W		M	T,S	10	90/100 I
<i>Cebus apella</i>	<i>macrocephalus</i>						Z									NO REC
<i>Cebus apella</i>	<i>pallidus</i>						Z									NO REC
<i>Cebus apella</i>	<i>cucullatus</i>						Z									NO REC
<i>Cebus apella</i>	<i>maranonis</i>						Z									NO REC
<i>Saimiri sciureus</i>	(no subsp)						Z								299	NO REC
<i>Saimiri sciureus</i>	<i>sciureus</i>		> 100,000				Z								80	NUC II
<i>Saimiri sciureus</i>	<i>macrodon</i>		> 100,000				Z									NO REC
<i>Saimiri sciureus</i>	<i>cassiquiariensis</i>		> 10,000				Z									NO REC
<i>Saimiri sciureus</i>	<i>albigena</i>		> 100,000				Z									NO REC
<i>Saimiri boliviensis</i>	<i>boliviensis</i>		> 100,000				Z								25	NUC II

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRCCAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Saimiri boliviensis peruviensis</i>		> 100,000				Z									NO REC
	<i>Saimiri boliviensis jaburuensis</i>		> 100,000				Z									NO REC
	<i>Saimiri boliviensis pluviialis</i>		> 10,000				Z									NO REC
	<i>Saimiri boliviensis vanzolinii</i>		?				Z									NO REC
	<i>Saimiri oerstedii oerstedii</i>		2,000	FRG			E		2	4					1	90/100 II
	<i>Saimiri oerstedii citrinellus</i>		300				C			W	M				1	NO REC
	<i>Saimiri ustus</i>		10,000				N									NO REC
	<i>Cercocebus atys atys</i>		100,000				Z								58	NUC II
	<i>Cercocebus atys lunulatus</i>		50,000		D		V3							S	64	90/100 II
	<i>Cercocebus torquatus</i>		50,000		D		V3							S	120	90/100 II
	<i>Cercocebus galeritus galeritus</i>		< 700				C1			W1	M1			T		NO REC
	<i>Cercocebus galeritus agilis</i>		> 100,000				Z							T	16	NUC II
	<i>Cercocebus galeritus chrysogaster</i>		< 50,000				V4							T,S	82	NUC I
	<i>Cercocebus galeritus sanjei</i>		< 600				E2				M			T,S		NO REC
	<i>Cercocebus albigena (no subsp)</i>		100,000				Z									NO REC
	<i>Cercocebus albigena albigena</i>						Z								15	ELIM
	<i>Cercocebus albigena zenkeri</i>						Z									NO REC
	<i>Cercocebus albigena johnstoni</i>						Z									NO REC
	<i>Cercocebus aterrimus aterrimus</i>		100,000				Z							T,S	78	NUC II
	<i>Cercocebus aterrimus opdenboschi</i>		50,000				V4							T,S		NO REC
	<i>Papio papio</i>		250,000				V4							S	200	NUC I
	<i>Papio anubis</i>		> 100,000				Z								12	NUC II
	<i>Papio cynocephalus</i>		> 100,000				Z								8	NUC II
	<i>Papio hamadryas</i>		< 100,000				Z								500	NUC II
	<i>Papio ursinus</i>		> 100,000				Z								50	NUC II

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION										RSRC CAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS UNQ	TAX RNK	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Mandrillus sphinx</i>		> 10,000				V4								500	90/100 I
	<i>Mandrillus leucophaeus</i>		< 10,000				E2				W	M	S		86	90/100 I
	<i>Theropithecus gelada</i>		100,000				V4								146	90/100 I
	<i>Cercopithecus diana</i>	<i>diana</i>	100,000				V3								240	90/100 I
	<i>Cercopithecus diana</i>	<i>roloway</i>	10,000				E2						S		22	90/100 II
	<i>Cercopithecus salongo</i>		?				V4						S		0	NO REC
	<i>Cercopithecus neglectus</i>		> 100,000				Z								300	NUC II
	<i>Cercopithecus hamlyni</i>	<i>hamlyni</i>	100,000				V3								64	90/100 II
	<i>Cercopithecus hamlyni</i>	<i>kahuziensis</i>	?				V4									NO REC
	<i>Cercopithecus lhoesti</i>		100,000				V3								40	90/100 II
	<i>Cercopithecus preussi</i>		5-10,000				E2				W					NO REC
	<i>Cercopithecus solatus</i>		5-10,000				C1				W	M	S		7	90/100 II
	<i>Cercopithecus albogularis</i>	<i>albogularis</i>	> 100,000				Z								70	NUC II
	<i>Cercopithecus albogularis</i>	<i>albotorquatus</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>erythrarchus</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>francescae</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>kinobotensis</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>kolbi</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>labiatus</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>moloneyi</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>monoides</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>nyasae</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>phylax</i>					Z									NO REC
	<i>Cercopithecus albogularis</i>	<i>zammeranoi</i>					Z									NO REC
	<i>Cercopithecus mitis</i>	<i>(no subsp)</i>	> 100,000				Z								65	NUC II
	<i>Cercopithecus mitis</i>	<i>boutourlinii</i>					Z									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE			
				SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Cercopithecus mitis doggetti</i>						Z										NO REC
	<i>Cercopithecus mitis heymansii</i>						Z										NO REC
	<i>Cercopithecus mitis kandii</i>		1,000				E2.5						S				NO REC
	<i>Cercopithecus mitis mitis</i>						Z										NO REC
	<i>Cercopithecus mitis opisthotictus</i>						Z										NO REC
	<i>Cercopithecus mitis schoutedeni</i>						Z										NO REC
	<i>Cercopithecus mitis stuhlmanni</i>						Z								2	NUC II	
	<i>Cercopithecus nictitans (no subsp)</i>		> 100,000				Z										NO REC
	<i>Cercopithecus nictitans nictitans</i>						Z								40	NUC II	
	<i>Cercopithecus nictitans martini</i>						Z										NO REC
	<i>Cercopithecus nictitans stampflii</i>		5-10,000				E2							S			NO REC
	<i>Cercopithecus petaurista (no subsp)</i>		> 100,000				Z								64	NUC II	
	<i>Cercopithecus petaurista petaurista</i>		< 100,000				Z										NO REC
	<i>Cercopithecus petaurista buettikoferi</i>		> 100,000				Z								6	ELIM	
	<i>Cercopithecus sclateri</i>		1-3,000				C1							T	0	90/100 I	
	<i>Cercopithecus erythrogaster nigeria</i>		< 10,000				E2										NO REC
	<i>Cercopithecus erythrogaster togo benin</i>		?				C1							S	3	90/100 I	
	<i>Cercopithecus erythrotis erythrotis</i>		5-10,000				V3										NO REC
	<i>Cercopithecus erythrotis camerunensis</i>		50,000				V3								3	NO REC	
	<i>Cercopithecus cephus (no subsp)</i>						Z										NO REC
	<i>Cercopithecus cephus cephus</i>		> 100,000				Z								50	NUC II	
	<i>Cercopithecus cephus cephoides</i>						Z										NO REC
	<i>Cercopithecus ascanius (no subsp)</i>						Z								150	NUC II	
	<i>Cercopithecus ascanius ascanius</i>		?				Z										NO REC
	<i>Cercopithecus ascanius atrinanus</i>		?				V4							S			NO REC
	<i>Cercopithecus ascanius katangae</i>						Z										NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	RANGE	EST #	WILD POPULATION										RSRC CAPTIVE			
			SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
<i>Cercopithecus ascanius</i>	<i>schmidti</i>					Z									70	NUC II
<i>Cercopithecus ascanius</i>	<i>whitesidei</i>	>100,000				Z										NO REC
<i>Cercopithecus campbelli</i>	(no subsp)					Z									46	NUC II
<i>Cercopithecus campbelli</i>	<i>campbelli</i>					Z									3	NO REC
<i>Cercopithecus campbelli</i>	<i>lowei</i>					Z										NO REC
<i>Cercopithecus mona</i>						Z									60	NUC II
<i>Cercopithecus pogonias</i>	(no subsp)					Z									8	ELIM
<i>Cercopithecus pogonias</i>						Z										NO REC
<i>Cercopithecus pogonias</i>	<i>nigripes</i>					Z										NO REC
<i>Cercopithecus pogonias</i>	<i>pogonias</i>	<25,000				V3					W					NO REC
<i>Cercopithecus wolfi</i>	<i>denti</i>					Z										NO REC
<i>Cercopithecus wolfi</i>	<i>elegans</i>	?				V4										NO REC
<i>Cercopithecus wolfi</i>	<i>pyrogaster</i>					Z									10	ELIM
<i>Cercopithecus wolfi</i>	<i>wolfi</i>	>100,000				Z										NO REC
<i>Cercopithecus aethiops</i>	(no subsp)					Z									150	NUC II
<i>Cercopithecus aethiops</i>	<i>aethiops</i>					Z										NO REC
<i>Cercopithecus aethiops</i>	<i>djamdjamensis</i>	?				V4									6	NUC I
<i>Cercopithecus aethiops</i>	<i>hilgerti</i>					Z										NO REC
<i>Cercopithecus aethiops</i>	<i>matschiei</i>					Z										NO REC
<i>Cercopithecus pygerythrus</i>	(no subsp)					Z										NO REC
<i>Cercopithecus pygerythrus</i>	<i>arenarius</i>					Z										NO REC
<i>Cercopithecus pygerythrus</i>	<i>callidus</i>					Z										NO REC
<i>Cercopithecus pygerythrus</i>	<i>centralis</i>					Z										NO REC
<i>Cercopithecus pygerythrus</i>	<i>cynosuros</i>					Z										NO REC
<i>Cercopithecus pygerythrus</i>	<i>exubitor</i>					Z										NO REC
<i>Cercopithecus pygerythrus</i>	<i>helveticus</i>					Z										NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Cercopithecus pygerythrus johnstoni</i>							Z									NO REC
	<i>Cercopithecus pygerythrus majoriae</i>							Z									NO REC
	<i>Cercopithecus pygerythrus nestotes</i>							Z									NO REC
	<i>Cercopithecus pygerythrus ngamiensis</i>							Z									NO REC
	<i>Cercopithecus pygerythrus pygerythrus</i>							Z									NO REC
	<i>Cercopithecus pygerythrus rubella</i>							Z									NO REC
	<i>Cercopithecus pygerythrus rufoviridis</i>							Z									NO REC
	<i>Cercopithecus pygerythrus zavattarii</i>							Z									NO REC
	<i>Cercopithecus sabaeus (no subsp)</i>							Z								32	NUC II
	<i>Cercopithecus sabaeus budgetti</i>							Z									NO REC
	<i>Cercopithecus sabaeus marrensis</i>							Z									NO REC
	<i>Cercopithecus sabaeus tantalus</i>							Z									NO REC
	<i>Miopithecus talapoin talapoin</i>							Z									NO REC
	<i>Miopithecus talapoin northern</i>							Z								75	NUC II
	<i>Erythrocebus patas (no subsp)</i>							Z								300	NUC II
	<i>Erythrocebus patas baumstarki</i>							Z									NO REC
	<i>Erythrocebus patas patas</i>							Z									NO REC
	<i>Erythrocebus patas pyrrhonorotus</i>							Z									NO REC
	<i>Erythrocebus patas villiersi</i>							Z									NO REC
	<i>Allenopithecus nigroviridis</i>		10-100,000					V4							S	100	NUC I
	<i>Macaca sylvanus</i>		> 15,000					V3								1000	90/100 I
	<i>Macaca silenus</i>		<2,500	8				E					W1	M		345	90/100 I
	<i>Macaca nemestrina (no subsp)</i>							Z								72	NUC II
	<i>Macaca nemestrina nemestrina</i>		> 25,000					Z									NO REC
	<i>Macaca nemestrina leonina</i>		> 25,000					Z								14	NO REC
	<i>Macaca maurus</i>		<50,000	2-5	D			E					W			1	90/100 I

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	RANGE	WILD POPULATION											RSRC		CAP REC		
		EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM				
<i>Macaca nigra</i>		< 5,000	>3	D	E										T,S,H	106	90/100 II
<i>Macaca nigrescens</i>		50,000	1	D	Z										T,S,H	18	NO REC
<i>Macaca ochreatra</i>		> 100,000		D	Z										T,S,H	1	NO REC
<i>Macaca brunnescens</i>		< 5,000	2	D	Z										T,S,H	0	90/100 II
<i>Macaca tonkeana</i>		> 50,000		D	Z										T,S,H	7	NUC II
<i>Macaca hecki</i>		> 50,000	>3	D	Z										T,S		NO REC
<i>Macaca pagensis</i>		< 2,500	>4	D	C					W					T	0	90/100 I
<i>Macaca sinica</i>		> 10,000			Z											7	NO REC
<i>Macaca radiata</i>		> 25,000			Z											15	NO REC
<i>Macaca assamensis</i>		> 25,000		D	Z											14	NO REC
<i>Macaca assamensis assamensis</i>		> 25,000			Z											20	NO REC
<i>Macaca assamensis pelops</i>		< 10,000		D	Z												NO REC
<i>Macaca thibetana</i>		< 10,000	FRG		E												NO REC
<i>Macaca fascicularis (no subsp)</i>		> 100,000		D	Z											69	NUC II
<i>Macaca fascicularis mordax</i>					Z											4	NO REC
<i>Macaca fascicularis philippinensis</i>				D	Z											3	NUC II
<i>Macaca mulatta (no subsp)</i>		> 100,000		S	Z											198	NUC II
<i>Macaca mulatta mulatta</i>					Z											33	NO REC
<i>Macaca mulatta valida</i>					Z											400	NUC II
<i>Macaca cyclops</i>		< 10,000	>5	D	V					W						0	NO REC
<i>Macaca fuscata (no subsp)</i>					Z											278	NUC II
<i>Macaca fuscata fuscata</i>		< 25,000	5-10	D	Z												NO REC
<i>Macaca fuscata yakui</i>		< 2,500	>1	D	E					W							NO REC
<i>Macaca arctoides</i>		> 25,000	FRG	D	Z											32	NUC II
<i>Procolobus badius badius</i>		10-100,000			V3										T		NO REC
<i>Procolobus badius waltoni</i>		10,000			E2.5										T,S		NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	WILD POPULATION											RSRC CAPTIVE			
	SCIENTIFIC NAME	RANGE	EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC
<i>Procolobus badius</i>	<i>terminckii</i>		100,000				V3						T,S		NUC I
<i>Procolobus pennanti</i>	<i>pennanti</i>						V3				M REG		T		NO REC
<i>Procolobus pennanti</i>	<i>bouivieri</i>		?				E2						T,S		NO REC
<i>Procolobus pennanti</i>	<i>preussi</i>		5-15,000				E2				M REG		T,S		NO REC
<i>Procolobus rufomitratu</i>	<i>rufomitratu</i>		2-300				C1			W	M		T		NO REC
<i>Procolobus rufomitratu</i>	<i>tholloni</i>		>100,000				Z						T		NO REC
<i>Procolobus rufomitratu</i>	<i>foai</i>		?				V4						T,S		NO REC
<i>Procolobus rufomitratu</i>	<i>elliotti</i>		?				V4						T,S		NO REC
<i>Procolobus rufomitratu</i>	<i>oustaleti</i>		100,000				Z						T		NO REC
<i>Procolobus rufomitratu</i>	<i>pamentieri</i>						V4						T,S		NO REC
<i>Procolobus rufomitratu</i>	<i>tephrosceles</i>		50,000				E2.5				M		T		NO REC
<i>Procolobus kirkill</i>			<1,000				C1			W	M		T,S		NO REC
<i>Procolobus gordonorum</i>			2-5,000				E2				M		T,S		NO REC
<i>Procolobus verus</i>			50,000				V3			W			T,S		NO REC
<i>Colobus polykomos</i>			100,000				V3							30	NUC I
<i>Colobus vellerocus</i>			50-100,000				V3						S		NO REC
<i>Colobus guereza</i>	(no subsp)		100,000				Z						T	250	NUC I
<i>Colobus guereza</i>	<i>guereza</i>		?				V4						T,S	12	90/100 II
<i>Colobus guereza</i>	<i>gallarum</i>		?				V4						T,S		NO REC
<i>Colobus guereza</i>	<i>matschiei</i>						Z						T		NO REC
<i>Colobus guereza</i>	<i>kikuyuensis</i>						Z						T	252	NUC II
<i>Colobus guereza</i>	<i>caudatus</i>		2-10,000				V3				M3		T,S	26	90/100 I
<i>Colobus guereza</i>	<i>occidentalis</i>						Z						T	0	NO REC
<i>Colobus satanas</i>			100,000				V3								NO REC
<i>Colobus angolensis</i>	<i>angolensis</i>		>100,000				Z						T		NO REC
<i>Colobus angolensis</i>	<i>adolfriederici</i>		?				V3						T,S	60	NUC II
															NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Colobus angolensis</i>	<i>ruwenzorii</i>	?					V/3									NO REC
	<i>Colobus angolensis</i>	<i>palliatius</i>						Z									NO REC
	<i>Semnopithecus entellus (no sbsp)</i>		> 50,000					Z								46	NUC II
	<i>Semnopithecus entellus</i>	<i>entellus</i>	> 10,000					Z								8	NUC II
	<i>Semnopithecus entellus</i>	<i>thersites</i>						Z								16	NUC II
	<i>Semnopithecus entellus</i>	<i>aeneas</i>	< 250					C									90/100 I
	<i>Semnopithecus entellus</i>	<i>ilius</i>	< 250					C									90/100 I
	<i>Semnopithecus entellus</i>	<i>dusumerei</i>	< 250					C									90/100 I
	<i>Semnopithecus entellus</i>	<i>elissa</i>	< 250					C									90/100 I
	<i>Presbytis comata</i>	<i>comata</i>	< 250					C									90/100 I
	<i>Presbytis comata</i>	<i>fredericae</i>	< 250					C									90/100 I
	<i>Presbytis femoralis</i>	(no sbsp)	< 10,000			D		Z									NO REC
	<i>Presbytis femoralis</i>	<i>femoralis</i>	< 10,000	FRG	D			Z								0	NO REC
	<i>Presbytis femoralis</i>	<i>batuanae</i>	< 1,000			D		C								0	90/100 I
	<i>Presbytis femoralis</i>	<i>chrysomelas</i>	< 2,500	FRG	D			E								0	NO REC
	<i>Presbytis femoralis</i>	<i>cruciger</i>	< 2,500	FRG	D			E								0	NO REC
	<i>Presbytis femoralis</i>	<i>naturae</i>	< 1,000	1	D			C								0	90/100 I
	<i>Presbytis femoralis</i>	<i>maragae</i>						Z									NO REC
	<i>Presbytis femoralis</i>	<i>paenulata</i>						Z									NO REC
	<i>Presbytis femoralis</i>	<i>percura</i>						Z									NO REC
	<i>Presbytis femoralis</i>	<i>rhionis</i>						Z									NO REC
	<i>Presbytis femoralis</i>	<i>catemana</i>						Z									NO REC
	<i>Presbytis femoralis</i>	<i>sumatrana</i>						Z									NO REC
	<i>Presbytis femoralis</i>	<i>cana</i>						Z									NO REC
	<i>Presbytis frontata</i>		> 10,000			D		Z									NO REC
	<i>Presbytis hosei</i>	<i>hosei</i>	> 10,000					Z									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRCCAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Presbytis hosei</i>	<i>canicus</i>	> 10,000				Z									NO REC
	<i>Presbytis hosei</i>	<i>sabana</i>	> 10,000				Z									NO REC
	<i>Presbytis melalophos</i> (no subsp)	<i>ERR</i>	> 25,000	FRG	D		Z									NO REC
	<i>Presbytis melalophos</i>	<i>mitrata</i>					Z									NO REC
	<i>Presbytis melalophos</i>	<i>fluviatilis</i>					Z									NO REC
	<i>Presbytis melalophos</i>	<i>melalophos</i>					Z							1		NO REC
	<i>Presbytis melalophos</i>	<i>nobilis</i>					Z									NO REC
	<i>Presbytis melalophos</i>	<i>flavimanus</i>					Z									NO REC
	<i>Presbytis melalophos</i>	<i>var. aurita</i>					Z									NO REC
	<i>Presbytis potenziani</i>	<i>potenziani</i>	< 250	3			C						T,S	0	90/100 I	NO REC
	<i>Presbytis potenziani</i>	<i>siberu</i>	< 2,500	1			E									NO REC
	<i>Presbytis rubicunda</i>	<i>rubicunda</i>	> 25,000				Z									NO REC
	<i>Presbytis rubicunda</i>	<i>carinatae</i>	< 250				C							0	90/100 I	NO REC
	<i>Presbytis thomasi</i>	(no subsp)	> 10,000				Z									NO REC
	<i>Presbytis thomasi</i>	<i>thomasi</i>					Z									NO REC
	<i>Presbytis thomasi</i>	<i>nubilis</i>					Z									NO REC
	<i>Trachypithecus vetulus</i>	(no subsp)	< 10,000	>4	D		Z							6		NO REC
	<i>Trachypithecus vetulus</i>	<i>vetulus</i>					V									NO REC
	<i>Trachypithecus vetulus</i>	<i>monticola</i>	< 2,500				E									NO REC
	<i>Trachypithecus vetulus</i>	<i>nester</i>					V									NO REC
	<i>Trachypithecus vetulus</i>	<i>philbricki</i>					V									NO REC
	<i>Trachypithecus johnii</i>		< 10,000	>10	D		V							23	90/100 I	NO REC
	<i>Trachypithecus auratus</i>	(no subsp)	<10,000	FRG			Z									NO REC
	<i>Trachypithecus auratus</i>	<i>auratus</i>					V							30	NUC II	NO REC
	<i>Trachypithecus auratus</i>	<i>kohlbruggei</i>	< 2,500	FRG			E									NO REC
	<i>Trachypithecus auratus</i>	<i>sondaicus</i>					V									NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE		
			EST #	SUB POP	TRND	AREA	M/L STS	THRSTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC	
	<i>Trachypithecus cristatus</i>	(no subsp)	> 50,000	FRG	D		Z								15	NO REC
	<i>Trachypithecus cristatus cristatus</i>						Z									NO REC
	<i>Trachypithecus cristatus vigilans</i>		< 2,500				E							0	NO REC	
	<i>Trachypithecus cristatus ultimus</i>						Z							31	NUC II	
	<i>Trachypithecus francoisi</i>		< 2,500	FRG			E						T,S	60	90/100 II	
	<i>Trachypithecus francoisi leucocephalis</i>		< 250	3?	D		C						T,S	10	90/100 I	
	<i>Trachypithecus francoisi poliocephalis</i>		< 250				C						T,S	0	90/100 I	
	<i>Trachypithecus francoisi delacourii</i>		< 250	3?	D		C						T,S	0	90/100 I	
	<i>Trachypithecus francoisi laotum</i>		< 250				C						T,S	0	90/100 I	
	<i>Trachypithecus francoisi hatinhensis</i>		< 250				C						T,S	0	90/100 I	
	<i>Trachypithecus geei</i>		< 250		D		C						T,S	23	90/100 I	
	<i>Trachypithecus obscurus</i>		> 10,000				Z							70	NUC II	
	<i>Trachypithecus phayrei</i>		< 2,500	>5	D		Z							2	NO REC	
	<i>Trachypithecus pileatus pileatus</i>		> 2,500	FRG			V						S		NO REC	
	<i>Trachypithecus pileatus durga</i>		< 2,500	FRG			E								NO REC	
	<i>Nasalis larvatus</i>		> 25,000	FRG	S		Z							26	NUC I	
	<i>Simias concolor concolor</i>		< 250	>3			C							0	90/100 I	
	<i>Simias concolor siberu</i>		< 250	>1			C							0	90/100 I	
	<i>Pygathrix nanaeus</i>		< 5,000	8	D		V							40	90/100 I	
	<i>Pygathrix nigripes</i>		< 2,500	>6	D		E							0	NO REC	
	<i>Rhinopithecus avunculus</i>	Tonkin	< 250	>2			C						S	0	90/100 I	
	<i>Rhinopithecus roxellana</i>	Schuan	< 10,000	FRG	S		V							40	NO REC	
	<i>Rhinopithecus bieti</i>	Yunnan	< 2,000	FRG	D		C						S	40	90/100 I	
	<i>Rhinopithecus brelichi</i>	Guizhou	< 1,000	1	S		C						S	0	90/100 I	
	<i>Hylobates concolor</i>	(no subsp)					Z							91	NO REC	
	<i>Hylobates concolor concolor</i>		< 250				C							1	90/100 I	

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE				
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM REC	CAP REC			
	<i>Hylobates concolor</i>		< 100	1-2	S	C	C										0	90/100 I
	<i>Hylobates concolor</i>		< 250	1	D	Z	Z											NO REC
	<i>Hylobates concolor</i>		< 250			C	C											90/100 I
	<i>Hylobates concolor</i>		< 2,500	>2	D	E	E										70	90/100 II
	<i>Hylobates concolor</i>		< 250	>2	D	C	C										0	90/100 I
	<i>Hylobates concolor</i>		< 250			C	C										4	90/100 I
	<i>Hylobates concolor</i>		< 1,000	>2	D	E	E										17	90/100 II
	<i>Hylobates lar (no subsp)</i>		> 25,000	>10	D	Z	Z										301	NO REC
	<i>Hylobates lar</i>		< 10,000		S	Z	Z										15	NO REC
	<i>Hylobates lar</i>		> 10,000		D	Z	Z										5	NO REC
	<i>Hylobates lar</i>		> 10,000		D	Z	Z										8	NO REC
	<i>Hylobates lar</i>		< 10,000		D	Z	Z											NO REC
	<i>Hylobates lar</i>		< 30		D	Z	Z											NO REC
	<i>Hylobates syndactylus</i>		> 10,000	FRG		Z	Z										196	NUC II
	<i>Hylobates syndactylus</i>				D	Z	Z										24	NO REC
	<i>Hylobates syndactylus</i>				S	Z	Z											NO REC
	<i>Hylobates hoolock</i>					Z	Z											NO REC
	<i>Hylobates hoolock</i>		> 2,500	>10		V	V										1	NUC I
	<i>Hylobates hoolock</i>		> 2,500	>10	D	V	V											NUC I
	<i>Hylobates hoolock</i>		< 1,000	>4	D	C	C										1	90/100 I
	<i>Hylobates klossii</i>					Z	Z											NO REC
	<i>Hylobates moloch</i>		< 1,500	19	S	C	C										10	90/100 I
	<i>Hylobates moloch</i>					Z	Z											NO REC
	<i>Hylobates moloch</i>		< 1,000	4	D	C	C										66	90/100 I
	<i>Hylobates pileatus</i>		> 10,000			Z	Z										30	NUC II
	<i>Hylobates agilis</i>		< 10,000		D	Z	Z											NO REC

CONSERVATION ASSESSMENTS AND MANAGEMENT RECOMMENDATIONS FOR PRIMATE TAXA
ALL TAXA

TAXON	SCIENTIFIC NAME	RANGE	WILD POPULATION											RSRC CAPTIVE			
			EST #	SUB POP	TRND	AREA	M/L STS	THRTS	TAX UNQ	TOT RNK	PHVA WKSP	WILD MGMT	T/S/H	NUM	CAP REC		
	<i>Hylobates agilis</i>	<i>agilis</i>	< 10,000	2	D	Z											NO REC
	<i>Hylobates agilis</i>	<i>unko</i>			D	Z											NO REC
	<i>Hylobates muelleri</i>	(no subsp)	> 25,000	>3	D	Z										20	NUC II
	<i>Hylobates muelleri</i>	<i>abbotti</i>	> 10,000		D	Z										2	NUC II
	<i>Hylobates muelleri</i>	<i>funereus</i>	> 10,000		D	Z											NO REC
	<i>Hylobates muelleri</i>	<i>muelleri</i>	> 10,000		D	Z											NO REC
	<i>Pongo pygmaeus</i>	(no subsp)	< 50,000		D	Z											NO REC
	<i>Pongo pygmaeus</i>	<i>pygmaeus</i>	37,000	>2	D	E									T	730	90/100 I
	<i>Pongo pygmaeus</i>	<i>abelii</i>	6,000		D	E										204	90/100 I
	<i>Pan troglodytes</i>	(no subsp)															NO REC
	<i>Pan troglodytes</i>	<i>verus</i>	8-10,000			Z										2000	90/100 I
	<i>Pan troglodytes</i>	<i>troglydytes</i>	51-77,000			V3									S	200	90/100 I
	<i>Pan troglodytes</i>	<i>schweinfurthi</i>	44-84,000			V3										34	NUC I
	<i>Pan paniscus</i>		5-10,000			V4										20	NUC I
	<i>Gorilla gorilla</i>	<i>gorilla</i>	30-100,000			V3									S	78	90/100 I
	<i>Gorilla gorilla</i>	<i>graueri</i>	3-10,000	>10		V3									S	648	90/100 I
	<i>Gorilla gorilla</i>	<i>beringei</i>	2-300			C1									S		NO REC
																	NO REC

**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

APPENDIX 6

LIST OF PRIMATE CAMP/GCAP WORKSHOP PARTICIPANTS

**PARTICIPANTS IN THE PRIMATE CAMP/GCAP WORKSHOP
CBSG OFFICE, MINNESOTA 13-15 MARCH 1991**

Russ Mittermeier	Chair, IUCN SSC Primate Specialist Group (PSG)
Ardith Eudey	PSG member; Author, PSG Action Plan for Asia
Bill Konstant	PSG member; Co-author, PSG Action Plan for Americas
John Oates	PSG member; Author, PSG Action Plan for Africa
Tom Struhsaker	PSG member specializing in Africa
Miranda Stevenson	PSG member; CBSG Primate CAMP/GCAP Group Leader
David Anderson	Co-Chair of the CBSG Madagascar Faunal Group
Anne Baker	PSG member; Chair, AAZPA New World Primate TAG
Nate Flesness	Executive Director of ISIS
Fred Koontz	Co-Chair, AAZPA Old World Monkey TAG
Jean-Marc Lernoould	PSG member; Director, Mulhouse Zoo, France; EEP
Ingrid Porton	Chair, AAZPA Prosimian TAG
Frank Princee	EEP Executive Office
Dave Ruhter	Co-Chair, AAZPA Old World Monkey TAG
Christian Schmidt	Asst. Director, Zurich Zoo; EEP
Ron Tilson	PSG member; Chair, AAZPA Gibbon TAG
Wendy Turner	Co-Chair, AAZPA Old World Monkey TAG
Tom Foose	Executive Officer, IUCN SSC CBSG
Ulie Seal	Chairman, IUCN SSC CBSG
Jerry Binczik	MN Zoo Dept. of Conservation
Jan Eldridge	IUCN SSC CBSG; USFWS

**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

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APPENDIX 7

**GLOSSARY OF GLOBAL & REGIONAL
CAPTIVE STRATEGIC PROGRAMS**

GLOSSARY OF GLOBAL & REGIONAL CAPTIVE STRATEGIC PROGRAMS

CAMP A Conservation Assessment and Management Plan (CAMP):

- (1) reviews the wild and captive status of each taxon in a defined broad group of taxa (e.g. an order, family, subfamily, community);
- (2) assesses the degree of threat for each taxon according to the Mace/Lande categories;
- (3) recommends intensive management and information collection action to mitigate threat: PHVAs, *in situ* management, conservation oriented research (surveys, taxonomy, etc.) captive breeding, genome banking.

CAMPs are developed as collaborative efforts of the Captive Breeding Specialist Group and the other Specialist Groups of the SSC and ICBP, wildlife agencies, and the Regional Captive Programs.

A CAMP provides:

- (1) a resource for the development of IUCN SSC and ICBP Action Plans;
- (2) a strategic guide for intensive conservation action;
- (3) the first step in the Global Captive Action Plan (GCAP) process.

A CAMP considers multiple taxa.

GCAP A Global Captive Action Plan (GCAP) also considers a broad group of taxa and:

- (1) recommends:
 - (A) which taxa in captivity should remain there;
 - (B) which taxa in captivity need not be maintained there for conservation reasons;
 - (C) which taxa not yet in captivity should be there to assist conservation efforts;
- (2) proposes a level of captive breeding program in terms of genetic and demographic objectives which translate into recommendations about global captive target populations;
- (3) suggests how responsibilities for captive program might be distributed among the Regional Programs, i.e. this function translates into recommendations for regional captive target populations;
- (4) identifies priorities for technology transfer to and for financial and other support for *in situ* conservation.

GCAPs are developed by a Working Group which consists of representatives of the Regional Programs, especially the Chairs and selected members of the Taxon Advisory Groups (TAGs), with advice and facilitation from the IUCN SSC Captive Breeding Specialist Group (CBSG). The GCAP Working Group will also normally include representatives of the range-country wildlife community and scientists who can resolve problems of systematics. A CAMP can provide a first step of the GCAP process. The GCAP is developed further in an interactive and iterative process involving the Regional Programs and their own Regional Strategic Collection Plans (RSCPs). The GCAP is a dynamic process and mechanism that enables the Regional Programs to coordinate development of their Regional Strategic Collection Plans (RSCPs) in response to the conservation needs of taxa (as identified initially by the CAMP) but also to the circumstances and interests of the regions. Hence the GCAP is a facilitation and forum for the regional programs to integrate themselves into the best global conservation effort possible.

A GCAP considers multiple taxa.

RSCP A Regional Strategic Collection Plan (RSCP) is a set of recommendations developed by a Regional Taxon Advisory Group (TAG) on the taxa in a defined broad group for which Regional Captive Propagation Programs (RCPP) should be developed. An Regional TAG will consider the recommendations of the CAMP and initial GCAP as one factor in preparing the first drafts of the RSCP. However, the RSCP also considers other factors such as the realities of Regional space and resources in the Region as well as other interests the Region may have in maintaining taxa. As stated above, the GCAPs and RSCPs are interactively and iteratively developed in an effort to maximize effectiveness in using captive space and resources for taxa in need of captive programs for their conservation. An extension of the RSCP for defined broad groups of taxa is an overall strategic collection plan for all organisms to be maintained by institutions participating in the Regional Program. The Australasian Region has already embarked on this kind of overall strategic collection plan.

An RSCP considers multiple taxa.

ICP An Institutional Collection Plan is a strategic design for the taxa that a particular zoo, aquarium, or other captive facility will maintain and propagate. Ideally, an ICP will develop its collection to contribute as much as possible to RSCPs and ultimately GCAPs.

TAG A Taxon Advisory Group is a committee which is formed within the organized Regions of the Zoo/Aquarium World and which consists of zoo professionals and other experts. A primary function of a TAG is to formulate and implement Regional Strategic Collection Plans and by extension development of the GCAP. TAGs also recommend priorities for establishment of studbooks, development of Regional Captive Propagation programs, and research priorities.

A TAG considers multiple taxa.

RCPP A Regional Captive Propagation Program (RCPP) is one of the organized collaborative programs within a Region to breed and manage a designated, usually threatened, taxon. Examples include an AAZPA SSP in North America, an EEP in Europe, a JMSP in the U.K., an ASMP in Australasia, an SSCJ in Japan, an IESBP in India, an APP in Sub-Saharan Africa. Other Regions are initiating similar programs. RCPPs develop Regional Masterplans for propagation and management of the taxon.

An RCPP normally considers a single taxon (e.g. a species).

GASP A Global Animal Survival Plan (GASP) is a program for management and propagation of a single taxon at the international level. A GASP provides the facilitating framework for the Regional Captive Propagation Programs

- (1) to adopt global goals, in part by considering CAMP and GCAP recommendations,
- (2) to divide responsibility, e.g. especially target population sizes, for achieving the global goals among the Regional Programs.
- (3) to arrange interactions, especially animal or germplasm exchanges, among the Regional Breeding Programs toward achieving global and regional goals.

Analogous to the RCPP, a GASP develops a global masterplan to guide propagation and management of the taxon at the international level.

A GASP normally considers a single taxon.

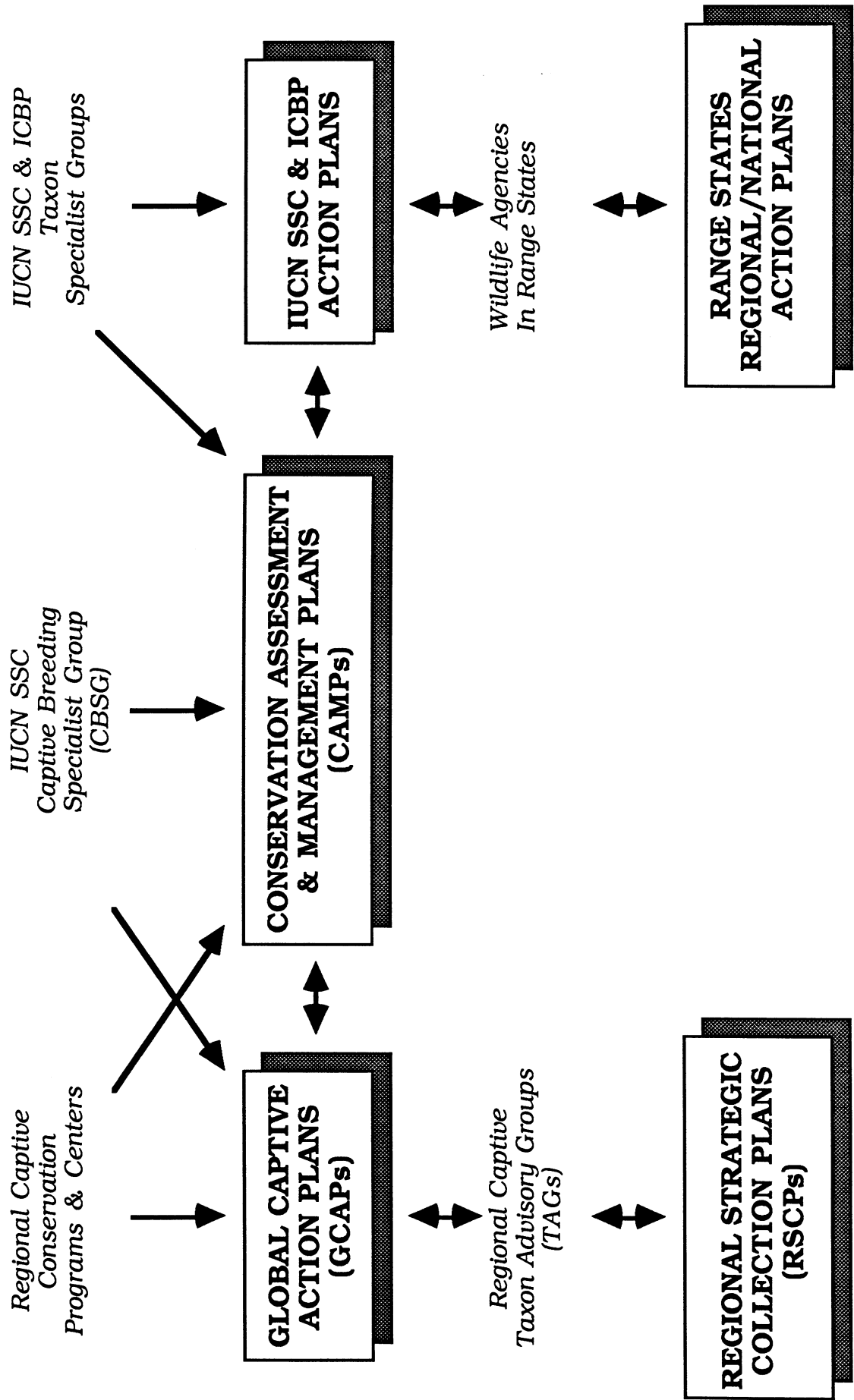
PHVA A Population and Habitat Viability Analysis (PHVA) is an intensive analysis of a particular taxon or one of its populations. PHVA's use computer models:

- (1) to explore extinction processes that operate on small and often fragmented populations of threatened taxa
- (2) to examine the probable consequences for the viability of the population of various management actions or inactions.

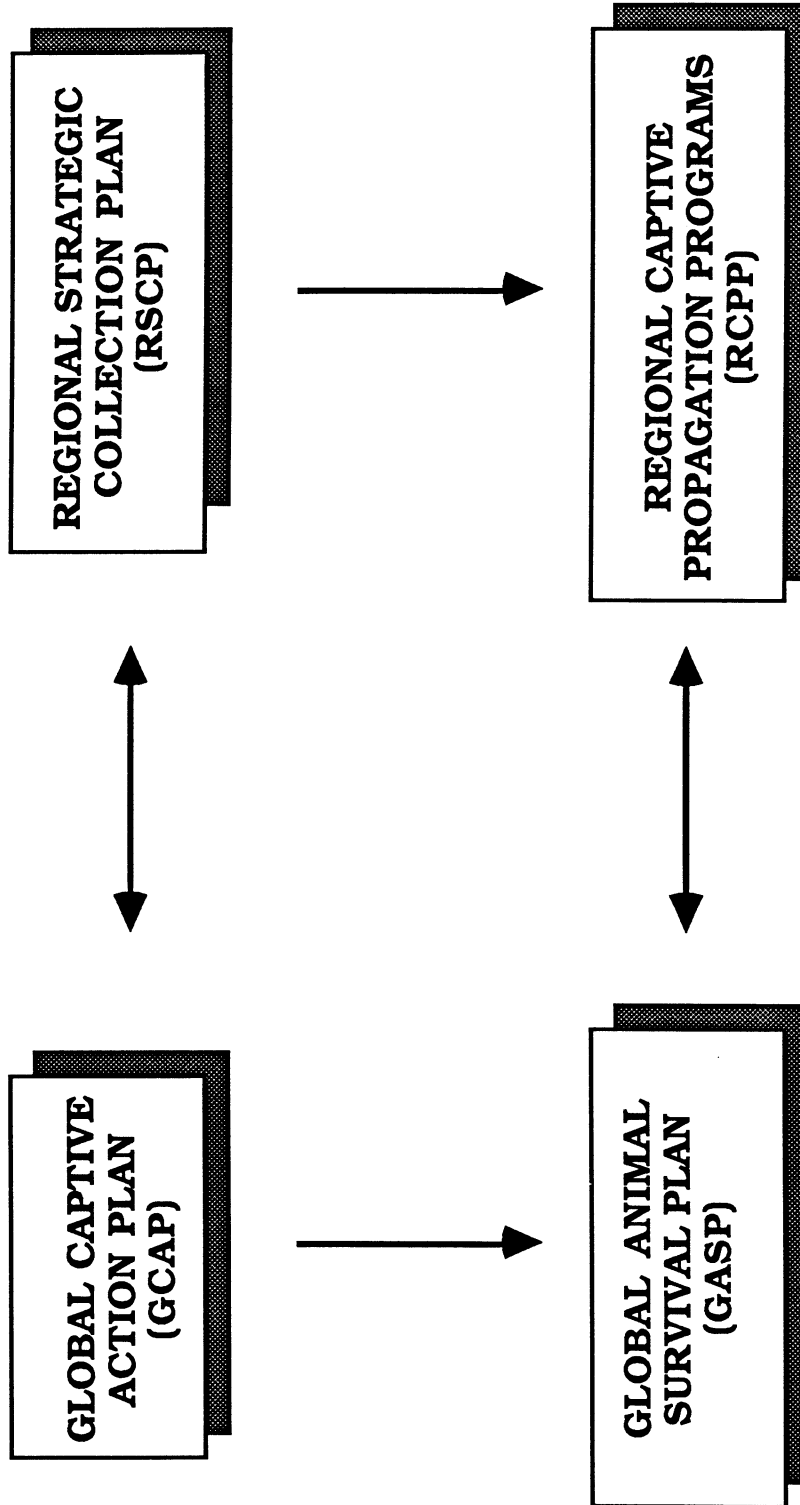
The models incorporate information on distributional, demographic, and genetic characteristics of the population and on conditions in the environment to simulate probable fates (especially probability of extinction and loss of genetic variation) under these circumstances. PHVAs use models to evaluate a range of scenarios for the populations under a variety of management (or non-management) regimes. As a result of the different scenarios modelled, it is possible to recommend management actions that maximize the probability of survival or recovery of the population. The management actions may include: establishment, enlargement, or more management of protected areas; poaching control; reintroduction or translocation; sustainable use programs; education efforts; captive breeding.

A PHVA normally considers one taxon at a time.

GLOBAL AND REGIONAL STRATEGIC CONSERVATION ACTION PLANS



GLOBAL AND REGIONAL CAPTIVE PROPAGATION PROGRAMS



**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

APPENDIX 8

MACE/LANDE CATEGORIES OF THREAT PAPER

Assessing Extinction Threats: Toward a Reevaluation of IUCN Threatened Species Categories

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Abstract: *IUCN categories of threat (Endangered, Vulnerable, Rare, Indeterminate, and others) are widely used in 'Red lists' of endangered species and have become an important tool in conservation action at international, national, regional, and thematic levels. The existing definitions are largely subjective, and as a result, categorizations made by different authorities differ and may not accurately reflect actual extinction risks. We present proposals to redefine categories in terms of the probability of extinction within a specific time period, based on the theory of extinction times for single populations and on meaningful time scales for conservation action. Three categories are proposed (CRITICAL, ENDANGERED, VULNERABLE) with decreasing levels of threat over increasing time scales for species estimated to have at least a 10% probability of extinction within 100 years. The process of assigning species to categories may need to vary among different taxonomic groups, but we present some simple qualitative criteria based on population biology theory, which we suggest are appropriate at least for most large vertebrates. The process of assessing threat is clearly distinguished from that of setting priorities for conservation action, and only the former is discussed here.*

Resumen: *La categorización de la Unión Internacional para la Conservación de la Naturaleza (UICN) de las especies amenazadas (en peligro, vulnerables, raras, indeterminadas y otras) son ampliamente utilizadas en las Listas Rojas de especies en peligro y se han convertido en una herramienta importante para las acciones de conservación al nivel internacional, nacional, regional y temático. Las definiciones de las categorías existentes son muy subjetivas y, como resultado, las categorizaciones hechas por diferentes autores difieren y quizás no reflejen con certeza el riesgo real de extinción. Presentamos propuestas para re-definir las categorías en términos de la probabilidad de extinción dentro de un período de tiempo específico. Las propuestas están basadas en la teoría del tiempo de extinción para poblaciones individuales y en escalas de tiempo que tengan significado para las acciones de conservación. Se proponen tres categorías (CRITICA, EN PELIGRO, VULNERABLE) con niveles decrecientes de amenaza sobre escalas de tiempo en aumento para especies que se estima tengan cuando menos un 10% de probabilidad de extinción en 100 años. El proceso de asignar especies a categorías puede que necesite variar dentro de los diferentes grupos taxonómicos pero nosotros presentamos algunos criterios cualitativos simples basados en la teoría de la biología de las poblaciones, las cuales sugerimos son apropiadas para cuando menos la mayoría de los grandes vertebrados. El proceso de evaluar la amenaza se distingue claramente del de definir las prioridades para las acciones de conservación, solamente el primero se discute aquí.*

Paper submitted February 12, 1990; revised manuscript accepted October 8, 1990.

Introduction

Background

The Steering Committee of the Species Survival Commission (SSC) of the IUCN has initiated a review of the overall functioning of the Red Data Books. The review will cover three elements: (1) the form, format, content, and publication of Red Data Books; (2) the categories of threat used in Red Data Books and the IUCN Red List (Extinct, Endangered, Vulnerable, Rare, and Indeterminate); and (3) the system for assigning species to categories. This paper is concerned with the second element and includes proposals to improve the objectivity and scientific basis for the threatened species categories currently used in Red Data Books (see IUCN 1988 for current definitions).

There are at least three reasons why a review of the categorization system is now appropriate: (1) the existing system is somewhat circular in nature and excessively subjective. When practiced by a few people who are experienced with its use in a variety of contexts it can be a robust and workable system, but increasingly, different groups with particular regional or taxonomic interests are using the Red Data Book format to develop local or specific publications. Although this is generally of great benefit, the interpretation and use of the present threatened species categories are now diverging widely. This leads to disputes and uncertainties over particular species that are not easily resolved and that ultimately may negatively affect species conservation. (2) Increasingly, the categories of threat are being used in setting priorities for action, for example, through specialist group action plans (e.g., Oates 1986; Eudey 1988; East 1988, 1989; Schreiber et al. 1989). If the categories are to be used for planning then it is essential that the system used to establish the level of threat be consistent and clearly understood, which at present it does not seem to be. (3) A variety of recent developments in the study of population viability have resulted in techniques that can be helpful in assessing extinction risks.

Assessing Threats Versus Setting Priorities

In the first place it is important to distinguish systems for assessing threats of extinction from systems designed to help set priorities for action. The categories of threat should simply provide an assessment of the likelihood that if current circumstances prevail the species will go extinct within a given period of time. This should be a scientific assessment, which ideally should be completely objective. In contrast, a system for setting priorities for action will include the likelihood of extinction, but will also embrace numerous other factors, such as the likelihood that restorative action will be successful; economic, political, and logistical considerations; and perhaps the taxonomic distinctiveness of the

species under review. Various categorization systems used in the past, and proposed more recently, have confounded these two processes (see Fitter & Fitter 1987; Munton 1987). To devise a general system for setting priorities is not useful because different concerns predominate within different taxonomic, ecological, geographical, and political units. The process of setting priorities is therefore best left to specific plans developed by specialist bodies such as the national and international agencies, the specialist groups, and other regional bodies that can devise priority assessments in the appropriate regional or taxonomic context. An objective assessment of extinction risk may also then contribute to the decisions taken by governments on which among a variety of recommendations to implement. The present paper is therefore confined to a discussion of assessing threats.

Aims of the System of Categorization

For Whom?

Holt (1987) identifies three different groups whose needs from Red Data Books (and therefore categories of threat) may not be mutually compatible: the lay public, national and international legislators, and conservation professionals. In each case the purpose is to highlight taxa with a high extinction risk, but there are differences in the quality and quantity of information needed to support the assessment. Scott et al. (1987) make the point that in many cases simple inclusion in a Red Data Book has had as much effect on raising awareness as any of the supporting data (see also Fitter 1974). Legislators need a simple, but objective and soundly based system because this is most easily incorporated into legislation (Bean 1987). Legislators frequently require some statement about status for every case they consider, however weak the available information might be. Inevitably, therefore, there is a conflict between expediency and the desire for scientific credibility and objectivity. Conservationists generally require more precision, particularly if they are involved in planning conservation programs that aim to make maximal use of limited resources.

Characteristics of an Ideal System

With this multiplicity of purposes in mind it is appropriate to consider various characteristics of an ideal system:

(1) The system should be essentially simple, providing easily assimilated data on the risk of extinction. In terms of assessing risk, there seems to be little virtue in developing numerous categories, or in categorizing risk on the basis of a range of different parameters (e.g., abundance, nature of threat, likelihood of persistence of threat, etc.). The categories should be few in number,

should have a clear relationship to one another (Holt 1987; Munton 1987), and should be based around a probabilistic assessment of extinction risk.

(2) The system for categorization has to be flexible in terms of data required. The nature and amount of data available to assess extinction risks varies widely from almost none (in the vast majority of species) to highly detailed population data (in a very few cases). The categorization system should make maximum use of whatever data are available. One beneficial consequence of this process would be to identify key population data for field workers to collect that would be useful in assessing extinction risk.

(3) The categorization system also needs to be flexible in terms of the population unit to which it applies. Throughout this discussion, it is assumed that the system being developed will apply to any species, subspecies, or geographically separate population. The categorization system therefore needs to be equally applicable to limited lower taxonomic levels and to more limited geographical scope. Action planning will need to be focused on particular taxonomic groups or geographical areas, and can then incorporate an additional system for setting priorities that reflect taxonomic distinctiveness and extinction risks outside the local area (e.g., see East 1988, 1989; Schreiber et al. 1989).

(4) The terminology used in categorization should be appropriate, and the various terms used should have a clear relationship to each other. For example, among the current terms both 'endangered' and 'vulnerable' are readily comprehended, but 'rare' is confusing. It can be interpreted as a statement about distribution status, level of threat, or local population size, and the relationships between these factors are complex (Rabinowitz et al. 1986). Rare (i.e., low-density) species are not always at risk and many species at risk are not numerically rare (King 1987; Munton 1987; Heywood 1988). The relationship of 'rare' to 'endangered' and 'vulnerable' is also unclear.

(5) If the system is to be objectively based upon sound scientific principles, it should include some assessment of uncertainty. This might be in terms of confidence levels, sensitivity analyses, or, most simply, on an ordinal scale reflecting the adequacy of the data and models in any particular case.

(6) The categories should incorporate a time scale. On a geological time scale all species are doomed to extinction, so terms such as "in danger of extinction" are rather meaningless. The concern we are addressing here is the high background level of the current rates of extinction, and one aim is therefore preservation over the upcoming centuries (Soulé & Simberloff 1986). Therefore, the probability of extinction should be expressed in terms of a finite time scale, for example, 100 years. Munton (1987) suggests using a measure of number of years until extinction. However, since most mod-

els of population extinction times result in approximately exponential distributions, as in Goodman's (1987) model of density-dependent population growth in a fluctuating environment, mean extinction time may not accurately reflect the high probability that the species will go extinct within a time period considerably shorter than the mean (see Fig. 1). More useful are measures such as "95% likelihood of persistence for 100 years."

Population Viability Analysis and Extinction Factors

Various approaches to defining viable populations have been taken recently (Shaffer 1981, 1990; Gilpin & Soulé, 1986; Soulé 1987). These have emphasized that there is no simple solution to the question of what constitutes a viable population. Rather, through an analysis of extinction factors and their interactions it is possible to assess probabilities and time scales for population persistence for a particular taxon at a particular time and place. The development of population viability analyses has led to the definition of intrinsic and extrinsic factors that determine extinction risks (see Soulé 1983; Soulé 1987; Gilpin & Soulé 1986; see also King 1987). Briefly these can be summarized as population dynamics (number of individuals, life history and age or stage distribution, geographic structure, growth rate, variation in demographic parameters), population characteristics (morphology, physiology, genetic variation, behavior and dispersal patterns), and environmental effects (habitat quality and quantity, patterns and rates of environmental disturbance and change, interactions with other species including man).

Preliminary models are available to assess a population's expected persistence under various extinction pressures, for example, demographic variation (Goodman 1987*a, b*; Belovsky 1987; CBSG 1989), catastrophes (Shaffer 1987), inbreeding and loss of genetic diversity (Lande & Barrowclough 1987; Lacy 1987), metapopulation structure (Gilpin 1987; Quinn & Hastings 1987; Murphy et al. 1990). In addition, various approaches have been made to modeling extinction in populations threatened by habitat loss (e.g., Gutiérrez & Carey 1985; Maguire et al. 1987; Lande 1988), disease (e.g., Anderson & May 1979; Dobson & May 1986; Seal et al. 1989), parasites (e.g., May & Anderson 1979; May & Robinson 1985; Dobson & May 1986), competitors, poaching (e.g., Caughley 1988), and harvesting or hunting (e.g., Holt 1987).

So far, the development of these models has been rather limited, and in particular they often fail to successfully incorporate several different extinction factors and their interactions (Lande 1988). Nevertheless the approach has been applied in particular cases even with

existing models (e.g., grizzly bear: Shaffer 1983; spotted owl: Gutiérrez & Carey 1985; Florida panther: CBSG 1989), and there is much potential for further development.

Although different extinction factors may be critical for different species, other, noncritical factors cannot be ignored. For example, it seems likely that for many species, habitat loss constitutes the most immediate threat. However, simply preserving habitats may not be sufficient to permit long term persistence if surviving populations are small and subdivided and therefore have a high probability of extinction from demographic or genetic causes. Extinction factors may also have cumulative or synergistic effects; for example, the hunting of a species may not have been a problem before the population was fragmented by habitat loss. In every case, therefore, all the various extinction factors and their interactions need to be considered. To this end more attention needs to be directed toward development of models that reflect the random influences that are significant to most populations, that incorporate the effects of many different factors, and that relate to the many plant, invertebrate, and lower vertebrate species whose population biology has only rarely been considered so far by these methods.

Viability analysis should suggest the appropriate kind of data for assigning extinction risks to species, though much additional effort will be needed to develop appropriate models and collect appropriate field data.

Proposal

Three Categories and Their Justification

We propose the recognition of three categories of threat (plus EXTINCT), defined as follows:

- CRITICAL:** 50% probability of extinction within 5 years or 2 generations, whichever is longer.
- ENDANGERED:** 20% probability of extinction within 20 years or 10 generations, whichever is longer.
- VULNERABLE:** 10% probability of extinction within 100 years.

These definitions are based on a consideration of the theory of extinction times for single populations as well as on meaningful time scales for conservation action. If biological diversity is to be maintained for the foreseeable future at anywhere near recent levels occurring in natural ecosystems, fairly stringent criteria must be adopted for the lowest level of extinction risk, which we call VULNERABLE. A 10% probability of extinction within 100 years has been suggested as the highest level of risk that is biologically acceptable (Shaffer 1981) and seems appropriate for this category. Furthermore,

events more than about 100 years in the future are hard to foresee, and this may be the longest duration that legislative systems are capable of dealing with effectively.

It seems desirable to establish a CRITICAL category to emphasize that some species or populations have a very high risk of extinction in the immediate future. We propose that this category include species or populations with a 50% chance of extinction within 5 years or two generations, and which are clearly at very high risk.

An intermediate category, ENDANGERED, seems desirable to focus attention on species or populations that are in substantial danger of extinction within our lifetimes. A 20% chance of extinction within 20 years or 10 generations seems to be appropriate in this context.

For increasing levels of risk represented by the categories VULNERABLE, ENDANGERED, and CRITICAL, it is necessary to increase the probability of extinction or to decrease the time scale, or both. We have chosen to do both for the following reasons. First, as already mentioned, decreasing the time scale emphasizes the immediacy of the situation. Ideally, the time scale should be expressed in natural biological units of generation time of the species or population (Leslie 1966), but there is also a natural time scale for human activities such as conservation efforts, so we have given time scales in years and in generations for the CRITICAL and ENDANGERED categories.

Second, the uncertainty of estimates of extinction probabilities decreases with increasing risk levels. In population models incorporating fluctuating environments and catastrophes, the probability distribution of extinction times is approximately exponential (Nobile et al. 1985; Goodman 1987). In a fluctuating environment where a population can become extinct only through a series of unfavorable events, there is an initial, relatively brief period in which the chance of extinction is near zero, as in the inverse Gaussian distribution of extinction times for density-independent fluctuations (Ginzburg et al. 1982; Lande & Orzack 1988). If catastrophes that can extinguish the population occur with probability p per unit time, and are much more important than normal environmental fluctuations, the probability distribution of extinction times is approximately exponential, pe^{-pt} , and the cumulative probability of extinction up to time t is approximately $1 - e^{-pt}$. Thus, typical probability distributions of extinction times look like the curves in Figures 1A and 1B, and the cumulative probabilities of extinction up to any given time look like the curves in Figures 1C and 1D. Dashed curves represent different distributions of extinction times and cumulative extinction probabilities obtained by changing the model parameters in a formal population viability analysis (e.g., different amounts of environmental variation in demographic parameters). The uncertainty in an

estimate of cumulative extinction probability up to a certain time can be measured by its coefficient of variation, that is, the standard deviation among different estimates of the cumulative extinction probability with respect to reasonable variation in model parameters, divided by the best estimate. It is apparent from Figures 1C and 1D that at least for small variations in the parameters (if the parameters are reasonably well known), the uncertainty of estimates of cumulative extinction probability at particular times decreases as the level of risk increases. Thus at times, t_1 , t_2 , and t_3 when the best estimates of the cumulative extinction probabilities are 10%, 20%, and 50% respectively, the corresponding ranges of extinction probabilities in Figure 1C are 6.5%–14.8%, 13.2%–28.6%, and 35.1%–65.0%, and in Figure 1D are 6.8%–13.1%, 13.9%–25.7%, and 37.2%–60.2%. Taking half the range as a rough approximation of the standard deviation in this simple illustration gives uncertainty measures of 0.41, 0.38, and 0.30 in Figure 1C, and 0.31, 0.29, and 0.23 in Figure 1D, corresponding to the three levels of risk. Given that for practical reasons we have chosen to shorten the time scales for the more threatened categories, these results suggest that to maintain low levels of uncertainty, we should also increase the probabilities of extinction in the definition of the ENDANGERED and CRITICAL categories.

These definitions are based on general principles of population biology with broad applicability, and we believe them to be appropriate across a wide range of life forms. Although we expect the process of assigning species to categories (see below) to be an evolving (though closely controlled and monitored) process, and one that might vary across broad taxonomic groups, we recommend that the definitions be constant both across taxonomic groups and over time.

Assigning Species or Populations to Categories

We recognize that in most cases, there are insufficient data and imperfect models on which to base a formal probabilistic analysis. Even when considerable information does exist there may be substantial uncertainties in the extinction risks obtained from population models containing many parameters that are difficult to estimate accurately. Parameters such as environmental stochasticity (temporal fluctuations in demographic parameters such as age- or developmental stage-specific mortality and fertility rates), rare catastrophic events, as well as inbreeding depression and genetic variability in particular characters required for adaptation are all difficult to estimate accurately. Therefore it may not be possible to do an accurate probabilistic viability analysis even for some very well studied species. We suggest

that the categorization of many species should be based on more qualitative criteria derived from the same body of theory as the definitions above, which will broaden the scope and applicability of the categorization system. In these more qualitative criteria we use measures of effective population size (N_e) and give approximate equivalents in actual population size (N). It is important to recognize that the relationship between N_e and N depends upon a variety of interacting factors. Estimating N_e for a particular population will require quite extensive information on breeding structure and life history characteristics of the population and may then produce only an approximate figure (Lande & Barrowclough 1987). In addition, different methods of estimating N_e will give variable results (Harris & Allendorf 1989). N_e/N ratios vary widely across species, but are typically in the range 0.2 to 0.5. In the criteria below we give a value for N_e as well as an approximate value of N assuming that the N_e/N ratio is 0.2.

We suggest the following criteria for the three categories:

- CRITICAL:** 50% probability of extinction within 5 years or 2 generations, whichever is longer, or
- (1) Any **two** of the following criteria:
 - (a) Total population $N_e < 50$ (corresponding to actual $N < 250$).
 - (b) Population fragmented: ≤ 2 subpopulations with $N_e > 25$ ($N > 125$) with immigration rates < 1 per generation.
 - (c) Census data of $>20\%$ annual decline in numbers over the past 2 years, or $>50\%$ decline in the last generation, or equivalent projected declines based on demographic projections after allowing for known cycles.
 - (d) Population subject to catastrophic crashes ($>50\%$ reduction) per 5 to 10 years, or 2 to 4 generations, with subpopulations highly correlated in their fluctuations.
 - or (2) Observed, inferred, or projected habitat alteration (i.e., degradation, loss, or fragmentation) resulting in characteristics of (1).
 - or (3) Observed, inferred, or projected commercial exploitation or ecological interactions with introduced species (predators, competitors, pathogens, or parasites) resulting in characteristics of (1).

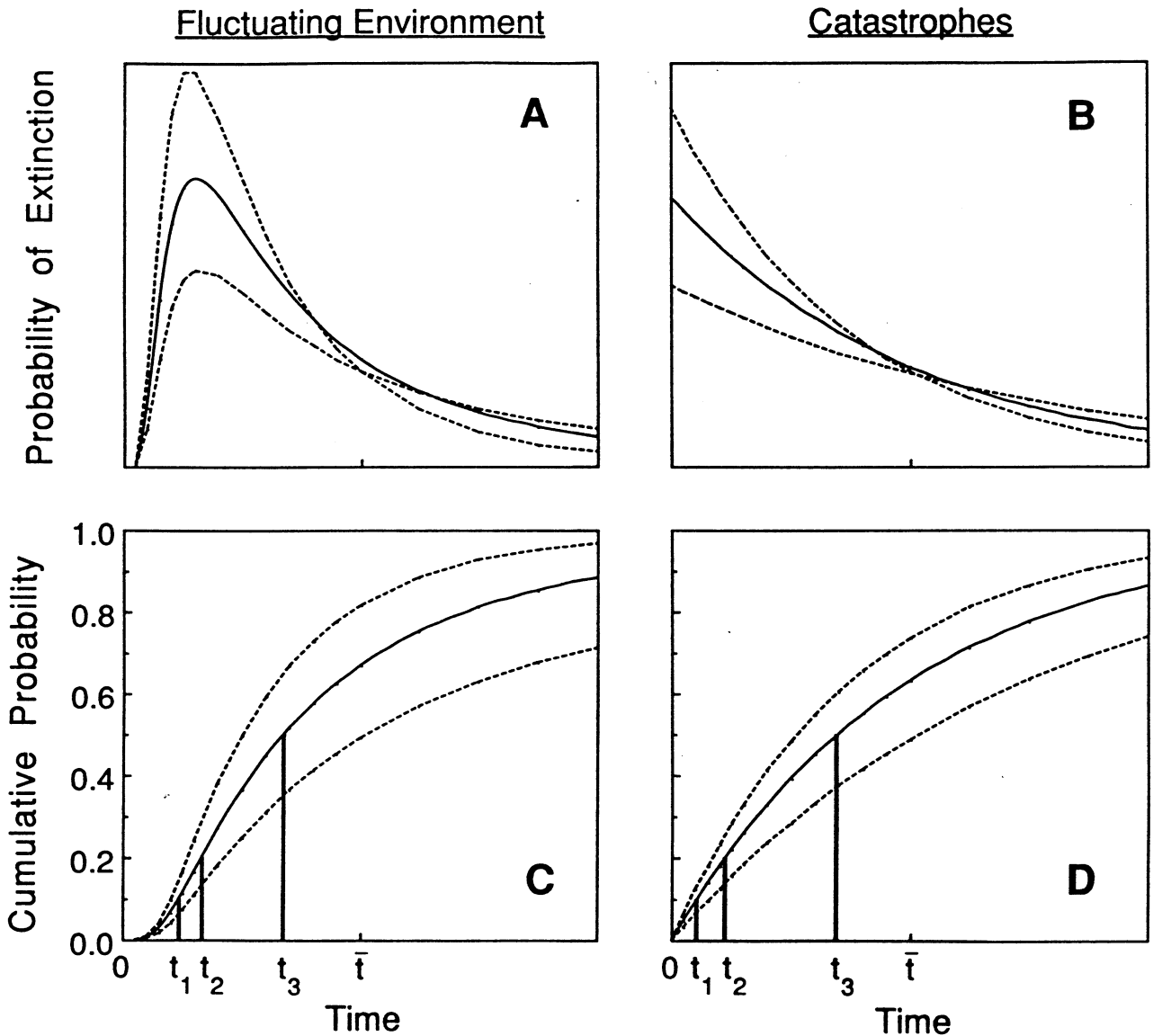


Figure 1. Probability distributions of time to extinction in a fluctuating environment, inverse Gaussian distributions (A), or with catastrophes, exponential distributions (B). Corresponding cumulative extinction probabilities of extinction up to any given time are shown below (C and D). Solid curves represent the best estimates from available data and dashed curves represent different estimates based upon the likely range of variation in the parameters. t_1 , t_2 and t_3 are times at which the best estimates of cumulative extinction probabilities are 10%, 20%, and 50%. \bar{t} is the expected time to extinction in the solid curves.

ENDANGERED:

20% probability of extinction within 20 years or 10 generations, whichever is longer, or

- (1) Any **two** of the following or any **one** criterion under

CRITICAL

- (a) Total population $N_e < 500$ (corresponding to actual $N < 2,500$).
- (b) Population fragmented:
 - (i) ≤ 5 subpopulations with $N_e >$

- 100 ($N > 500$) with immigration rates < 1 per generation, or
- (ii) ≤ 2 subpopulations with $N_e > 250$ ($N > 1,250$) with immigration rates < 1 per generation.
- (c) Census data of $> 5\%$ annual decline in numbers over past 5 years, or $> 10\%$ decline per generation over past 2 generations, or equivalent projected declines based on demographic data after

- allowing for known cycles.
- (d) Population subject to catastrophic crashes: an average of >20% reduction per 5 to 10 years or 2 to 4 generations, or >50% reduction per 10 to 20 years or 5 to 10 generations, with subpopulations strongly correlated in their fluctuations.
- or (2) Observed, inferred, or projected habitat alteration (i.e., degradation, loss, or fragmentation) resulting in characteristics of (1).
- or (3) Observed, inferred, or projected commercial exploitation or ecological interactions with introduced species (predators, competitors, pathogens, or parasites) resulting in characteristics of (1).

VULNERABLE:

- 10% probability of extinction within 100 years, or
- (1) Any **two** of the following criteria or any **one** criterion under ENDANGERED.
- (a) Total population $N_e < 2,000$ (corresponding to actual $N < 10,000$).
- (b) Population fragmented:
- (i) ≤ 5 subpopulations with $N_e > 500$ ($N > 2,500$) with immigration rates < 1 per generation, or
- (ii) ≤ 2 subpopulations with $N_e > 1,000$ ($N > 5,000$) with immigration rates < 1 per generation.
- (c) Census data of >1% annual decline in numbers over past 10 years, or equivalent projected declines based on demographic data after allowing for known cycles.
- (d) Population subject to catastrophic crashes: an average of >10% reduction per 5 to 10 years, >20% reduction per 10 to 20 years, or >50% reduction per 50 years, with subpopulations strongly correlated in their fluctuations.
- or (2) Observed, inferred, or projected habitat alteration (i.e., degradation, loss, or fragmentation) resulting in characteristics of (1).
- or (3) Observed, inferred, or projected commercial exploitation or ecological in-

teractions with introduced species (predators, competitors, pathogens, or parasites) resulting in characteristics of (1).

Prior to any general acceptance, we recommend that these criteria be assessed by comparison of the categorizations they lead to in particular cases with the results of formal viability analyses, and categorizations based on existing methods. This process should help to resolve uncertainties about both the practice of, and results from, our proposals. We expect a system such as this to be relatively robust and of widespread applicability, at the very least for most higher vertebrates. For some invertebrate and plant taxa, different kinds of criteria will need to be developed within the framework of the definitions above. For example, many of these species have very high rates of population growth, short generation times, marked or episodic fluctuations in population size, and high habitat specificity. Under these circumstances, it will be more important to incorporate metapopulation characteristics such as subpopulation persistence times, colonization rates, and the distribution and persistence of suitable habitats into the analysis, which are less significant for most large vertebrate populations (Murphy et al. 1990; Menges 1990).

Change of Status

The status of a population or species with respect to risk of extinction should be up-listed (from unlisted to VULNERABLE, from VULNERABLE to ENDANGERED, or from ENDANGERED to CRITICAL) as soon as current information suggests that the criteria are met. The status of a population or species with respect to risk of extinction should be down-listed (from CRITICAL to ENDANGERED, from ENDANGERED to VULNERABLE, or from VULNERABLE to unlisted) only when the criteria of the lower risk category have been satisfied for a time period equal to that spent in the original category, or if it is shown that past data were inaccurate.

For example, if an isolated population is discovered consisting of 500 individuals and no other information is available on its demography, ecology, or the history of the population or its habitat, this population would initially be classified as ENDANGERED. If management efforts, natural events, or both caused the population to increase so that 10 years later it satisfied the criteria of the VULNERABLE category, the population would not be removed from the ENDANGERED category for a further period of 10 years. This time lag in down-listing prevents frequent up-listing and down-listing of a population or species.

Uncertain or Conflicting Results

Because of uncertainties in parameter estimates, especially those dealing with genetics and environmental

variability and catastrophes, substantial differences may arise in the results from analyses of equal validity performed by different parties. In such cases, we recommend that the criteria for categorizing a species or population should revert to the more qualitative ones outlined above.

Reporting Categories of Threat

To objectively compare categorizations made by different investigators and at different times, we recommend that any published categorization also cite the method used, the source of the data, a date when the data were accurate, and the name of the investigator who made the categorization. If the method was by a formal viability model, then the name and version of the model used should also be included.

Conclusion

Any system of categorizing degrees of threat of extinction inevitably contains arbitrary elements. No single system can adequately cover every possibility for all species. The system we describe here has the advantage of being based on general principles from population biology and can be used to categorize species for which either very little or a great deal of information is available. Although this system may be improved in the future, we feel that its use will help to promote a more uniform recognition of species and populations at risk of premature extinction, and should thereby aid in setting priorities for conservation efforts.

Summary

1. Threatened species categories should highlight species vulnerable to extinction and focus appropriate reaction. They should therefore aim to provide objective, scientifically based assessments of extinction risks.
2. The audience for Red Data Books is diverse. Positive steps to raise public awareness and implement national and international legislation benefit from simple but soundly based categorization systems. More precise information is needed for planning by conservation bodies.
3. An ideal system needs to be simple but flexible in terms of data required. The category definitions should be based on a probabilistic assessment of extinction risk over a specified time interval, including an estimate of error.
4. Definitions of categories are appropriately based on extinction probabilities such as those arising from population viability analysis methods.
5. We recommend three categories, CRITICAL, EN-

DANGERED, and VULNERABLE, with decreasing probabilities of extinction risk over increasing time periods.

6. For most cases, we recommend development of more qualitative criteria for allocation to categories based on basic principles of population biology. We present some criteria that we believe to be appropriate for many taxa, but are appropriate at least for higher vertebrates.

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**CONSERVATION ASSESSMENT
AND MANAGEMENT PLAN**

for

PRIMATES

**First Edition
August 1992**

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CONSERVATION ASSESSMENT & ACTION PLAN (CAMP) FOR PRIMATES

WORLD	
Total Taxa	512
Threatened	221
PHVA	136
Wild Mgmt	37
Research	193
Captive Breeding	229

AMERICA	
Total Taxa	171
Threatened	63
PHVA	51
Wild Mgmt	8
Research	36
Captive Breeding	78

AFRICA	
Total Taxa	156
Threatened	65
PHVA	13
Wild Mgmt	11
Research	63
Captive Breeding	50

MADAGASCAR	
Total Taxa	49
Threatened	24
PHVA	46
Wild Mgmt	14
Research	46
Captive Breeding	38

ASIA	
Total Taxa	136
Threatened	69
PHVA	46
Wild Mgmt	4
Research	46

